

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Airites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (214)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	21:06 (C12) 21:14 (C12)	04:30 22:08	21:10 (C12) 21:28 (C12)	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	21:06 (C12) 21:15 (C12)	04:31 22:08	21:10 (C12) 21:28 (C12)	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:50	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	21:05 (C12) 21:16 (C12)	04:32 22:07	21:11 (C12) 21:28 (C12)	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	21:05 (C12) 21:17 (C12)	04:33 22:07	21:11 (C12) 21:27 (C12)	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	21:06 (C12) 21:19 (C12)	04:33 22:06	21:11 (C12) 21:27 (C12)	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:58	21:05 (C12) 21:20 (C12)	04:35 22:05	21:12 (C12) 21:26 (C12)	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	21:05 (C12) 21:20 (C12)	04:36 22:05	21:12 (C12) 21:26 (C12)	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	21:06 (C12) 21:22 (C12)	04:37 22:04	21:12 (C12) 21:25 (C12)	05:29 21:12	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:15 21:11	04:28 22:02	21:05 (C12) 21:22 (C12)	04:38 22:03	21:13 (C12) 21:24 (C12)	05:31 21:10	06:33 19:52	07:33 18:32	07:39 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	21:06 (C12) 21:23 (C12)	04:39 22:02	21:13 (C12) 21:23 (C12)	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	21:06 (C12) 21:24 (C12)	04:41 22:01	21:13 (C12) 21:22 (C12)	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27 22:05	21:06 (C12) 21:25 (C12)	04:42 22:00	21:14 (C12) 21:21 (C12)	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	21:07 (C12) 21:25 (C12)	04:43 21:59	21:15 (C12) 21:21 (C12)	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	21:06 (C12) 21:25 (C12)	04:45 21:57	21:16 (C12) 21:29 (C12)	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	21:06 (C12) 21:25 (C12)	04:46 21:56	21:16 (C12) 21:18 (C12)	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	21:07 (C12) 21:25 (C12)	04:48 21:55	21:17 (C12) 21:25 (C12)	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	21:07 (C12) 21:26 (C12)	04:49 21:53	21:17 (C12) 21:26 (C12)	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:15	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	04:25 22:08	21:07 (C12) 21:26 (C12)	04:51 21:52	21:17 (C12) 21:26 (C12)	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	21:07 (C12) 21:26 (C12)	04:52 21:50	21:17 (C12) 21:26 (C12)	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	21:07 (C12) 21:26 (C12)	04:54 21:49	21:17 (C12) 21:26 (C12)	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	04:25 22:09	21:08 (C12) 21:26 (C12)	04:56 21:47	21:18 (C12) 21:26 (C12)	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	21:09 (C12) 21:27 (C12)	04:57 21:46	21:19 (C12) 21:27 (C12)	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:48 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:51 20:38	04:48 21:38	04:26 22:10	21:08 (C12) 21:27 (C12)	04:59 21:44	21:18 (C12) 21:27 (C12)	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26 22:10	21:08 (C12) 21:27 (C12)	05:01 21:42	21:18 (C12) 21:27 (C12)	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:38	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	21:09 (C12) 21:28 (C12)	05:03 21:41	21:19 (C12) 21:28 (C12)	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:44 21:43	04:27 22:10	21:09 (C12) 21:27 (C12)	05:04 21:39	21:19 (C12) 21:27 (C12)	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	21:10 (C12) 21:28 (C12)	05:06 21:37	21:20 (C12) 21:28 (C12)	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	21:09 (C12) 21:28 (C12)	05:08 21:35	21:19 (C12) 21:28 (C12)	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:43
29	08:20 16:38	07:11 17:46	05:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	21:07 (C12) 21:10 (C12)	05:10 21:33	21:18 (C12) 21:28 (C12)	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:44
30	08:18 16:41	07:08 17:48	05:54 19:48	05:35 20:53	04:38 21:49	04:29 22:09	21:07 (C12) 21:11 (C12)	05:12 21:31	21:18 (C12) 21:29 (C12)	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43	07:06 17:51	05:51 19:51	05:37 21:51	04:37 21:13 (C12)	04:28 21:13 (C12)	21:06 (C12) 21:13 (C12)	05:14 21:29	21:18 (C12) 21:29	06:15 20:16	07:20 16:38	07:22 16:38	08:50 15:47	
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216		
Total, worst case					15	505	174							
Sun reduction					0.57	0.56	0.49							
Oper. time red.					0.98	0.98	0.98							
Wind dir. red.					0.61	0.61	0.61							
Total reduction					0.34	0.33	0.29							
Total, real					5	168	51							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Aizveji (kad. apz. 56960040532) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (170)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	08:58 (C14) 17:48	07:11 17:48	06:49 19:53	05:33 20:56
2	08:51 15:49	08:13 16:48	08:58 (C14) 17:50	07:08 17:50	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	09:00 (C14) 17:52	07:06 17:52	06:44 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	09:01 (C14) 17:54	07:03 17:54	06:41 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	09:03 (C14) 17:56	07:01 17:56	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:56	09:06 (C14) 17:58	06:58 17:58	06:36 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	09:10 (C14) 18:01	07:21 (C13) 18:01	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	09:10 (C14) 18:03	07:18 (C13) 18:03	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	09:10 (C14) 18:05	07:16 (C13) 18:05	06:28 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	09:10 (C14) 18:07	07:13 (C13) 18:07	06:25 20:12	05:13 21:14
11	08:45 16:03	07:54 17:08	09:10 (C14) 18:09	07:10 (C13) 18:09	06:22 20:14	05:11 21:16
12	08:44 16:05	07:52 17:10	09:10 (C14) 18:11	07:09 (C13) 18:11	06:20 20:16	05:09 21:18
13	08:43 16:06	07:50 17:12	09:10 (C14) 18:13	07:08 (C13) 18:13	06:17 20:18	05:07 21:20
14	08:42 16:08	07:47 17:14	09:10 (C14) 18:15	07:08 (C13) 18:15	06:15 20:20	05:05 21:22
15	08:41 16:10	07:45 17:17	09:10 (C14) 18:18	07:09 (C13) 18:18	06:12 20:22	05:03 21:24
16	08:40 16:12	07:43 17:19	09:10 (C14) 18:20	07:09 (C13) 18:20	06:09 20:24	05:01 21:26
17	08:39 16:14	07:40 17:21	09:10 (C14) 18:22	07:10 (C13) 18:22	06:07 20:26	04:59 21:27
18	08:38 16:16	07:38 17:23	09:10 (C14) 18:24	07:13 (C13) 18:24	06:04 20:28	04:57 21:29
19	08:36 16:18	07:36 17:26	09:10 (C14) 18:26	07:20 (C13) 18:26	06:02 20:31	04:55 21:31
20	08:35 16:20	09:09 (C14) 17:28	09:10 (C14) 18:28	07:25 (C13) 18:28	05:59 20:33	04:53 21:33
21	08:33 16:22	09:07 (C14) 17:30	09:10 (C14) 18:30	07:25 (C13) 18:30	05:57 20:35	04:52 21:35
22	08:32 16:24	09:05 (C14) 17:32	09:10 (C14) 18:32	07:25 (C13) 18:32	05:54 20:37	04:50 21:37
23	08:30 16:26	09:03 (C14) 17:34	09:10 (C14) 18:34	07:25 (C13) 18:34	05:52 20:39	04:48 21:38
24	08:29 16:28	09:02 (C14) 17:37	09:10 (C14) 18:36	07:25 (C13) 18:36	05:49 20:41	04:47 21:40
25	08:27 16:30	09:00 (C14) 17:39	09:10 (C14) 18:39	07:25 (C13) 18:39	05:47 20:43	04:45 21:42
26	08:26 16:32	08:58 (C14) 17:41	09:10 (C14) 18:41	07:25 (C13) 18:41	05:44 20:45	04:44 21:43
27	08:24 16:34	08:57 (C14) 17:43	09:10 (C14) 18:43	07:25 (C13) 18:43	05:42 20:47	04:42 21:45
28	08:22 16:37	08:57 (C14) 17:45	09:10 (C14) 18:45	07:25 (C13) 18:45	05:40 20:49	04:41 21:47
29	08:20 16:39	08:57 (C14) 17:47	09:10 (C14) 18:47	07:25 (C13) 18:47	05:37 20:51	04:40 21:48
30	08:19 16:41	08:57 (C14) 17:49	09:10 (C14) 18:49	07:25 (C13) 18:49	05:35 20:53	04:38 21:50
31	08:17 16:43	08:58 (C14) 17:51	09:10 (C14) 18:51	07:25 (C13) 18:51	05:33 20:55	04:37 21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case	170	81	162			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.59	0.62			
Total reduction	0.08	0.11	0.25			
Total, real	13	9	40			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Aizveji (kad. apz. 56960040532) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (170)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:48 (C13) 08:07 (C13)	07:23 16:36
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:48 (C13) 08:07 (C13)	07:25 16:34
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:50 (C13) 08:06 (C13)	07:27 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:52 (C13) 08:05 (C13)	07:29 16:29
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:54 (C13) 08:03 (C13)	07:31 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:56 (C13) 08:01 (C13)	07:34 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38		07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35		07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33		07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30		07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27		07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25		07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22		07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20		07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17		07:53 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15		07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12		07:57 16:04
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09		07:59 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07		08:01 16:01
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04		08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02		08:05 15:58
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53
25	05:03 21:41	06:03 20:32	07:05 19:10	07:58 (C13) 08:01 (C13)	07:07 16:52	08:13 15:52
26	05:05 21:39	06:05 20:30	07:07 19:07	07:54 (C13) 08:05 (C13)	07:10 16:50	08:15 15:51
27	05:06 21:38	06:07 20:27	07:09 19:04	07:52 (C13) 08:06 (C13)	07:12 16:48	08:17 15:50
28	05:08 21:36	06:09 20:24	07:11 19:02	07:50 (C13) 08:07 (C13)	07:14 16:45	08:19 15:48
29	05:10 21:34	06:11 20:22	07:13 18:59	07:49 (C13) 08:07 (C13)	07:16 16:43	08:21 15:47
30	05:12 21:32	06:13 20:19	07:15 18:56	07:48 (C13) 08:07 (C13)	07:18 16:41	08:23 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38		08:25 15:45
Potential sun hours	529	469	385	324	247	216
Total, worst case			82	81	253	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.62	0.62	0.59	
Total reduction			0.26	0.16	0.05	
Total, real			21	13	12	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Aizveji (kad. apz. 76860060094) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (201)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

		January	February	March	April	May	June		July		August	September	October	November	December
1	08:50	08:14	07:10	06:48	05:32	04:36			04:30	21:21 (C12)	05:15	06:17	07:17	07:22	08:24
	15:48	16:45	17:47	19:53	20:55	21:52			22:08	7 21:28 (C12)	21:27	20:14	18:53	16:36	15:45
2	08:50	08:12	07:08	06:46	05:30	04:35			04:31	21:22 (C12)	05:17	06:19	07:19	07:24	08:25
	15:49	16:47	17:49	19:55	20:57	21:53			22:08	6 21:28 (C12)	21:25	20:11	18:51	16:34	15:44
3	08:50	08:10	07:05	06:43	05:28	04:34			04:32	21:22 (C12)	05:19	06:21	07:21	07:26	08:27
	15:51	16:49	17:52	19:57	20:59	21:55			22:07	6 21:28 (C12)	21:23	20:08	18:48	16:31	15:43
4	08:49	08:08	07:03	06:40	05:25	04:33			04:33	21:23 (C12)	05:21	06:23	07:23	07:29	08:29
	15:52	16:52	17:54	19:59	21:01	21:56			22:07	4 21:27 (C12)	21:21	20:06	18:45	16:29	15:42
5	08:49	08:06	07:00	06:38	05:23	04:32			04:34	21:24 (C12)	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57			22:06	3 21:27 (C12)	21:19	20:03	18:43	16:27	15:41
6	08:48	08:04	06:58	06:35	05:21	04:31		21:18 (C12)	04:35	21:25 (C12)	05:25	06:27	07:27	07:33	08:32
	15:55	16:56	17:58	20:03	21:05	21:58	2	21:20 (C12)	22:05	1 21:26 (C12)	21:17	20:00	18:40	16:25	15:41
7	08:48	08:02	06:55	06:33	05:19	04:30		21:18 (C12)	04:36	21:25 (C12)	05:27	06:29	07:29	07:35	08:33
	15:56	16:58	18:00	20:05	21:07	22:00	2	21:20 (C12)	22:05	1 21:26 (C12)	21:15	19:58	18:37	16:23	15:40
8	08:47	08:00	06:52	06:30	05:17	04:29		21:18 (C12)	04:37		05:29	06:31	07:31	07:37	08:35
	15:58	17:01	18:02	20:07	21:09	22:01	4	21:22 (C12)	22:04		21:12	19:55	18:35	16:21	15:40
9	08:46	07:58	06:50	06:27	05:15	04:28		21:17 (C12)	04:38		05:31	06:33	07:33	07:39	08:36
	15:59	17:03	18:04	20:09	21:11	22:02	5	21:22 (C12)	22:03		21:10	19:52	18:32	16:19	15:39
10	08:45	07:56	06:47	06:25	05:12	04:28		21:17 (C12)	04:39		05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:03	6	21:23 (C12)	22:02		21:08	19:50	18:30	16:17	15:39
11	08:45	07:54	06:44	06:22	05:10	04:27		21:17 (C12)	04:41		05:35	06:37	07:37	07:44	08:39
	16:03	17:07	18:09	20:13	21:15	22:04	7	21:24 (C12)	22:01		21:06	19:47	18:27	16:15	15:38
12	08:44	07:51	06:42	06:19	05:08	04:27		21:17 (C12)	04:42		05:37	06:39	07:39	07:46	08:40
	16:04	17:10	18:11	20:15	21:17	22:05	8	21:25 (C12)	22:00		21:03	19:44	18:24	16:13	15:38
13	08:43	07:49	06:39	06:17	05:06	04:26		21:17 (C12)	04:43		05:39	06:41	07:42	07:48	08:41
	16:06	17:12	18:13	20:18	21:19	22:05	9	21:26 (C12)	21:59		21:01	19:42	18:22	16:11	15:38
14	08:42	07:47	06:37	06:14	05:04	04:26		21:17 (C12)	04:45		05:41	06:43	07:44	07:50	08:42
	16:08	17:14	18:15	20:20	21:21	22:06	9	21:26 (C12)	21:57		20:59	19:39	18:19	16:09	15:38
15	08:41	07:44	06:34	06:12	05:02	04:26		21:17 (C12)	04:46		05:43	06:45	07:46	07:52	08:43
	16:10	17:16	18:17	20:22	21:23	22:07	9	21:26 (C12)	21:56		20:56	19:36	18:17	16:07	15:38
16	08:39	07:42	06:31	06:09	05:00	04:25		21:17 (C12)	04:48		05:45	06:47	07:48	07:54	08:44
	16:12	17:19	18:19	20:24	21:25	22:07	10	21:27 (C12)	21:55		20:54	19:34	18:14	16:06	15:38
17	08:38	07:40	06:29	06:07	04:59	04:25		21:17 (C12)	04:49		05:47	06:49	07:50	07:57	08:45
	16:14	17:21	18:21	20:26	21:27	22:08	11	21:28 (C12)	21:53		20:52	19:31	18:12	16:04	15:38
18	08:37	07:37	06:26	06:04	04:57	04:25		21:17 (C12)	04:51		05:49	06:51	07:52	07:59	08:46
	16:15	17:23	18:23	20:28	21:29	22:08	11	21:28 (C12)	21:52		20:49	19:28	18:09	16:02	15:38
19	08:36	07:35	06:23	06:01	04:55	04:25		21:17 (C12)	04:52		05:51	06:53	07:54	08:01	08:47
	16:17	17:25	18:26	20:30	21:31	22:09	11	21:28 (C12)	21:50		20:47	19:26	18:07	16:01	15:38
20	08:34	07:33	06:21	05:59	04:53	04:25		21:18 (C12)	04:54		05:53	06:55	07:56	08:03	08:47
	16:19	17:27	18:28	20:32	21:32	22:09	11	21:29 (C12)	21:49		20:44	19:23	18:04	15:59	15:38
21	08:33	07:30	06:18	05:56	04:51	04:25		21:18 (C12)	04:56		05:55	06:57	07:58	08:05	08:48
	16:21	17:30	18:30	20:34	21:34	22:09	11	21:29 (C12)	21:47		20:42	19:20	18:02	15:57	15:39
22	08:31	07:28	06:15	05:54	04:50	04:25		21:19 (C12)	04:57		05:57	06:59	08:01	08:07	08:48
	16:24	17:32	18:32	20:36	21:36	22:10	11	21:30 (C12)	21:46		20:39	19:17	17:59	15:56	15:39
23	08:30	07:25	06:13	05:51	04:48	04:26		21:18 (C12)	04:59		05:59	07:01	08:03	08:09	08:49
	16:26	17:34	18:34	20:38	21:38	22:10	11	21:29 (C12)	21:44		20:37	19:15	17:57	15:55	15:40
24	08:28	07:23	06:10	05:49	04:47	04:26		21:18 (C12)	05:01		06:01	07:03	08:05	08:11	08:49
	16:28	17:36	18:36	20:40	21:39	22:10	11	21:29 (C12)	21:42		20:34	19:12	17:54	15:53	15:40
25	08:27	07:20	06:07	05:47	04:45	04:26		21:19 (C12)	05:03		06:03	07:05	07:07	08:13	08:50
	16:30	17:39	18:38	20:43	21:41	22:10	11	21:30 (C12)	21:41		20:32	19:09	16:52	15:52	15:41
26	08:25	07:18	06:04	05:44	04:44	04:27		21:19 (C12)	05:04		06:05	07:07	07:09	08:15	08:50
	16:32	17:41	18:40	20:45	21:43	22:10	10	21:29 (C12)	21:39		20:29	19:07	16:50	15:50	15:42
27	08:23	07:15	06:02	05:42	04:42	04:27		21:20 (C12)	05:06		06:07	07:09	07:11	08:16	08:50
	16:34	17:43	18:42	20:47	21:44	22:10	10	21:30 (C12)	21:37		20:27	19:04	16:47	15:49	15:43
28	08:22	07:13	05:59	05:39	04:41	04:28		21:20 (C12)	05:08		06:09	07:11	07:13	08:18	08:50
	16:36	17:45	18:44	20:49	21:46	22:09	9	21:29 (C12)	21:35		20:24	19:01	16:45	15:48	15:44
29	08:20		06:56	05:37	04:39	04:28		21:20 (C12)	05:10		06:11	07:13	07:16	08:20	08:50
	16:38		19:46	20:51	21:48	22:09	9	21:29 (C12)	21:33		20:21	18:59	16:43	15:47	15:44
30	08:18		06:54	05:35	04:38	04:29		21:21 (C12)	05:12		06:13	07:15	07:18	08:22	08:50
	16:41		19:48	20:53	21:49	22:09	8	21:29 (C12)	21:31		20:19	18:56	16:40	15:46	15:45
31	08:16		06:51		04:37				05:14		06:15		07:20		08:50
	16:43		19:51		21:51				21:29		20:16		16:38		15:47
Potential sun hours	235	266	366	426	508	528		529			469	384	324	248	216
Total, worst case							216			28					
Sun reduction							0.56			0.49					
Oper. time red.							0.98			0.98					
Wind dir. red.							0.60			0.60					
Total reduction							0.33			0.29					
Total, real							71			8					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Akoti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (173)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:47	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:35	08:24 15:44
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:50	07:24 16:33	08:26 15:43
3	08:50 15:50	08:11 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:50 15:51	08:09 16:51	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:18 21:07	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:22	08:34 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:20	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:12	04:28 22:02	04:37 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:06	06:24 20:11	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:14	08:39 15:38
12	08:44 16:04	07:51 17:09	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:57	06:45 19:36	07:46 18:16	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:44 15:37
17	08:39 16:13	07:40 17:21	06:28 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:03	08:45 15:37
18	08:37 16:15	07:38 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:24 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:54 21:31	04:24 22:09	04:52 21:51	05:51 20:47	06:53 19:25	07:54 18:06	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:20 18:28	05:59 20:32	04:53 21:33	04:24 22:10	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:29	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:58 18:01	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:25 17:34	06:12 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:20 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:40	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:50 15:41
27	08:24 16:34	07:15 17:43	06:02 18:42	05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:08 21:35	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:10	05:09 21:34	06:11 20:21	07:13 18:59	07:16 16:42	08:20 15:46	08:51 15:44
30	08:18 16:40		06:54 19:48	05:34 20:53	04:38 21:49	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:51		04:36 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Alinas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (33)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:44
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:56	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:19	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:36 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:39
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:41 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:30	04:55 21:31	04:26 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:26 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
26	08:25 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:50 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:37	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Amati - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (164)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	08:46 (C14) 17:48	07:11 19:53	05:33 20:56	04:36 21:53
2	08:51 15:49	08:13 16:48	08:43 (C14) 17:50	07:08 19:55	05:30 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	08:41 (C14) 17:52	07:06 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	08:40 (C14) 17:54	07:03 19:59	05:26 21:02	04:33 21:57
5	08:49 15:53	08:07 16:54	08:41 (C14) 17:56	07:01 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:57	08:41 (C14) 17:58	06:58 3 07:24 (C13) 07:27 (C13)	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	08:42 (C14) 18:01	06:55 7 07:21 (C13) 07:28 (C13)	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	08:44 (C14) 18:03	06:53 10 07:19 (C13) 07:29 (C13)	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	08:45 (C14) 18:05	06:50 13 07:16 (C13) 07:29 (C13)	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	06:45 15 07:13 (C13) 07:28 (C13)	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:42 14 07:13 (C13) 07:27 (C13)	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 13 07:14 (C13) 07:27 (C13)	05:09 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 10 07:15 (C13) 07:25 (C13)	05:07 21:20	04:26 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 5 07:17 (C13) 07:22 (C13)	05:05 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:20	05:03 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:26 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:09
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:11
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39	08:52 (C14) 1 08:53 (C14)	06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10
30	08:19 16:41	08:50 (C14) 4 08:54 (C14)	06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10
31	08:17 16:43	08:48 (C14) 7 08:55 (C14)	06:52 19:51	05:37 21:51	04:37 21:51	04:29 22:10
Potential sun hours	235	266	366	426	508	529
Total, worst case	12	118	90			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.61	0.61	0.62			
Total reduction	0.08	0.12	0.25			
Total, real	1	14	22			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Amati - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (164)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:53 (C13) 08:06 (C13)	07:23 16:36
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:52 (C13) 08:06 (C13)	07:25 16:34
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:51 (C13) 08:06 (C13)	07:27 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:52 (C13) 08:06 (C13)	07:29 16:30
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:54 (C13) 08:05 (C13)	07:31 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:56 (C13) 08:05 (C13)	07:34 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:58 (C13) 08:03 (C13)	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:01 (C13) 08:02 (C13)	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:14 (C14) 08:27 (C14)
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:17 (C14) 08:27 (C14)
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:19 (C14) 08:26 (C14)
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:21 (C14) 08:25 (C14)
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:24 (C14) 08:25 (C14)
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:08 16:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:25	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:23 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			9	82	131	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.62	0.62	0.61	
Total reduction			0.26	0.16	0.05	
Total, real			2	13	6	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Aparnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (60)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March	April	May	June
1	08:51		09:41 (C14)	08:15			07:11	06:49	05:33	04:36
	15:48	17	09:58 (C14)	16:45			17:48	19:53	20:56	21:53
2	08:51		09:42 (C14)	08:13			07:08	06:46	05:30	04:35
	15:49	17	09:59 (C14)	16:48			17:50	19:55	20:58	21:54
3	08:50		09:42 (C14)	08:11			07:06	06:43	05:28	04:34
	15:51	16	09:58 (C14)	16:50			17:52	19:57	21:00	21:55
4	08:50		09:43 (C14)	08:09			07:03	06:41	05:26	04:33
	15:52	15	09:58 (C14)	16:52			17:54	19:59	21:02	21:57
5	08:49		09:44 (C14)	08:07			07:01	06:38	05:23	04:32
	15:53	15	09:59 (C14)	16:54			17:56	20:01	21:04	21:58
6	08:49		09:44 (C14)	08:05			06:58	06:36	05:21	04:31
	15:55	15	09:59 (C14)	16:56			17:58	20:03	21:06	21:59
7	08:48		09:45 (C14)	08:03			06:55	06:33	05:19	04:30
	15:56	14	09:59 (C14)	16:59			18:01	20:06	21:08	22:00
8	08:48		09:46 (C14)	08:01			06:53	06:30	05:17	04:29
	15:58	13	09:59 (C14)	17:01			18:03	20:08	21:10	22:01
9	08:47		09:47 (C14)	07:58			06:50	06:28	05:15	04:29
	16:00	12	09:59 (C14)	17:03			18:05	20:10	21:12	22:02
10	08:46		09:48 (C14)	07:56		08:25 (C13)	06:48	06:25	05:13	04:28
	16:01	10	09:58 (C14)	17:05	2	08:27 (C13)	18:07	20:12	21:14	22:03
11	08:45		09:50 (C14)	07:54		08:23 (C13)	06:45	06:22	05:11	04:27
	16:03	8	09:58 (C14)	17:08	7	08:30 (C13)	18:09	20:14	21:16	22:04
12	08:44		09:53 (C14)	07:52		08:20 (C13)	06:42	06:20	05:09	04:27
	16:05	3	09:56 (C14)	17:10	10	08:30 (C13)	18:11	20:16	21:18	22:05
13	08:43			07:50		08:18 (C13)	06:40	06:17	05:07	04:26
	16:06			17:12	13	08:31 (C13)	18:13	20:18	21:20	22:06
14	08:42			07:47		08:15 (C13)	06:37	06:15	05:05	04:26
	16:08			17:14	16	08:31 (C13)	18:15	20:20	21:22	22:07
15	08:41			07:45		08:14 (C13)	06:34	06:12	05:03	04:26
	16:10			17:17	18	08:32 (C13)	18:18	20:22	21:24	22:07
16	08:40			07:43		08:13 (C13)	06:32	06:09	05:01	04:26
	16:12			17:19	19	08:32 (C13)	18:20	20:24	21:26	22:08
17	08:39			07:40		08:14 (C13)	06:29	06:07	04:59	04:25
	16:14			17:21	18	08:32 (C13)	18:22	20:26	21:27	22:09
18	08:38			07:38		08:14 (C13)	06:26	06:04	04:57	04:25
	16:16			17:23	18	08:32 (C13)	18:24	20:28	21:29	22:09
19	08:36			07:36		08:14 (C13)	06:24	06:02	04:55	04:25
	16:18			17:26	17	08:31 (C13)	18:26	20:31	21:31	22:09
20	08:35			07:33		08:15 (C13)	06:21	05:59	04:53	04:25
	16:20			17:28	15	08:30 (C13)	18:28	20:33	21:33	22:10
21	08:33			07:31		08:17 (C13)	06:18	05:57	04:52	04:25
	16:22			17:30	12	08:29 (C13)	18:30	20:35	21:35	22:10
22	08:32			07:28		08:19 (C13)	06:16	05:54	04:50	04:26
	16:24			17:32	6	08:25 (C13)	18:32	20:37	21:37	22:10
23	08:30			07:26			06:13	05:52	04:48	04:26
	16:26			17:34			18:34	20:39	21:38	22:10
24	08:29			07:23			06:10	05:49	04:47	04:26
	16:28			17:37			18:36	20:41	21:40	22:11
25	08:27			07:21			06:08	05:47	04:45	04:26
	16:30			17:39			18:39	20:43	21:42	22:11
26	08:26			07:18			06:05	05:44	04:44	04:27
	16:32			17:41			18:41	20:45	21:43	22:10
27	08:24			07:16			06:02	05:42	04:42	04:27
	16:34			17:43			18:43	20:47	21:45	22:10
28	08:22			07:13			06:00	05:40	04:41	04:28
	16:37			17:45			18:45	20:49	21:47	22:10
29	08:20						06:57	05:37	04:40	04:29
	16:39						19:47	20:51	21:48	22:10
30	08:19						06:54	05:35	04:38	04:29
	16:41						19:49	20:53	21:50	22:10
31	08:17						06:51		04:37	
	16:43						19:51		21:51	
Potential sun hours	235			266			366	426	508	529
Total, worst case		155			171					
Sun reduction		0.13			0.20					
Oper. time red.		0.98			0.98					
Wind dir. red.		0.61			0.62					
Total reduction		0.08			0.12					
Total, real		12			21					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Aparnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (60)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	07:55 (C13) 07:56 (C13)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:24 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:26 15:43
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:28 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:29 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:31 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:32 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:33 15:39
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:34 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:35 15:38
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:38 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:39 15:37
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:41 15:36
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:35
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:34
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:33
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:32
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:31
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:48 15:30
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:49 15:29
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:50 15:28
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:51 15:27
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:52 15:26
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:53 15:25
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:54 15:24
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 17:50	08:15 15:51	08:55 15:23
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:56 15:22
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 17:45	08:19 15:48	08:57 15:21
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:58 15:20
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:59 15:19
31	05:14 21:30	06:15 20:17		08:20 17:38	08:24 15:45	09:00 15:18
Potential sun hours	529	469	385	324	247	216
Total, worst case				173	2	497
Sun reduction				0.26	0.08	0.07
Oper. time red.				0.98	0.98	0.98
Wind dir. red.				0.62	0.62	0.61
Total reduction				0.16	0.05	0.04
Total, real				27	0	21

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Aramsala - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (212)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:47	08:14 16:45	07:10 17:47	06:48 19:52	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:27	06:17 20:13	07:17 18:53	07:22 16:35	08:24 15:44
2	08:50 15:49	08:12 16:47	07:08 17:49	06:45 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:25	06:19 20:11	07:19 18:50	07:24 16:33	08:25 15:43
3	08:50 15:50	08:10 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:51	08:08 16:51	07:03 17:53	06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:57	04:33 22:06	05:23 21:19	06:25 20:03	07:25 18:42	07:31 16:27	08:30 15:41
6	08:48 15:54	08:04 16:56	06:57 17:58	06:35 20:03	05:21 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:18 21:07	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:22	08:33 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:09	04:29 22:01	04:36 22:04	05:29 21:12	06:31 19:55	07:31 18:34	07:37 16:20	08:35 15:39
9	08:46 15:59	07:58 17:02	06:50 18:04	06:27 20:09	05:14 21:11	04:28 22:02	04:37 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:06	06:24 20:11	05:12 21:13	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:08	06:22 20:13	05:10 21:15	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:14	08:39 15:38
12	08:44 16:04	07:51 17:09	06:42 18:11	06:19 20:15	05:08 21:17	04:26 22:05	04:41 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:12	08:40 15:37
13	08:43 16:06	07:49 17:11	06:39 18:13	06:16 20:17	05:06 21:19	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:41 18:21	07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	04:25 22:06	04:44 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:37
15	08:41 16:09	07:44 17:16	06:34 18:17	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:16	07:52 16:07	08:43 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:33	07:48 18:14	07:54 16:05	08:44 15:37
17	08:38 16:13	07:40 17:20	06:28 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:03	08:45 15:37
18	08:37 16:15	07:37 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:24 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:25	06:01 20:30	04:54 21:31	04:24 22:09	04:52 21:51	05:51 20:47	06:53 19:25	07:54 18:06	08:01 16:00	08:47 15:38
20	08:34 16:19	07:33 17:27	06:20 18:27	05:59 20:32	04:53 21:33	04:24 22:09	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:21	07:30 17:29	06:18 18:30	05:56 20:34	04:51 21:34	04:25 22:10	04:55 21:47	05:55 20:42	06:57 19:20	07:58 18:01	08:05 15:57	08:48 15:38
22	08:31 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:00 17:59	08:07 15:55	08:49 15:39
23	08:30 16:25	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	04:25 22:10	04:58 21:44	05:59 20:37	07:01 19:15	08:03 17:56	08:09 15:54	08:49 15:39
24	08:28 16:27	07:23 17:36	06:10 18:36	05:49 20:40	04:46 21:40	04:25 22:10	05:00 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:20 17:38	06:07 18:38	05:46 20:42	04:45 21:41	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:31	07:18 17:40	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:06	07:09 16:49	08:15 15:50	08:50 15:41
27	08:23 16:34	07:15 17:43	06:02 18:42	05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:26	07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:07 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:09 21:33	06:11 20:21	07:13 18:58	07:16 16:42	08:20 15:46	08:51 15:44
30	08:18 16:40		06:54 19:48	05:34 20:53	04:38 21:49	04:29 22:09	05:11 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:50		04:36 21:51		05:13 21:29	06:15 20:16		07:20 16:38		08:50 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Araji - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (205)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March		April	May	June	July	August	September		October		November	December	
1	08:50 15:48	08:14 16:45	07:10 17:47		06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:27	06:17 20:14		07:17 18:53	24	17:48 (C3) 18:12 (C3)	07:22 16:35	08:24 15:44
2	08:50 15:49	08:12 16:47	07:08 17:49		06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:25	06:19 20:11		07:19 18:50	24	17:48 (C3) 18:12 (C3)	07:24 16:33	08:26 15:43
3	08:50 15:50	08:10 16:49	07:05 17:51		06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:23	06:21 20:08		07:21 18:48	23	17:48 (C3) 18:11 (C3)	07:27 16:31	08:27 15:43
4	08:49 15:51	08:08 16:51	07:03 17:54		06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06		07:23 18:45	22	17:49 (C3) 18:11 (C3)	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	8	17:19 (C3) 17:27 (C3)	06:38 20:01	05:23 21:03	04:31 21:58	05:23 21:19	06:25 20:03		07:25 18:42	21	17:49 (C3) 18:10 (C3)	07:31 16:27	08:30 15:41
6	08:48 15:54	08:04 16:56	06:57 17:58	13	17:16 (C3) 17:29 (C3)	06:35 20:03	05:21 21:05	04:30 21:59	05:25 21:17	06:27 20:00		07:27 18:40	19	17:50 (C3) 18:09 (C3)	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	18	17:14 (C3) 17:32 (C3)	06:32 20:05	05:18 21:07	04:29 22:00	05:27 21:15	06:29 19:58		07:29 18:37	15	17:51 (C3) 18:06 (C3)	07:35 16:23	08:33 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	21	17:12 (C3) 17:33 (C3)	06:30 20:07	05:16 21:09	04:29 22:01	05:29 21:13	06:31 19:55		07:31 18:35	10	17:53 (C3) 18:03 (C3)	07:37 16:20	08:35 15:39
9	08:46 15:59	07:58 17:03	06:50 18:04	22	17:11 (C3) 17:33 (C3)	06:27 20:09	05:14 21:11	04:28 22:02	05:31 21:10	06:33 19:52		07:33 18:32			07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:06	23	17:11 (C3) 17:34 (C3)	06:24 20:11	05:12 21:13	04:27 22:03	05:33 21:08	06:35 19:50		07:35 18:29			07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09	24	17:10 (C3) 17:34 (C3)	06:22 20:13	05:10 21:15	04:27 22:04	05:35 21:06	06:37 19:47		07:37 18:27			07:44 16:14	08:39 15:38
12	08:44 16:04	07:51 17:09	06:42 18:11	24	17:09 (C3) 17:33 (C3)	06:19 20:15	05:08 21:17	04:26 22:05	05:37 21:03	06:39 19:44		07:39 18:24			07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	24	17:09 (C3) 17:33 (C3)	06:17 20:18	05:06 21:19	04:26 22:06	05:39 21:01	06:41 19:42		07:41 18:22			07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:36 18:15	24	17:09 (C3) 17:33 (C3)	06:14 20:20	05:04 21:21	04:25 22:06	05:41 21:58	06:43 20:59		07:44 18:19			07:50 16:09	08:42 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	23	17:09 (C3) 17:32 (C3)	06:11 20:22	05:02 21:23	04:25 22:07	05:43 21:56	06:45 19:36		07:46 18:16			07:52 16:07	08:43 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	22	17:09 (C3) 17:31 (C3)	06:09 20:24	05:00 21:25	04:25 22:08	05:45 21:55	06:47 19:34		07:48 18:14			07:55 16:05	08:44 15:37
17	08:38 16:13	07:40 17:21	06:28 18:21	19	17:09 (C3) 17:30 (C3)	06:06 20:26	04:58 21:27	04:25 22:08	05:47 21:54	06:49 20:52		07:50 18:11			07:57 16:04	08:45 15:37
18	08:37 16:15	07:37 17:23	06:26 18:23	16	17:12 (C3) 17:28 (C3)	06:04 20:28	04:56 21:29	04:25 22:09	05:49 21:52	06:51 19:28		07:52 18:09			07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:25	12	17:13 (C3) 17:25 (C3)	06:01 20:30	04:55 21:31	04:25 22:09	05:51 21:51	06:53 20:47		07:54 18:06			08:01 16:00	08:47 15:38
20	08:34 16:19	07:33 17:27	06:20 18:28		05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23		07:56 18:04			08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:29	06:18 18:30		05:56 20:34	04:51 21:34	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20		07:58 18:01			08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32		05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17		07:59 17:59			08:07 15:56	08:49 15:39
23	08:30 16:25	07:25 17:34	06:12 18:34		05:51 20:38	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15		08:03 17:56			08:09 15:54	08:49 15:39
24	08:28 16:27	07:23 17:36	06:10 18:36		05:49 20:40	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	17:58 (C3)	08:05 17:54 (C3)	10	17:58 (C3) 18:10 (C3)	08:11 15:53	08:50 15:40
25	08:27 16:29	07:20 17:38	06:07 18:38		05:46 20:43	04:45 21:41	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	17:55 (C3)	07:07 17:53 (C3)	15	17:55 (C3) 18:10 (C3)	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:40	06:04 18:40		05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	17:53 (C3)	07:09 17:52 (C3)	18	17:53 (C3) 18:11 (C3)	08:15 15:50	08:50 15:41
27	08:23 16:34	07:15 17:43	06:02 18:42		05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	17:52 (C3)	07:11 17:50 (C3)	20	17:52 (C3) 18:12 (C3)	08:17 15:49	08:50 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44		05:39 20:49	04:40 21:46	04:27 22:10	05:08 21:35	06:09 20:24	07:11 19:01	17:50 (C3)	07:13 18:13 (C3)	23	17:50 (C3) 18:13 (C3)	08:18 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46		05:37 20:51	04:39 21:48	04:28 22:09	05:09 21:33	06:11 20:21	07:13 18:58	17:49 (C3)	07:16 18:13 (C3)	24	17:49 (C3) 18:13 (C3)	08:20 15:47	08:51 15:44
30	08:18 16:40		06:54 19:48		05:34 20:53	04:38 21:49	04:29 22:09	05:11 21:31	06:13 20:19	07:15 18:56	17:49 (C3)	07:18 18:13 (C3)	24	17:49 (C3) 18:13 (C3)	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:50			04:36 21:51		05:13 21:29	06:15 20:16			07:20 16:38			08:51 15:46	
Potential sun hours	235	266	366		426	508	529	529	469	385		324		247	216	
Total, worst case				293							134		158			
Sun reduction				0.41							0.43		0.26			
Oper. time red.				0.98							0.98		0.98			
Wind dir. red.				0.65							0.65		0.65			
Total reduction				0.26							0.27		0.16			
Total, real				77							36		26			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Atvari - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (95)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	08:46 (C14) 08:52 (C14)	07:11 17:48	06:49 19:53	05:33 20:56
2	08:51 15:49	08:13 16:48	08:43 (C14) 08:52 (C14)	07:08 17:50	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	08:41 (C14) 08:53 (C14)	07:06 17:52	06:44 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	08:39 (C14) 08:54 (C14)	07:03 17:54	06:41 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	08:37 (C14) 08:54 (C14)	07:01 17:56	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:57	08:36 (C14) 08:53 (C14)	06:58 17:58	06:36 20:04	05:21 21:06
7	08:48 15:56	08:03 16:59	08:37 (C14) 08:54 (C14)	06:55 18:01	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	08:38 (C14) 08:54 (C14)	06:53 18:03	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	08:38 (C14) 08:52 (C14)	06:50 18:05	07:16 (C13) 07:19 (C13)	05:15 21:12
10	08:46 16:01	07:56 17:05	08:39 (C14) 08:52 (C14)	06:48 18:07	07:13 (C13) 07:20 (C13)	05:13 21:14
11	08:45 16:03	07:54 17:08	08:41 (C14) 08:50 (C14)	06:45 18:09	07:10 (C13) 07:20 (C13)	05:11 21:16
12	08:44 16:05	07:52 17:10	06:42 18:11	07:08 (C13) 07:21 (C13)	06:20 20:16	05:09 21:18
13	08:43 16:06	07:50 17:12	06:40 18:13	07:05 (C13) 07:20 (C13)	06:17 20:18	05:07 21:20
14	08:42 16:08	07:47 17:14	06:37 18:16	07:04 (C13) 07:19 (C13)	06:15 20:20	05:05 21:22
15	08:41 16:10	07:45 17:17	06:34 18:18	07:05 (C13) 07:19 (C13)	06:12 20:22	05:03 21:24
16	08:40 16:12	07:43 17:19	06:32 18:20	07:05 (C13) 07:18 (C13)	06:09 20:24	05:01 21:26
17	08:39 16:14	07:40 17:21	06:29 18:22	07:06 (C13) 07:16 (C13)	06:07 20:26	04:59 21:27
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:11
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09
31	08:17 16:43	08:48 (C14) 08:50 (C14)	06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	2	145	100			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.61	0.61	0.63			
Total reduction	0.08	0.12	0.25			
Total, real	0	17	25			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Atvari - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (95)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:46 (C13) 08:00 (C13)	07:23 08:09 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 07:59 (C13)	07:25 08:22 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 07:58 (C13)	07:27 08:23 (C14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 07:57 (C13)	07:29 08:23 (C14)
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	07:31 08:24 (C14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	07:34 08:24 (C14)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	07:36 08:23 (C14)
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	07:38 08:24 (C14)
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	07:40 08:23 (C14)
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	07:42 08:23 (C14)
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	07:44 08:21 (C14)
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	07:47 08:21 (C14)
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	07:49 08:21 (C14)
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	07:51 08:21 (C14)
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	07:53 08:21 (C14)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	07:55 08:21 (C14)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	07:57 08:21 (C14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	07:59 08:21 (C14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:01 08:21 (C14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:03 08:21 (C14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:05 08:21 (C14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:07 08:21 (C14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:09 08:21 (C14)
24	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:11 08:21 (C14)
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:13 08:21 (C14)
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:15 15:51	08:15 08:21 (C14)
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 16:48	08:17 15:50	08:17 08:21 (C14)
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 16:46	08:19 15:48	08:19 08:21 (C14)
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 16:43	08:21 15:47	08:21 08:21 (C14)
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 16:41	08:23 15:46	08:23 08:21 (C14)
31	05:14 21:30	06:15 20:17		08:19 16:38	08:25 15:45	08:25 08:21 (C14)
Potential sun hours	529	469	385	324	247	216
Total, worst case			64	52	137	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.63	0.62	0.61	
Total reduction			0.26	0.16	0.05	
Total, real			17	8	7	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ausekli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (109)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ausmas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (158)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	07:49 (C14)	06:49	05:33
	15:48	16:45	17:48	23 08:12 (C14)	19:53	20:55
2	08:51	08:13	07:08	07:50 (C14)	06:46	05:30
	15:50	16:48	17:50	21 08:11 (C14)	19:55	20:58
3	08:50	08:11	07:06	07:51 (C14)	06:44	05:28
	15:51	16:50	17:52	19 08:10 (C14)	19:57	21:00
4	08:50	08:09	07:03	07:52 (C14)	06:41	05:26
	15:52	16:52	17:54	16 08:08 (C14)	19:59	21:02
5	08:49	08:07	07:01	07:53 (C14)	06:38	05:24
	15:54	16:54	17:56	13 08:06 (C14)	20:01	21:04
6	08:49	08:05	06:58	07:57 (C14)	06:36	05:21
	15:55	16:57	17:58	6 08:03 (C14)	20:03	21:06
7	08:48	08:03	06:55		06:33	05:19
	15:56	16:59	18:01		20:06	21:08
8	08:48	08:01	06:53		06:30	05:17
	15:58	17:01	18:03		20:08	21:10
9	08:47	07:58	06:50		06:28	05:15
	16:00	17:03	18:05		20:10	21:12
10	08:46	07:56	06:48		06:25	05:13
	16:01	17:05	18:07		20:12	21:14
11	08:45	07:54	06:45		06:22	05:11
	16:03	17:08	18:09		20:14	21:16
12	08:44	07:52	06:42		06:20	05:09
	16:05	17:10	18:11		20:16	21:18
13	08:43	07:50	06:40		06:17	05:07
	16:06	17:12	18:13		20:18	21:20
14	08:42	07:47	06:37		06:15	05:05
	16:08	17:14	18:16		20:20	21:22
15	08:41	07:45	06:34		06:12	05:03
	16:10	17:17	18:18		20:22	21:24
16	08:40	07:43	06:32		06:09	05:01
	16:12	17:19	18:20		20:24	21:26
17	08:39	07:40	06:29		06:07	04:59
	16:14	17:21	18:22		20:26	21:27
18	08:38	07:38	06:26		06:04	04:57
	16:16	17:23	18:24		20:28	21:29
19	08:36	07:36	06:24		06:02	04:55
	16:18	17:26	18:26		20:31	21:31
20	08:35	07:33	06:21		05:59	04:53
	16:20	17:28	18:28		20:33	21:33
21	08:33	07:31	06:18		05:57	04:52
	16:22	17:30	18:30		20:35	21:35
22	08:32	07:28	06:16		05:54	04:50
	16:24	17:32	18:32		20:37	21:37
23	08:30	07:26	06:13		05:52	04:48
	16:26	17:34	18:34		20:39	21:38
24	08:29	07:23	06:10		05:49	04:47
	16:28	17:37	18:36		20:41	21:40
25	08:27	07:21	06:08		05:47	04:45
	16:30	17:39	18:39		20:43	21:42
26	08:26	07:18	06:05		05:45	04:44
	16:32	17:41	18:41		20:45	21:43
27	08:24	07:16	06:02		05:42	04:42
	16:34	17:43	18:43		20:47	21:45
28	08:22	07:13	06:00		05:40	04:41
	16:37	17:45	18:45		20:49	21:47
29	08:20		06:57		05:37	04:40
	16:39		19:47		20:51	21:48
30	08:19		06:54		05:35	04:38
	16:41		19:49		20:53	21:50
31	08:17		06:52			04:37
	16:43		19:51			21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		192	98		167	
Sun reduction		0.20	0.41		0.50	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.63	0.63		0.66	
Total reduction		0.12	0.25		0.32	
Total, real		23	24		53	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ausmas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (158)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	06:51 (C13) 18:54	07:17 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	06:51 (C13) 18:51	07:19 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	06:51 (C13) 18:48	07:21 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	06:53 (C13) 18:46	07:23 16:30	08:29 15:43
5	04:34 22:07	05:24 21:20	06:25 20:04	06:55 (C13) 18:43	07:26 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	06:57 (C13) 18:40	07:28 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	06:58 (C13) 18:38	07:30 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:00 (C13) 18:35	07:32 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:04 (C13) 18:33	10 08:30 (C14) 16:19	07:38 15:39
10	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	15 08:43 (C14) 16:17	07:42 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	18 08:44 (C14) 16:15	07:44 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	21 08:45 (C14) 16:13	07:46 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	24 08:45 (C14) 16:11	07:49 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	26 08:45 (C14) 16:10	07:51 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	28 08:46 (C14) 16:08	07:53 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	27 08:46 (C14) 16:06	07:55 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	25 08:47 (C14) 16:04	07:57 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:09	22 08:48 (C14) 16:03	07:59 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	19 08:49 (C14) 16:01	08:01 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	15 08:50 (C14) 15:59	08:03 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	12 08:51 (C14) 15:58	08:05 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	8 08:52 (C14) 15:56	08:07 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	2 08:53 (C14) 15:55	08:09 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	07:20 16:38	08:24 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		56	111	294		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.66	0.66	0.63		
Total reduction		0.32	0.27	0.16		
Total, real		18	30	46		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Auzani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (107)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:56	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:19	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:39
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:41 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:26 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:26 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:37	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Avenes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (132)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	07:46 (C15)	06:49	05:33
	15:48	16:45	17:48	25 08:11 (C14)	19:53	20:55
2	08:51	08:13	07:08	07:47 (C14)	06:46	05:30
	15:50	16:48	17:50	23 08:10 (C14)	19:55	20:58
3	08:50	08:11	07:06	07:48 (C14)	06:44	05:28
	15:51	16:50	17:52	22 08:10 (C14)	19:57	21:00
4	08:50	08:09	07:03	07:49 (C14)	06:41	05:26
	15:52	16:52	17:54	19 08:08 (C14)	19:59	21:02
5	08:49	08:07	07:01	07:50 (C14)	06:38	05:24
	15:54	16:54	17:56	16 08:06 (C14)	20:01	21:04
6	08:49	08:05	06:58	07:52 (C14)	06:36	05:21
	15:55	16:57	17:58	13 08:05 (C14)	20:03	21:06
7	08:48	08:03	06:55	07:55 (C14)	06:33	05:19
	15:56	16:59	18:01	5 08:00 (C14)	20:06	21:08
8	08:48	08:01	06:53	06:30	06:56 (C13)	05:17
	15:58	17:01	18:03	20:08	14 07:10 (C13)	21:10
9	08:47	07:58	06:50	06:28	06:53 (C13)	05:15
	16:00	17:03	18:05	20:10	16 07:09 (C13)	21:12
10	08:46	07:56	06:48	06:25	06:50 (C13)	05:13
	16:01	17:05	18:07	20:12	19 07:09 (C13)	21:14
11	08:45	07:54	06:45	06:22	06:49 (C13)	05:11
	16:03	17:08	18:09	20:14	20 07:09 (C13)	21:16
12	08:44	07:52	06:42	06:20	06:49 (C13)	05:09
	16:05	17:10	18:11	20:16	19 07:08 (C13)	21:18
13	08:43	07:50	06:40	06:17	06:50 (C13)	05:07
	16:06	17:12	18:13	20:18	18 07:08 (C13)	21:20
14	08:42	07:47	06:37	06:15	06:50 (C13)	05:05
	16:08	17:14	18:16	20:20	16 07:06 (C13)	21:22
15	08:41	07:45	06:34	06:12	06:51 (C13)	05:03
	16:10	17:17	18:18	20:22	14 07:05 (C13)	21:24
16	08:40	07:43	06:32	06:09	06:52 (C13)	05:01
	16:12	17:19	18:20	20:24	10 07:02 (C13)	21:26
17	08:39	07:40	06:29	06:07	06:57 (C13)	04:59
	16:14	17:21	18:22	20:26	1 06:58 (C13)	21:27
18	08:38	07:38	06:26	06:04	04:57	04:25
	16:16	17:23	18:24	20:28	21:29	22:09
19	08:36	07:36	06:24	06:02	04:55	04:25
	16:18	17:26	18:26	20:31	21:31	22:09
20	08:35	07:33	08:00 (C14)	06:21	05:59	04:25
	16:20	17:28	6 08:06 (C14)	18:28	20:33	21:33
21	08:33	07:31	07:58 (C14)	06:18	05:57	04:25
	16:22	17:30	10 08:08 (C14)	18:30	20:35	21:35
22	08:32	07:28	07:55 (C14)	06:16	05:54	04:26
	16:24	17:32	14 08:09 (C14)	18:32	20:37	21:37
23	08:30	07:26	07:53 (C14)	06:13	05:52	04:26
	16:26	17:34	18 08:11 (C14)	18:34	20:39	21:38
24	08:29	07:23	07:50 (C14)	06:10	05:49	04:26
	16:28	17:37	21 08:11 (C14)	18:36	20:41	21:40
25	08:27	07:21	07:48 (C15)	06:08	05:47	04:27
	16:30	17:39	24 08:12 (C14)	18:39	20:43	21:42
26	08:26	07:18	07:45 (C15)	06:05	05:45	04:27
	16:32	17:41	27 08:12 (C14)	18:41	20:45	21:43
27	08:24	07:16	07:44 (C15)	06:02	05:42	04:27
	16:34	17:43	27 08:11 (C14)	18:43	20:47	21:45
28	08:22	07:13	07:45 (C15)	06:00	05:40	04:28
	16:37	17:45	27 08:12 (C14)	18:45	20:49	21:47
29	08:20		06:57	05:37	04:40	04:29
	16:39		19:47	20:51	21:48	22:10
30	08:19		06:54	05:35	04:38	04:29
	16:41		19:49	20:53	21:50	22:09
31	08:17		06:52		04:37	
	16:43		19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		174	123		168	
Sun reduction		0.20	0.41		0.50	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.63	0.63		0.66	
Total reduction		0.12	0.25		0.32	
Total, real		21	31		54	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Avenes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (132)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	06:48 (C13) 07:08 (C13)	07:17 18:54	07:23 16:36
2	04:31 22:09	05:18 21:26	06:19 20:11	06:49 (C13) 07:08 (C13)	07:19 18:51	07:25 16:34
3	04:32 22:08	05:20 21:24	06:21 20:09	06:51 (C13) 07:07 (C13)	07:21 18:48	07:27 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	06:53 (C13) 07:07 (C13)	07:23 18:46	07:29 16:30
5	04:34 22:07	05:24 21:20	06:25 20:04	06:55 (C13) 07:06 (C13)	07:25 18:43	07:31 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	06:57 (C13) 07:04 (C13)	07:28 18:40	07:34 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	06:58 (C13) 07:02 (C13)	07:30 18:38	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:02 (C13) 18:35	9 08:29 (C14)	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	15 08:25 (C14)	07:40 16:19
10	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	18 08:23 (C14)	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	21 08:22 (C14)	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	22 08:21 (C14)	07:46 16:13
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	23 08:20 (C14)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	26 08:18 (C15)	07:51 16:08
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	27 08:17 (C15)	07:53 16:06
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	27 08:16 (C15)	07:55 16:04
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	26 08:15 (C15)	07:57 16:03
18	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:09	23 08:14 (C15)	07:59 16:01
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	20 08:13 (C15)	08:01 15:59
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	17 08:12 (C15)	08:03 15:57
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	13 08:11 (C15)	08:05 15:55
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	9 08:10 (C15)	08:07 15:53
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	4 08:09 (C15)	08:09 15:51
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:49
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52		08:13 15:47
26	05:05 21:39	06:05 20:30	06:58 (C13) 07:02 (C13)	07:07 16:50		08:15 15:45
27	05:06 21:38	06:07 20:27	06:55 (C13) 07:05 (C13)	07:09 16:48		08:17 15:43
28	05:08 21:36	06:09 20:24	06:52 (C13) 07:06 (C13)	07:11 16:45		08:19 15:41
29	05:10 21:34	06:11 20:22	06:51 (C13) 07:07 (C13)	07:13 16:43		08:21 15:39
30	05:12 21:32	06:13 20:19	06:50 (C13) 07:08 (C13)	07:15 16:41		08:22 15:37
31	05:14 21:30	06:15 20:17	06:49 (C13) 07:08 (C13)	07:20 16:38		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		81	91	300		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.66	0.66	0.63		
Total reduction		0.32	0.27	0.16		
Total, real		26	25	47		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Avoti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (2)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:56	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:36 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:39
13	08:43 16:07	07:49 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:49 16:11	08:41 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:06	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:23	04:26 22:07	04:47 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:26 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
26	08:25 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:50 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:37	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Avotini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (114)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:47	08:07 (C1) 08:13 (C1)	06:49 19:53	05:32 20:55
2	08:51 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:58	21:53 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:06 (C17) 07:07 (C17)	05:26 21:02
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	07:03 (C17) 07:08 (C17)	05:23 21:04
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	07:01 (C17) 07:09 (C17)	05:21 21:06
7	08:48 15:56	08:03 16:59	06:55 18:00	06:33 20:05	06:58 (C17) 07:10 (C17)	05:19 21:08
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	06:55 (C17) 07:09 (C17)	05:17 21:10
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:10	06:53 (C17) 07:10 (C17)	05:15 21:12
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	06:52 (C17) 07:09 (C17)	05:13 21:14
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	06:53 (C17) 07:09 (C17)	05:10 21:16
12	08:44 16:04	07:52 17:10	06:42 18:11	06:20 20:16	06:53 (C17) 07:07 (C17)	05:08 21:18
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	06:54 (C17) 07:06 (C17)	05:06 21:20
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	06:55 (C17) 07:03 (C17)	05:04 21:22
15	08:41 16:10	07:45 17:17	08:13 (C1) 08:14 (C1)	06:34 18:17	05:02 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	08:10 (C1) 08:17 (C1)	06:32 18:20	05:01 21:26	04:25 22:08
17	08:39 16:14	07:40 17:21	08:08 (C1) 08:19 (C1)	06:29 18:22	04:59 21:27	04:25 22:09
18	08:38 16:16	07:38 17:23	08:05 (C1) 08:20 (C1)	06:26 18:24	04:57 21:29	04:25 22:09
19	08:36 16:18	07:36 17:25	08:03 (C1) 08:21 (C1)	06:24 18:26	04:55 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	08:01 (C1) 08:21 (C1)	06:21 18:28	04:53 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	08:01 (C1) 08:22 (C1)	06:18 18:30	04:52 21:35	04:25 22:10
22	08:32 16:24	07:28 17:32	08:00 (C1) 08:22 (C1)	06:15 18:32	04:50 21:37	04:25 22:10
23	08:30 16:26	07:26 17:34	08:00 (C1) 08:22 (C1)	06:13 18:34	04:48 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	08:00 (C1) 08:21 (C1)	06:10 18:36	04:47 21:40	04:26 22:11
25	08:27 16:30	07:21 17:39	08:01 (C1) 08:21 (C1)	06:07 18:38	04:45 21:42	04:26 22:11
26	08:26 16:32	07:18 17:41	08:01 (C1) 08:20 (C1)	06:05 18:41	04:44 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	08:02 (C1) 08:18 (C1)	06:02 18:43	04:42 21:45	04:27 22:10
28	08:22 16:36	07:13 17:45	08:04 (C1) 08:17 (C1)	05:59 18:45	04:41 21:47	04:28 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10
31	08:17 16:43		06:51 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		226	6		124	
Sun reduction		0.20	0.41		0.50	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.62	0.62		0.66	
Total reduction		0.12	0.25		0.32	
Total, real		28	1	40		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Avotini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (114)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	06:52 (C17)	07:17	07:23
	22:09	21:28	20:14	16 07:08 (C17)	18:54	16:36
2	04:31	05:17	06:19	06:51 (C17)	07:19	07:25
	22:09	21:26	20:11	17 07:08 (C17)	18:51	16:34
3	04:32	05:19	06:21	06:51 (C17)	07:21	07:27
	22:08	21:24	20:09	17 07:08 (C17)	18:48	16:31
4	04:32	05:21	06:23	06:53 (C17)	07:23	07:29
	22:07	21:22	20:06	14 07:07 (C17)	18:46	16:29
5	04:33	05:23	06:25	06:55 (C17)	07:25	07:31
	22:07	21:20	20:03	12 07:07 (C17)	18:43	16:27
6	04:35	05:25	06:27	06:56 (C17)	07:27	07:33
	22:06	21:17	20:01	9 07:05 (C17)	18:40	16:25
7	04:36	05:27	06:29	06:58 (C17)	07:30	07:36
	22:05	21:15	19:58	5 07:03 (C17)	18:38	16:23
8	04:37	05:29	06:31	07:00 (C17)	07:32	07:38
	22:04	21:13	19:55	1 07:01 (C17)	18:35	16:21
9	04:38	05:31	06:33		07:34	07:40
	22:03	21:11	19:53		18:32	16:19
10	04:39	05:33	06:35		07:36	07:42
	22:02	21:08	19:50		18:30	16:17
11	04:41	05:35	06:37		07:38	07:44
	22:01	21:06	19:47		18:27	16:15
12	04:42	05:37	06:39		07:40	07:46
	22:00	21:04	19:45		18:25	16:13
13	04:43	05:39	06:41		07:42	07:49
	21:59	21:02	19:42		18:22	10 08:38 (C1)
14	04:45	05:41	06:43		07:44	08:35 (C1)
	21:58	20:59	19:39		18:19	15 08:50 (C1)
15	04:46	05:43	06:45		07:46	08:35 (C1)
	21:57	20:57	19:37		18:17	17 08:52 (C1)
16	04:48	05:45	06:47		07:48	08:33 (C1)
	21:55	20:54	19:34		18:14	19 08:52 (C1)
17	04:49	05:47	06:49		07:50	08:32 (C1)
	21:54	20:52	19:31		18:12	20 08:52 (C1)
18	04:51	05:49	06:51		07:52	08:31 (C1)
	21:53	20:50	19:29		18:09	21 08:52 (C1)
19	04:52	05:51	06:53		07:55	08:32 (C1)
	21:51	20:47	19:26		18:07	21 08:53 (C1)
20	04:54	05:53	06:55		07:57	08:31 (C1)
	21:50	20:45	19:23		18:04	22 08:53 (C1)
21	04:56	05:55	06:57		07:59	08:31 (C1)
	21:48	20:42	19:20		18:02	21 08:52 (C1)
22	04:57	05:57	06:59		08:01	08:31 (C1)
	21:46	20:40	19:18		17:59	20 08:51 (C1)
23	04:59	05:59	07:01		08:03	08:34 (C1)
	21:45	20:37	19:15		17:57	17 08:51 (C1)
24	05:01	06:01	07:03		08:05	08:36 (C1)
	21:43	20:35	19:12		17:55	14 08:50 (C1)
25	05:03	06:03	07:05		07:07	07:38 (C1)
	21:41	20:32	19:10		16:52	10 07:48 (C1)
26	05:04	06:05	07:07		07:10	07:41 (C1)
	21:39	20:30	19:07		16:50	6 07:47 (C1)
27	05:06	06:07	07:09		07:12	
	21:38	20:27	19:04		16:47	
28	05:08	06:09	07:11		07:14	
	21:36	20:24	19:02		16:45	
29	05:10	06:11	06:56 (C17)		07:16	
	21:34	20:22	8 07:04 (C17)		16:43	
30	05:12	06:13	06:54 (C17)		07:18	
	21:32	20:19	12 07:06 (C17)		16:40	
31	05:14	06:15	06:52 (C17)		07:20	
	21:30	20:17	15 07:07 (C17)		16:38	
Potential sun hours	529	469	385	324	247	216
Total, worst case		35	91	233		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.66	0.66	0.62		
Total reduction		0.32	0.27	0.16		
Total, real		11	25	37		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Bajari - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (22)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	04:27 22:11	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:49	08:51 15:43
28	08:22 16:36	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Biksti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (38)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	07:14 (C17)	05:32
	15:48	16:45	17:47	19:53	16	20:55
2	08:51	08:13	08:43 (C1)	06:46	07:11 (C17)	05:30
	15:49	16:47	2 08:45 (C1)	19:55	19	20:58
3	08:50	08:11	08:41 (C1)	06:43	07:11 (C17)	05:28
	15:50	16:50	7 08:48 (C1)	19:57	18	21:00
4	08:50	08:09	08:39 (C1)	06:41	07:11 (C17)	05:26
	15:52	16:52	11 08:50 (C1)	19:59	18	21:02
5	08:49	08:07	08:37 (C1)	06:38	07:11 (C17)	05:23
	15:53	16:54	14 08:51 (C1)	20:01	17	21:04
6	08:49	08:05	08:34 (C1)	06:35	07:12 (C17)	05:21
	15:55	16:56	17 08:51 (C1)	20:03	15	21:06
7	08:48	08:03	08:32 (C1)	06:33	07:13 (C17)	05:19
	15:56	16:59	20 08:52 (C1)	20:05	12	21:08
8	08:48	08:01	08:32 (C1)	06:30	07:15 (C17)	05:17
	15:58	17:01	21 08:53 (C1)	20:08	7	21:10
9	08:47	07:58	08:31 (C1)	06:27		05:15
	15:59	17:03	22 08:53 (C1)	20:10		21:12
10	08:46	07:56	08:31 (C1)	06:25		05:12
	16:01	17:05	23 08:54 (C1)	20:12		21:14
11	08:45	07:54	08:32 (C1)	06:22		05:10
	16:03	17:08	22 08:54 (C1)	20:14		21:16
12	08:44	07:52	08:31 (C1)	06:20		05:08
	16:04	17:10	22 08:53 (C1)	20:16		21:18
13	08:43	07:50	08:32 (C1)	06:17		05:06
	16:06	17:12	21 08:53 (C1)	20:18		21:20
14	08:42	07:47	08:32 (C1)	06:14		05:04
	16:08	17:14	20 08:52 (C1)	20:20		21:22
15	08:41	07:45	08:33 (C1)	06:12		05:02
	16:10	17:17	19 08:52 (C1)	20:22		21:24
16	08:40	07:43	08:34 (C1)	06:09		05:00
	16:12	17:19	16 08:50 (C1)	20:24		21:26
17	08:39	07:40	08:36 (C1)	06:07		04:59
	16:14	17:21	13 08:49 (C1)	20:26		21:27
18	08:38	07:38	08:38 (C1)	06:04		04:57
	16:16	17:23	7 08:45 (C1)	20:28		21:29
19	08:36	07:36		06:02		04:55
	16:18	17:25		20:30		21:31
20	08:35	07:33		05:59		04:53
	16:20	17:28		20:33		21:33
21	08:33	07:31		05:57		04:51
	16:22	17:30		20:35		21:35
22	08:32	07:28		05:54		04:50
	16:24	17:32		20:37		21:37
23	08:30	07:26		05:52		04:48
	16:26	17:34		20:39		21:38
24	08:29	07:23		05:49		04:47
	16:28	17:37		20:41		21:40
25	08:27	07:21		05:47		04:45
	16:30	17:39		20:43		21:42
26	08:26	07:18		05:44		04:44
	16:32	17:41		20:45		21:43
27	08:24	07:16		05:42		04:42
	16:34	17:43		20:47		21:45
28	08:22	07:13		05:39		04:41
	16:36	17:45		20:49		21:47
29	08:20			05:37		04:39
	16:39			20:51		21:48
30	08:19			05:35		04:38
	16:41			20:53		21:50
31	08:17			05:37		04:37
	16:43			21:51		
Potential sun hours	235	266	366	426	508	529
Total, worst case		277	32			122
Sun reduction		0.20	0.41			0.50
Oper. time red.		0.98	0.98			0.98
Wind dir. red.		0.61	0.66			0.66
Total reduction		0.12	0.26			0.32
Total, real		33	8			39

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Biksti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (38)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:01 (C1) 15:45
2	04:31 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:01 (C1) 15:44
3	04:32 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:01 (C1) 15:43
4	04:32 22:07	05:21 21:22	06:23 20:06	07:23 (C17) 07:20 (C17)	07:29 16:29	08:02 (C1) 15:42
5	04:33 22:07	05:23 21:20	06:25 20:03	07:25 (C17) 07:21 (C17)	07:31 16:27	08:05 (C1) 15:41
6	04:34 22:06	05:25 21:17	06:27 20:01	07:27 (C17) 07:22 (C17)	07:33 16:25	08:07 (C1) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 (C17) 07:23 (C17)	07:36 16:23	08:09 (C1) 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 (C17) 07:23 (C17)	07:38 16:21	08:12 (C1) 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 (C17) 07:23 (C17)	07:40 16:19	08:14 (C1) 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 (C17) 07:23 (C17)	07:42 16:17	08:15 (C1) 15:39
11	04:40 22:01	05:35 21:06	06:37 19:47	07:38 (C17) 07:23 (C17)	07:44 16:15	08:16 (C1) 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 (C17) 07:22 (C17)	07:46 16:13	08:17 (C1) 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 (C17) 07:21 (C17)	07:49 16:11	08:18 (C1) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 (C17) 07:19 (C17)	07:51 16:09	08:19 (C1) 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 (C17) 07:17 (C17)	07:53 16:07	08:20 (C1) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:21 (C1) 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:22 (C1) 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	08:23 (C1) 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:24 (C1) 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:25 (C1) 15:38
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:26 (C1) 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:27 (C1) 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:28 (C1) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	09:08 (C1) 09:17 (C1)	08:11 15:53
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:05 (C1) 08:19 (C1)	08:13 15:52
26	05:04 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:04 (C1) 08:21 (C1)	08:15 15:51
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 16:47	08:03 (C1) 08:22 (C1)	08:17 15:49
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 16:45	08:01 (C1) 08:22 (C1)	08:19 15:48
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 16:43	08:01 (C1) 08:23 (C1)	08:21 15:47
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 16:40	08:01 (C1) 08:23 (C1)	08:23 15:46
31	05:14 21:30	06:15 20:17		08:19 16:38	08:01 (C1) 08:24 (C1)	08:25 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			157	147	134	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.66	0.61	0.61	
Total reduction			0.27	0.15	0.05	
Total, real			42	22	7	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Birzes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (4)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:18	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:31 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:51 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:54	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Birzmalieš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (70)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45		07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	08:24 15:45
2	08:51 15:49	08:13 16:47		07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	08:26 15:44
3	08:50 15:51	08:11 16:50		07:06 17:52	06:43 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	08:28 15:43
4	08:50 15:52	08:09 16:52	08:39 (C13)	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	08:29 15:42
5	08:49 15:53	08:07 16:54	08:37 (C13)	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:25 18:43	08:31 15:42
6	08:49 15:55	08:05 16:56	08:34 (C13)	06:58 17:58	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	08:32 15:41
7	08:48 15:56	08:03 16:59	08:32 (C13)	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:34 15:40
8	08:48 15:58	08:01 17:01	08:30 (C13)	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:35 15:40
9	08:47 15:59	07:58 17:03	08:29 (C13)	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:37 15:39
10	08:46 16:01	07:56 17:05	08:29 (C13)	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	08:38 15:39
11	08:45 16:03	07:54 17:08	08:29 (C13)	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	08:39 15:39
12	08:44 16:05	07:52 17:10	08:28 (C13)	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:40 15:38
13	08:43 16:06	07:50 17:12	08:29 (C13)	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:42 15:38
14	08:42 16:08	07:47 17:14	08:29 (C13)	06:37 18:15	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:43 15:38
15	08:41 16:10	07:45 17:17	08:30 (C13)	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:44 15:38
16	08:40 16:12	07:43 17:19	08:30 (C13)	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	08:45 15:38
17	08:39 16:14	07:40 17:21	08:31 (C13)	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:46 15:38
18	08:38 16:16	07:38 17:23	08:32 (C13)	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	08:46 15:38
19	08:36 16:18	07:36 17:26	08:36 (C13)	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:47 15:38
20	08:35 16:20	07:33 17:28	08:43 (C13)	06:21 18:28	06:01 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:48 15:39
21	08:33 16:22	07:31 17:30		06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:49 15:39
22	08:32 16:24	07:28 17:32		06:16 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:49 15:39
23	08:30 16:26	07:26 17:34		06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:50 15:40
24	08:29 16:28	07:23 17:37		06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:50 15:41
25	08:27 16:30	07:21 17:39		06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:50 15:41
26	08:26 16:32	07:18 17:41		06:05 18:41	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:10 17:50	08:51 15:42
27	08:24 16:34	07:16 17:43		06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:51 15:43
28	08:22 16:36	07:13 17:45		05:59 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	08:14 17:45	08:51 15:44
29	08:20 16:39			06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:21 17:43	08:51 15:45
30	08:19 16:41			06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:23 17:41	08:51 15:46
31	08:17 16:43			06:51 19:51	05:32 21:51	04:37 21:51	04:37 21:51	05:14 21:30	06:15 20:17	07:20 16:38	08:24 15:47	08:51 15:47
Potential sun hours	235	266		366	426	508	529	529	469	385	324	216
Total, worst case		258									165	150
Sun reduction		0.20									0.26	0.07
Oper. time red.		0.98									0.98	0.98
Wind dir. red.		0.61									0.61	0.61
Total reduction		0.12									0.16	0.04
Total, real		31									26	6

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Birznieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (176)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:48 19:53	05:32 20:55	04:35 21:53	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:40 19:59	05:25 21:02	04:32 21:57	04:32 22:07	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:36 16:23	08:34 15:40
8	08:48 15:57	08:00 17:01	06:53 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:10	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:43 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:06 20:26	04:58 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:37
18	08:37 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 17:30	06:18 18:30	05:56 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:39
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:10	05:00 21:43	06:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:39	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:11	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:40 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:47	08:51 15:44
30	08:18 16:40		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Birtzalas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (15)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:20 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:22 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:24 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:26 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:28 20:01	07:28 18:41	07:34 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:23 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:40 15:38
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:09	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:24	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:54 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:08 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:06 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:08 20:27	07:09 19:05	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:10 20:25	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:12 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 18:56	07:18 16:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:16 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Bisenieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (183)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	08:45 (C15)	07:11	06:49	05:33
	15:48	16:45	10:11 (C14)	17:48	19:53	20:55
2	08:50	08:13	08:43 (C15)	07:08	06:46	05:30
	15:49	16:48	10:11 (C14)	17:50	19:55	20:57
3	08:50	08:11	08:41 (C16)	07:06	06:43	05:28
	15:51	16:50	10:11 (C14)	17:52	19:57	21:00
4	08:50	08:09	08:39 (C16)	07:03	06:41	05:26
	15:52	16:52	10:11 (C14)	17:54	19:59	21:02
5	08:49	08:07	08:38 (C16)	07:01	06:38	05:23
	15:53	16:54	10:11 (C14)	17:56	20:01	21:04
6	08:49	09:43 (C14)	08:05	08:38 (C16)	06:35	05:21
	15:55	3 09:46 (C14)	16:56	10:09 (C14)	17:58	20:03
7	08:48	09:40 (C14)	08:03	08:38 (C16)	06:55	06:33
	15:56	10 09:50 (C14)	16:59	10:09 (C14)	18:01	20:06
8	08:48	09:39 (C14)	08:01	08:40 (C16)	06:53	06:30
	15:58	13 09:52 (C14)	17:01	10:08 (C14)	18:03	20:08
9	08:47	09:37 (C14)	07:58	08:40 (C16)	06:50	06:28
	16:00	17 09:54 (C14)	17:03	10:06 (C14)	18:05	20:10
10	08:46	09:37 (C14)	07:56	08:42 (C16)	06:47	06:25
	16:01	18 09:55 (C14)	17:05	10:05 (C14)	18:07	20:12
11	08:45	09:36 (C14)	07:54	08:46 (C15)	06:45	06:22
	16:03	21 09:57 (C14)	17:08	10:03 (C14)	18:09	20:14
12	08:44	09:36 (C14)	07:52	08:46 (C15)	06:42	06:20
	16:05	23 09:59 (C14)	17:10	10:00 (C14)	18:11	20:16
13	08:43	09:34 (C14)	07:50	08:48 (C15)	06:40	06:17
	16:06	25 09:59 (C14)	17:12	09:02 (C15)	18:13	20:18
14	08:42	09:34 (C14)	07:47	08:50 (C15)	06:37	06:15
	16:08	27 10:01 (C14)	17:14	8 08:58 (C15)	18:15	20:20
15	08:41	09:33 (C14)	07:45		06:34	06:12
	16:10	28 10:01 (C14)	17:17		18:18	20:22
16	08:40	09:33 (C14)	07:43		06:32	06:09
	16:12	30 10:03 (C14)	17:19		18:20	20:24
17	08:39	09:34 (C14)	07:40		06:29	06:07
	16:14	30 10:04 (C14)	17:21		18:22	20:26
18	08:37	09:33 (C14)	07:38		06:26	06:04
	16:16	32 10:05 (C14)	17:23		18:24	20:28
19	08:36	09:32 (C14)	07:36		06:24	06:02
	16:18	33 10:05 (C14)	17:26		18:26	20:30
20	08:35	09:33 (C14)	07:33		06:21	05:59
	16:20	34 10:07 (C14)	17:28		18:28	20:33
21	08:33	09:32 (C14)	07:31		06:18	05:57
	16:22	35 10:07 (C14)	17:30		18:30	20:35
22	08:32	09:32 (C14)	07:28		06:16	05:54
	16:24	36 10:08 (C14)	17:32		18:32	20:37
23	08:30	09:32 (C14)	07:26		06:13	05:52
	16:26	36 10:08 (C14)	17:34		18:34	20:39
24	08:29	09:32 (C14)	07:23		06:10	05:49
	16:28	38 10:10 (C14)	17:37		18:36	20:41
25	08:27	09:32 (C14)	07:21		06:08	05:47
	16:30	38 10:10 (C14)	17:39		18:38	20:43
26	08:26	09:32 (C14)	07:18		06:05	05:44
	16:32	39 10:11 (C14)	17:41		18:41	20:45
27	08:24	09:32 (C14)	07:16		06:02	05:42
	16:34	39 10:11 (C14)	17:43		18:43	20:47
28	08:22	08:54 (C15)	07:13		05:59	05:40
	16:37	42 10:11 (C14)	17:45		18:45	20:49
29	08:20	08:52 (C15)			06:57	05:37
	16:39	45 10:11 (C14)			19:47	20:51
30	08:18	08:50 (C15)			06:54	05:35
	16:41	50 10:12 (C14)			19:49	20:53
31	08:17	08:48 (C15)			06:51	
	16:43	54 10:12 (C14)			19:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	796	666		633		
Sun reduction	0.13	0.20		0.50		
Oper. time red.	0.98	0.98		0.98		
Wind dir. red.	0.61	0.60		0.66		
Total reduction	0.08	0.12		0.31		
Total, real	61	77		198		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Bisenieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (183)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:02 (C13)	07:17	07:23
	22:09	21:28	20:14	18:54	16:36	08:11 (C16)
2	04:31	05:18	06:19	07:02 (C13)	07:19	07:25
	22:09	21:26	20:11	18:51	16:34	08:09 (C16)
3	04:32	05:20	06:21	07:02 (C13)	07:21	07:27
	22:08	21:24	20:09	18:48	16:32	08:09 (C16)
4	04:33	05:21	06:23	07:03 (C13)	07:23	07:29
	22:07	21:22	20:06	18:46	16:29	08:08 (C16)
5	04:34	05:23	06:25	07:03 (C13)	07:25	07:31
	22:07	21:20	20:03	18:43	16:27	08:07 (C16)
6	04:35	05:25	06:27	07:04 (C13)	07:27	07:33
	22:06	21:17	20:01	18:40	16:25	08:09 (C16)
7	04:36	05:27	06:29	07:04 (C13)	07:30	07:36
	22:05	21:15	19:58	18:38	16:23	08:09 (C16)
8	04:37	05:29	06:31	07:06 (C13)	07:32	07:38
	22:04	21:13	19:55	18:35	16:21	08:12 (C16)
9	04:38	05:31	06:33	07:09 (C13)	07:34	07:40
	22:03	21:11	19:53	18:32	16:19	08:14 (C15)
10	04:39	05:33	06:35	07:10 (C13)	07:36	07:42
	22:02	21:08	19:50	18:30	16:17	08:17 (C15)
11	04:41	05:35	06:37	07:12 (C13)	07:38	07:44
	22:01	21:06	19:47	18:27	16:15	08:19 (C15)
12	04:42	05:37	06:39	07:14 (C13)	07:40	07:46
	22:00	21:04	19:45	18:25	16:13	08:21 (C15)
13	04:43	05:39	06:41	07:16 (C13)	07:42	07:49
	21:59	21:02	19:42	18:22	16:11	08:24 (C15)
14	04:45	05:41	06:43	07:18 (C13)	07:44	07:51
	21:58	20:59	19:39	18:20	16:09	08:26 (C15)
15	04:46	05:43	06:45	07:20 (C13)	07:46	07:53
	21:57	20:57	19:37	18:17	16:07	08:28 (C15)
16	04:48	05:45	06:47	07:22 (C13)	07:48	07:55
	21:55	20:54	19:34	18:14	16:06	08:33 (C15)
17	04:49	05:47	06:49	07:24 (C13)	07:50	07:57
	21:54	20:52	19:31	18:12	16:04	08:38 (C15)
18	04:51	05:49	06:51	07:26 (C13)	07:52	07:59
	21:52	20:50	19:29	18:09	16:02	08:44 (C15)
19	04:53	05:51	06:53	07:28 (C13)	07:54	08:01
	21:51	20:47	19:26	18:07	16:01	08:49 (C15)
20	04:54	05:53	06:55	07:30 (C13)	07:56	08:03
	21:49	20:45	19:23	18:04	15:59	08:54 (C15)
21	04:56	05:55	06:57	07:32 (C13)	07:58	08:05
	21:48	20:42	19:21	18:02	15:58	08:59 (C15)
22	04:58	05:57	06:59	07:34 (C13)	08:00	08:07
	21:46	20:40	19:18	18:00	15:56	08:59 (C15)
23	04:59	05:59	07:01	07:36 (C13)	08:02	08:09
	21:45	20:37	19:15	17:57	15:55	08:59 (C15)
24	05:01	06:01	07:03	07:38 (C13)	08:04	08:11
	21:43	20:35	19:12	17:55	15:53	08:59 (C15)
25	05:03	06:03	07:05	07:40 (C13)	08:06	08:13
	21:41	20:32	19:10	17:52	15:52	08:59 (C15)
26	05:05	06:05	07:07	07:42 (C13)	08:08	08:15
	21:39	20:30	19:07	17:50	15:51	08:59 (C15)
27	05:06	06:07	07:09	07:44 (C13)	08:10	08:17
	21:38	20:27	19:04	17:48	15:49	08:59 (C15)
28	05:08	06:09	07:11	07:46 (C13)	08:12	08:19
	21:36	20:24	19:02	17:46	15:48	08:59 (C15)
29	05:10	06:11	07:13	07:48 (C13)	08:14	08:21
	21:34	20:22	18:59	17:43	15:47	08:59 (C15)
30	05:12	06:13	07:15	07:50 (C13)	08:16	08:22
	21:32	20:19	18:56	17:41	15:46	08:59 (C15)
31	05:14	06:15	07:17	07:52 (C13)	08:18	08:25
	21:30	20:17	18:53	17:38	15:45	08:59 (C15)
Potential sun hours	529	469	385	324	247	216
Total, worst case		410	236	101	1292	85
Sun reduction		0.50	0.43	0.26	0.08	0.07
Oper. time red.		0.98	0.98	0.98	0.98	0.98
Wind dir. red.		0.66	0.66	0.60	0.60	0.61
Total reduction		0.31	0.27	0.15	0.05	0.04
Total, real		128	63	15	61	3

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Bisenieki 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (137)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

January		February		March		April		May		June	
1	08:51	08:15	08:45 (C15)	07:11	06:49			05:33	06:54 (C13)	04:36	
	15:48	16:45	45 10:00 (C14)	17:48	19:53			20:55	13 07:07 (C13)	21:53	
2	08:50	08:13	08:43 (C15)	07:08	06:46			05:30	07:00 (C13)	04:35	
	15:49	16:48	50 10:01 (C14)	17:50	19:55			20:57	1 07:01 (C13)	21:54	
3	08:50	08:11	08:41 (C15)	07:06	06:43			05:28		04:34	
	15:51	16:50	54 10:01 (C14)	17:52	19:57			21:00		21:55	
4	08:50	08:09	08:39 (C15)	07:03	06:41			05:26		04:33	
	15:52	16:52	56 10:01 (C14)	17:54	19:59			21:02		21:57	
5	08:49	08:07	08:37 (C15)	07:01	06:38			05:23		04:32	
	15:53	16:54	61 10:02 (C14)	17:56	20:01			21:04		21:58	
6	08:49	08:05	08:34 (C16)	06:58	06:35			05:21		04:31	
	15:55	16:56	63 10:01 (C14)	17:58	20:03			21:06		21:59	
7	08:48	08:03	08:32 (C16)	06:55	06:33			05:19		04:30	
	15:56	16:59	65 10:01 (C14)	18:01	20:06			21:08		22:00	
8	08:48	08:01	08:32 (C16)	06:53	06:30		07:03 (C13)	05:17		04:29	
	15:58	17:01	65 10:01 (C14)	18:03	20:08	9	07:12 (C13)	21:10		22:01	
9	08:47	07:58	08:32 (C16)	06:50	06:28		06:58 (C13)	05:15		04:29	
	16:00	17:03	64 10:00 (C14)	18:05	20:10	17	07:15 (C13)	21:12		22:02	
10	08:46	07:56	08:33 (C16)	06:47	06:25		06:55 (C13)	05:13		04:28	
	16:01	17:05	62 10:00 (C14)	18:07	20:12	21	07:16 (C13)	21:14		22:03	
11	08:45	07:54	08:34 (C16)	06:45	06:22		06:54 (C13)	05:11		04:27	
	16:03	17:08	59 09:59 (C14)	18:09	20:14	24	07:18 (C13)	21:16		22:04	
12	08:44	07:52	08:35 (C15)	06:42	06:20		06:52 (C13)	05:09		04:27	
	16:05	17:10	56 09:58 (C14)	18:11	20:16	27	07:19 (C13)	21:18		22:05	
13	08:43	07:50	08:36 (C15)	06:40	06:17		06:51 (C13)	05:07		04:26	
	16:06	17:12	52 09:57 (C14)	18:13	20:18	29	07:20 (C13)	21:20		22:06	
14	08:42	07:47	08:36 (C15)	06:37	06:15		06:49 (C13)	05:05		04:26	
	16:08	17:14	48 09:55 (C14)	18:15	20:20	31	07:20 (C13)	21:22		22:07	
15	08:41	09:31 (C14)	07:45	06:34	06:12		06:49 (C13)	05:03		04:26	
	16:10	9 09:40 (C14)	17:17	18:18	20:22	32	07:21 (C13)	21:24		22:07	
16	08:40	09:29 (C14)	07:43	06:32	06:09		06:48 (C13)	05:01		04:26	
	16:12	14 09:43 (C14)	17:19	18:20	20:24	33	07:21 (C13)	21:25		22:08	
17	08:39	09:27 (C14)	07:40	06:29	06:07		06:48 (C13)	04:59		04:25	
	16:14	18 09:45 (C14)	17:21	18:22	20:26	33	07:21 (C13)	21:27		22:08	
18	08:37	09:27 (C14)	07:38	06:26	06:04		06:47 (C13)	04:57		04:25	
	16:16	21 09:48 (C14)	17:23	18:24	20:28	34	07:21 (C13)	21:29		22:09	
19	08:36	09:25 (C14)	07:36	06:24	06:02		06:47 (C13)	04:55		04:25	
	16:18	24 09:49 (C14)	17:26	18:26	20:30	34	07:21 (C13)	21:31		22:09	
20	08:35	09:25 (C14)	07:33	06:21	05:59		06:47 (C13)	04:53		04:25	
	16:20	26 09:51 (C14)	17:28	18:28	20:33	34	07:21 (C13)	21:33		22:10	
21	08:33	09:24 (C14)	07:31	06:18	05:57		06:46 (C13)	04:52		04:25	
	16:22	28 09:52 (C14)	17:30	18:30	20:35	34	07:20 (C13)	21:35		22:10	
22	08:32	09:23 (C14)	07:28	06:16	05:54		06:47 (C13)	04:50		04:26	
	16:24	30 09:53 (C14)	17:32	18:32	20:37	33	07:20 (C13)	21:37		22:10	
23	08:30	09:22 (C14)	07:26	06:13	05:52		06:46 (C13)	04:48		04:26	
	16:26	32 09:54 (C14)	17:34	18:34	20:39	33	07:19 (C13)	21:38		22:10	
24	08:29	09:23 (C14)	07:23	06:10	05:49		06:47 (C13)	04:47		04:26	
	16:28	33 09:56 (C14)	17:37	18:36	20:41	31	07:18 (C13)	21:40		22:10	
25	08:27	09:22 (C14)	07:21	06:08	05:47		06:48 (C13)	04:45		04:26	
	16:30	35 09:57 (C14)	17:39	18:38	20:43	30	07:18 (C13)	21:42		22:10	
26	08:26	09:22 (C14)	07:18	06:05	05:44		06:47 (C13)	04:44		04:27	
	16:32	35 09:57 (C14)	17:41	18:41	20:45	29	07:16 (C13)	21:43		22:10	
27	08:24	09:21 (C14)	07:16	06:02	05:42		06:49 (C13)	04:42		04:27	
	16:34	37 09:58 (C14)	17:43	18:43	20:47	26	07:15 (C13)	21:45		22:10	
28	08:22	09:21 (C14)	07:13	05:59	05:40		06:50 (C13)	04:41		04:28	
	16:37	38 09:59 (C14)	17:45	18:45	20:49	24	07:14 (C13)	21:47		22:10	
29	08:20	09:21 (C14)		06:57	05:37		06:51 (C13)	04:40		04:29	
	16:39	38 09:59 (C14)		19:47	20:51	21	07:12 (C13)	21:48		22:10	
30	08:18	09:21 (C14)		06:54	05:35		06:52 (C13)	04:38		04:29	
	16:41	39 10:00 (C14)		19:49	20:53	18	07:10 (C13)	21:50		22:09	
31	08:17	09:21 (C14)		06:51				04:37			
	16:43	40 10:01 (C14)		19:51				21:51			
Potential sun hours	235		266	366	426			508		529	
Total, worst case	497		907		637			14			
Sun reduction	0.13		0.20		0.50			0.57			
Oper. time red.	0.98		0.98		0.98			0.98			
Wind dir. red.	0.60		0.60		0.66			0.66			
Total reduction	0.08		0.12		0.31			0.36			
Total, real	38		105		200			5			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Bisenieki 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (137)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	06:53 (C13) 07:17 (C13)	07:17 18:54	07:23 16:36
2	04:31 22:08	05:18 21:26	06:19 20:11	06:54 (C13) 07:15 (C13)	07:19 18:51	07:25 16:34
3	04:32 22:08	05:20 21:24	06:21 20:09	06:56 (C13) 07:13 (C13)	07:21 18:48	07:27 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	07:00 (C13) 07:09 (C13)	07:23 18:46	07:29 16:29
5	04:34 22:07	05:23 21:20	06:25 20:03	07:09 (C13) 07:27	18:46 18:43	16:29 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 07:30	18:43 18:38	16:27 16:23
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	18:38 18:35	16:23 16:21
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	18:35 18:32	16:21 16:19
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	18:32 18:30	16:19 16:17
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	18:30 18:27	16:17 16:15
11	04:41 22:01	05:35 21:06	07:06 (C13) 07:13 (C13)	06:37 19:47	07:38 18:27	16:17 16:15
12	04:42 22:00	05:37 21:04	07:02 (C13) 07:16 (C13)	06:39 19:45	18:27 18:25	16:15 16:13
13	04:43 21:59	05:39 21:02	07:00 (C13) 07:19 (C13)	06:41 19:42	18:25 18:22	16:13 16:11
14	04:45 21:58	05:41 20:59	06:58 (C13) 07:20 (C13)	06:43 19:39	18:22 18:20	16:11 16:09
15	04:46 21:57	05:43 20:57	06:57 (C13) 07:22 (C13)	06:45 19:37	18:20 18:17	16:09 16:08
16	04:48 21:55	05:45 20:54	06:56 (C13) 07:23 (C13)	06:47 19:34	18:17 18:14	16:08 16:06
17	04:49 21:54	05:47 20:52	06:55 (C13) 07:24 (C13)	06:49 19:31	18:14 18:12	16:06 16:04
18	04:51 21:52	05:49 20:50	06:53 (C13) 07:23 (C13)	06:51 19:29	18:12 18:09	16:04 16:02
19	04:53 21:51	05:51 20:47	06:52 (C13) 07:24 (C13)	06:53 19:26	18:09 18:07	16:02 16:01
20	04:54 21:49	05:53 20:45	06:52 (C13) 07:24 (C13)	06:55 19:23	18:07 18:04	16:01 15:59
21	04:56 21:48	05:55 20:42	06:51 (C13) 07:25 (C13)	06:57 19:21	18:04 18:02	15:59 15:58
22	04:58 21:46	05:57 20:40	06:51 (C13) 07:25 (C13)	06:59 19:18	18:02 18:00	15:58 15:56
23	04:59 21:45	05:59 20:37	06:51 (C13) 07:25 (C13)	07:01 19:15	18:00 17:57	15:56 15:55
24	05:01 21:43	06:01 20:35	06:50 (C13) 07:25 (C13)	07:03 19:12	18:00 17:55	15:55 15:53
25	05:03 21:41	06:03 20:32	06:50 (C13) 07:24 (C13)	07:05 19:10	17:55 16:52	15:53 15:52
26	05:05 21:39	06:05 20:30	06:50 (C13) 07:24 (C13)	07:07 19:07	16:52 16:50	15:52 15:51
27	05:06 21:38	06:07 20:27	06:50 (C13) 07:22 (C13)	07:09 19:04	16:50 16:48	15:51 15:49
28	05:08 21:36	06:09 20:24	06:50 (C13) 07:22 (C13)	07:11 19:02	16:48 16:45	15:49 15:48
29	05:10 21:34	06:11 20:22	06:50 (C13) 07:21 (C13)	07:13 18:59	16:45 16:43	15:48 15:47
30	05:12 21:32	06:13 20:19	06:51 (C13) 07:20 (C13)	07:15 18:56	16:43 16:41	15:47 15:46
31	05:14 21:30	06:15 20:17	06:52 (C13) 07:19 (C13)	07:17 18:54	16:41 16:38	15:46 15:45
Potential sun hours	529	469	385	324	247	216
Total, worst case		593	71	344	1074	
Sun reduction		0.50	0.43	0.26	0.08	
Oper. time red.		0.98	0.98	0.98	0.98	
Wind dir. red.		0.66	0.66	0.60	0.60	
Total reduction		0.31	0.27	0.15	0.05	
Total, real		185	19	51	51	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Bites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (73)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:33	04:36
	15:48	16:45	17:48	19:53	20:56	21:53
2	08:51	08:13	07:08	06:46	05:30	04:35
	15:50	16:48	17:50	19:55	20:58	21:54
3	08:50	08:11	08:41 (C14)	07:06	06:44	05:28
	15:51	16:50	3 08:44 (C14)	17:52	19:57	21:00
4	08:50	08:09	08:39 (C14)	07:03	06:41	05:26
	15:52	16:52	6 08:45 (C14)	17:54	19:59	21:02
5	08:49	08:07	08:37 (C14)	07:01	06:38	05:24
	15:53	16:54	10 08:47 (C14)	17:56	20:01	21:04
6	08:49	08:05	08:34 (C14)	06:58	06:36	05:21
	15:55	16:57	13 08:47 (C14)	17:58	20:03	21:06
7	08:48	08:03	08:32 (C14)	06:55	06:33	05:19
	15:56	16:59	15 08:47 (C14)	18:01	20:06	21:08
8	08:48	08:01	08:30 (C14)	06:53	06:30	05:17
	15:58	17:01	18 08:48 (C14)	18:03	20:08	21:10
9	08:47	07:58	08:29 (C14)	06:50	06:28	05:15
	16:00	17:03	19 08:48 (C14)	18:05	20:10	21:12
10	08:46	07:56	08:30 (C14)	06:48	06:25	05:13
	16:01	17:05	18 08:48 (C14)	18:07	20:12	21:14
11	08:45	07:54	08:30 (C14)	06:45	06:22	05:11
	16:03	17:08	18 08:48 (C14)	18:09	20:14	21:16
12	08:44	07:52	08:30 (C14)	06:42	06:20	05:09
	16:05	17:10	17 08:47 (C14)	18:11	20:16	21:18
13	08:43	07:50	08:32 (C14)	06:40	06:17	05:07
	16:06	17:12	14 08:46 (C14)	18:13	20:18	21:20
14	08:42	07:47	08:32 (C14)	06:37	07:02 (C13)	06:15
	16:08	17:14	12 08:44 (C14)	18:16	4 07:06 (C13)	20:20
15	08:41	07:45	08:35 (C14)	06:34	07:00 (C13)	06:12
	16:10	17:17	8 08:43 (C14)	18:18	8 07:08 (C13)	20:22
16	08:40	07:43		06:32	06:57 (C13)	06:09
	16:12	17:19		18:20	11 07:08 (C13)	20:24
17	08:39	07:40		06:29	06:54 (C13)	06:07
	16:14	17:21		18:22	14 07:08 (C13)	20:26
18	08:38	07:38		06:26	06:52 (C13)	06:04
	16:16	17:23		18:24	16 07:08 (C13)	20:28
19	08:36	07:36		06:24	06:51 (C13)	06:02
	16:18	17:26		18:26	17 07:08 (C13)	20:31
20	08:35	07:33		06:21	06:51 (C13)	05:59
	16:20	17:28		18:28	15 07:06 (C13)	20:33
21	08:33	07:31		06:18	06:51 (C13)	05:57
	16:22	17:30		18:30	14 07:05 (C13)	20:35
22	08:32	07:28		06:16	06:53 (C13)	05:54
	16:24	17:32		18:32	11 07:04 (C13)	20:37
23	08:30	07:26		06:13	06:56 (C13)	05:52
	16:26	17:34		18:34	4 07:00 (C13)	20:39
24	08:29	07:23		06:10		05:49
	16:28	17:37		18:36		20:41
25	08:27	07:21		06:08		05:47
	16:30	17:39		18:39		20:43
26	08:26	07:18		06:05		05:45
	16:32	17:41		18:41		20:45
27	08:24	07:16		06:02		05:42
	16:34	17:43		18:43		20:47
28	08:22	07:13		06:00		05:40
	16:37	17:45		18:45		20:49
29	08:20			06:57		05:37
	16:39			19:47		20:51
30	08:19			06:54		05:35
	16:41			19:49		20:53
31	08:17			06:52		04:37
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		171	114			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.61	0.64			
Total reduction		0.12	0.25			
Total, real		20	29			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Bites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (73)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36 18	07:59 (C14) 08:17 (C14) 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34 18	07:59 (C14) 08:17 (C14) 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32 18	08:00 (C14) 08:18 (C14) 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30 15	08:02 (C14) 08:17 (C14) 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27 12	08:05 (C14) 08:17 (C14) 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25 9	08:07 (C14) 08:16 (C14) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23 6	08:09 (C14) 08:15 (C14) 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21 2	08:12 (C14) 08:14 (C14) 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:16 (C14) 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:17 (C14) 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:18 (C14) 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:19 (C14) 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:20 (C14) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:21 (C14) 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:22 (C14) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:23 (C14) 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:24 (C14) 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:25 (C14) 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:26 (C14) 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:27 (C14) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 (C13) 18:02	08:05 15:58	08:28 (C14) 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	07:37 (C13) 18:00	08:07 15:56	08:29 (C14) 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	07:36 (C13) 17:57	08:09 15:55	08:30 (C14) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	07:35 (C13) 17:55	08:11 15:53	08:31 (C14) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:34 (C13) 16:52	08:13 15:52	08:32 (C14) 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:36 (C13) 16:50	08:15 15:51	08:33 (C14) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:38 (C13) 16:48	08:17 15:50	08:34 (C14) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:40 (C13) 16:45	08:19 15:48	08:35 (C14) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:42 (C13) 16:43	08:21 15:47	08:36 (C14) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:44 (C13) 16:41	08:23 15:46	08:37 (C14) 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38	08:00 (C14) 18:18 (C14)	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			115	70	98	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.64	0.61	0.61	
Total reduction			0.26	0.15	0.05	
Total, real			30	11	5	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Brivares - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (21)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:24 18:46	07:29 16:29	08:29 15:42
5	08:50 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:18	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:04	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:08	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:51 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	07:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:54	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	07:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 17:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Berzkalnes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (195)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:49 19:53	05:32 20:55	04:36 21:52	04:30 22:09	05:16 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:05	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:13 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:20 20:16	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:01 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:10	04:56 21:47	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:52 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:01	07:14 16:45	08:18 15:48	08:50 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Caunes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (119)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 19:58	05:24 20:58	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 19:58	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 19:58	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 19:58	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 19:58	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 19:58	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 19:58	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 19:58	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:40 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 19:58	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 19:58	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 19:58	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 19:58	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 19:58	04:59 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 19:58	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 19:58	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:48 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 19:58	04:54 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:49 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 19:58	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 19:58	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 19:58	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 18:05	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 19:58	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 18:05	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 19:58	04:45 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 18:07	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 19:58	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:09 18:09	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 19:58	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:11 18:04	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 19:58	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	08:13 18:02	08:19 15:48	08:51 15:44
29	08:20 16:39	07:11 17:47	05:57 18:47	05:37 19:58	04:37 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:15 18:05	08:21 15:47	08:51 15:45
30	08:19 16:41	07:09 17:49	05:54 18:49	05:35 19:58	04:38 21:50	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:17 18:07	08:23 15:46	08:51 15:46
31	08:17 16:43	07:07 17:51	05:52 18:51	05:31 19:58	04:37 21:51	04:27 22:10	05:14 21:30	06:15 20:17	07:16 18:56	08:18 18:08	08:24 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		155	103						103	160		
Sun reduction		0.20	0.41						0.43	0.26		
Oper. time red.		0.98	0.98						0.98	0.98		
Wind dir. red.		0.62	0.65						0.65	0.62		
Total reduction		0.12	0.26						0.27	0.16		
Total, real		19	27						28	25		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Cerini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (69)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	07:28 (C15) 07:33 (C15)	05:33 20:55
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55		05:30 20:58
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57		05:28 21:00
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59		05:26 21:02
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	07:03 (C14) 07:09 (C14)	05:24 21:04
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	07:01 (C14) 07:11 (C14)	05:21 21:06
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	06:58 (C14) 07:12 (C14)	05:19 21:08
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	06:56 (C14) 07:14 (C14)	05:17 21:10
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	06:53 (C14) 07:14 (C14)	05:15 21:12
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	06:51 (C14) 07:13 (C14)	05:13 21:14
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	06:51 (C14) 07:14 (C14)	05:11 21:16
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	06:51 (C14) 07:13 (C14)	05:09 21:18
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	06:51 (C14) 07:13 (C14)	05:07 21:20
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	06:51 (C14) 07:12 (C14)	05:05 21:22
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	06:51 (C14) 07:12 (C14)	05:03 21:24
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	06:51 (C14) 07:10 (C14)	05:01 21:25
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	06:53 (C14) 07:09 (C14)	04:59 21:27
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	06:53 (C14) 07:07 (C14)	04:57 21:29
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	06:56 (C14) 07:05 (C14)	04:55 21:31
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33		04:54 21:33
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35		04:52 21:35
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37		04:50 21:37
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39		04:49 21:38
24	08:29 16:28	07:23 17:37	06:10 18:36	06:35 (C15) 06:39 (C15)	05:49 20:41	04:47 21:40
25	08:27 16:30	07:21 17:39	06:08 18:39	06:33 (C15) 06:40 (C15)	05:47 20:43	04:45 21:42
26	08:26 16:32	07:18 17:41	06:05 18:41	06:30 (C15) 06:40 (C15)	05:45 20:45	04:44 21:43
27	08:24 16:34	07:16 17:43	06:02 18:43	06:27 (C15) 06:40 (C15)	05:42 20:47	04:42 21:45
28	08:22 16:37	07:13 17:45	06:00 18:45	06:25 (C15) 06:40 (C15)	05:40 20:49	04:41 21:47
29	08:20 16:39		06:57 19:47	07:24 (C15) 07:39 (C15)	05:37 20:51	04:40 21:48
30	08:19 16:41		06:54 19:49	07:24 (C15) 07:38 (C15)	05:35 20:53	04:38 21:50
31	08:17 16:43		06:52 19:51	07:26 (C15) 07:36 (C15)		04:37 21:51
Potential sun hours	235	266	366	426	508	528
Total, worst case			88	263	144	
Sun reduction			0.41	0.50	0.57	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.65	0.66	0.67	
Total reduction			0.26	0.32	0.37	
Total, real			23	85	54	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Cerini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (69)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October	November	December
1	04:30	05:16	05:50 (C13)	06:17	06:50 (C14)	07:17	07:23	08:24
	22:09	21:28	14 06:04 (C13)	20:14	23 07:13 (C14)	18:54	16:36	15:45
2	04:31	05:18	05:51 (C13)	06:19	06:50 (C14)	07:19	07:25	08:26
	22:08	21:26	12 06:03 (C13)	20:11	22 07:12 (C14)	18:51	16:34	15:44
3	04:32	05:20	05:53 (C13)	06:21	06:51 (C14)	07:21	07:27	08:28
	22:08	21:24	10 06:03 (C13)	20:09	21 07:12 (C14)	18:48	16:32	15:43
4	04:33	05:22	05:55 (C13)	06:23	06:53 (C14)	07:23	07:29	08:29
	22:07	21:22	8 06:03 (C13)	20:06	18 07:11 (C14)	18:46	16:30	15:43
5	04:34	05:24	05:57 (C13)	06:25	06:55 (C14)	07:26	07:31	08:31
	22:07	21:20	6 06:03 (C13)	20:04	14 07:09 (C14)	18:43	16:27	15:42
6	04:35	05:26	05:58 (C13)	06:27	06:57 (C14)	07:28	07:33	08:32
	22:06	21:17	3 06:01 (C13)	20:01	11 07:08 (C14)	18:40	16:25	15:41
7	04:36	05:27		06:29	06:58 (C14)	07:30	07:36	08:34
	22:05	21:15		19:58	6 07:04 (C14)	18:38	16:23	15:41
8	04:37	05:29		06:31		07:32	07:38	08:35
	22:04	21:13		19:56		18:35	16:21	15:40
9	04:38	05:31		06:33		07:34	07:40	08:37
	22:03	21:11		19:53		18:33	16:19	15:39
10	04:40	05:33		06:35		07:36	07:42	08:38
	22:02	21:08		19:50		18:30	16:17	15:39
11	04:41	05:35		06:37	07:21 (C15)	07:38	07:44	08:39
	22:01	21:06		19:48	3 07:24 (C15)	18:27	16:15	15:39
12	04:42	05:37		06:39	07:18 (C15)	07:40	07:46	08:40
	22:00	21:04		19:45	10 07:28 (C15)	18:25	16:13	15:38
13	04:44	05:39		06:41	07:16 (C15)	07:42	07:49	08:42
	21:59	21:02		19:42	13 07:29 (C15)	18:22	16:11	15:38
14	04:45	05:41		06:43	07:15 (C15)	07:44	07:51	08:43
	21:58	20:59		19:39	14 07:29 (C15)	18:20	16:10	15:38
15	04:46	05:43		06:45	07:14 (C15)	07:46	07:53	08:44
	21:57	20:57		19:37	16 07:30 (C15)	18:17	16:08	15:38
16	04:48	05:45		06:47	07:16 (C15)	07:48	07:55	08:45
	21:55	20:54		19:34	13 07:29 (C15)	18:15	16:06	15:38
17	04:50	05:47		06:49	07:18 (C15)	07:50	07:57	08:46
	21:54	20:52		19:31	11 07:29 (C15)	18:12	16:04	15:38
18	04:51	05:49		06:51	07:20 (C15)	07:53	07:59	08:46
	21:52	20:50		19:29	8 07:28 (C15)	18:10	16:03	15:38
19	04:53	05:51		06:53	07:22 (C15)	07:55	08:01	08:47
	21:51	20:47		19:26	5 07:27 (C15)	18:07	16:01	15:39
20	04:54	05:53		06:55	07:24 (C15)	07:57	08:03	08:48
	21:49	20:45		19:23	1 07:25 (C15)	18:05	15:59	15:39
21	04:56	05:55		06:57		07:59	08:05	08:48
	21:48	20:42		19:21		18:02	15:58	15:39
22	04:58	05:57		06:59		08:01	08:07	08:49
	21:46	20:40		19:18		18:00	15:56	15:40
23	04:59	05:59		07:01		08:03	08:09	08:50
	21:45	20:37		19:15		17:57	15:55	15:40
24	05:01	06:01	06:59 (C14)	07:03		08:05	08:11	08:50
	21:43	20:35	10 07:09 (C14)	19:12		17:55	15:53	15:41
25	05:03	06:03	06:57 (C14)	07:05		07:07	08:13	08:50
	21:41	8 06:00 (C13)	20:32	14 07:11 (C14)		16:52	15:52	15:41
26	05:05	05:50 (C13)	06:05	06:55 (C14)	07:07	07:10	08:15	08:51
	21:39	10 06:00 (C13)	20:30	17 07:12 (C14)	19:07	16:50	15:51	15:42
27	05:07	05:50 (C13)	06:07	06:54 (C14)	07:09	07:12	08:17	08:51
	21:38	12 06:02 (C13)	20:27	19 07:13 (C14)	19:04	16:48	15:50	15:43
28	05:08	05:49 (C13)	06:09	06:52 (C14)	07:11	07:14	08:19	08:51
	21:36	14 06:03 (C13)	20:24	21 07:13 (C14)	19:02	16:45	15:48	15:44
29	05:10	05:48 (C13)	06:11	06:51 (C14)	07:13	07:16	08:21	08:51
	21:34	15 06:03 (C13)	20:22	22 07:13 (C14)	18:59	16:43	15:47	15:45
30	05:12	05:48 (C13)	06:13	06:51 (C14)	07:15	07:18	08:22	08:51
	21:32	15 06:03 (C13)	20:19	22 07:13 (C14)	18:56	16:41	15:46	15:46
31	05:14	05:48 (C13)	06:15	06:51 (C14)		07:20		08:51
	21:30	16 06:04 (C13)	20:17	22 07:13 (C14)		16:38		15:47
Potential sun hours	529		469		385	324	247	216
Total, worst case	90		200		209			
Sun reduction	0.49		0.50		0.43			
Oper. time red.	0.98		0.98		0.98			
Wind dir. red.	0.67		0.66		0.66			
Total reduction	0.32		0.32		0.27			
Total, real	29		64		57			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Cuculi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (169)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		09:57 (C14)	08:15		09:02 (C16)	07:11		06:49		08:12 (C13)	05:33		04:36				
	15:48	31	10:28 (C14)	16:45	20	09:26 (C15)	17:48		19:53	7	08:19 (C13)	20:55		21:53				
2	08:50		09:58 (C14)	08:13		09:15 (C15)	07:08		06:46			05:30		04:35				
	15:49	31	10:29 (C14)	16:48	9	09:24 (C15)	17:50		19:55			20:58		21:54				
3	08:50		09:58 (C14)	08:11			07:06		06:43			05:28		04:34				
	15:51	31	10:29 (C14)	16:50			17:52		19:57			21:00		21:55				
4	08:50		09:58 (C14)	08:09			07:03		06:41			05:26		04:33				
	15:52	31	10:29 (C14)	16:52			17:54		19:59			21:02		21:57				
5	08:49		09:59 (C14)	08:07			07:01		06:38			05:23		04:32				
	15:53	31	10:30 (C14)	16:54			17:56		20:01			21:04		21:58				
6	08:49		09:59 (C14)	08:05			06:58		06:35			05:21		04:31				
	15:55	32	10:31 (C14)	16:56			17:58		20:03			21:06		21:59				
7	08:48		10:00 (C14)	08:03			06:55		06:33			05:19		04:30				
	15:56	31	10:31 (C14)	16:59			18:01		20:06			21:08		22:00				
8	08:48		10:00 (C14)	08:01			06:53		06:30			05:17		04:29				
	15:58	32	10:32 (C14)	17:01			18:03		20:08			21:10		22:01				
9	08:47		10:00 (C14)	07:58			06:50		06:28			05:15		04:29				
	16:00	32	10:32 (C14)	17:03			18:05		20:10			21:12		22:02				
10	08:46		10:01 (C14)	07:56			06:47		06:25			05:13		04:28				
	16:01	31	10:32 (C14)	17:05			18:07		20:12			21:14		22:03				
11	08:45		10:01 (C14)	07:54			06:45		06:22			05:11		04:27				
	16:03	32	10:33 (C14)	17:08			18:09		20:14			21:16		22:04				
12	08:44		10:02 (C14)	07:52			06:42		07:16 (C13)	06:20		05:09		04:27				
	16:05	31	10:33 (C14)	17:10			18:11	12	07:28 (C13)	20:16		21:18		22:05				
13	08:43		10:02 (C14)	07:50			06:40		07:12 (C13)	06:17		05:07		04:26				
	16:06	31	10:33 (C14)	17:12			18:13	19	07:31 (C13)	20:18		21:20		22:06				
14	08:42		09:18 (C15)	07:47			06:37		07:10 (C13)	06:15		05:05		04:26				
	16:08	32	10:34 (C14)	17:14			18:15	22	07:32 (C13)	20:20		21:22		22:07				
15	08:41		09:16 (C15)	07:45			06:34		07:08 (C13)	06:12		05:03		04:26				
	16:10	34	10:33 (C14)	17:17			18:18	26	07:34 (C13)	20:22		21:24		22:07				
16	08:40		09:15 (C15)	07:43			06:32		07:07 (C13)	06:09		05:01		04:26				
	16:12	37	10:34 (C14)	17:19			18:20	28	07:35 (C13)	20:24		21:25		22:08				
17	08:39		09:14 (C15)	07:40			06:29		07:05 (C13)	06:07		04:59		04:25				
	16:14	39	10:34 (C14)	17:21			18:22	30	07:35 (C13)	20:26		21:27		22:08				
18	08:38		09:12 (C15)	07:38			06:26		07:04 (C13)	06:04		04:57		04:25				
	16:16	42	10:34 (C14)	17:23			18:24	31	07:35 (C13)	20:28		21:29		22:09				
19	08:36		09:10 (C15)	07:36			06:24		07:04 (C13)	06:02		04:55		04:25				
	16:18	42	10:33 (C14)	17:26			18:26	32	07:36 (C13)	20:30		21:31		22:09				
20	08:35		09:09 (C15)	07:33			06:21		07:03 (C13)	05:59		04:53		04:25				
	16:20	45	10:34 (C14)	17:28			18:28	33	07:36 (C13)	20:33		21:33		22:10				
21	08:33		09:07 (C15)	07:31			06:18		07:02 (C13)	05:57		04:52		04:25				
	16:22	45	10:33 (C14)	17:30			18:30	33	07:35 (C13)	20:35		21:35		22:10				
22	08:32		09:05 (C16)	07:28			06:16		07:02 (C13)	05:54		04:50		04:26				
	16:24	45	10:32 (C14)	17:32			18:32	34	07:36 (C13)	20:37		21:37		22:10				
23	08:30		09:03 (C16)	07:26			06:13		07:02 (C13)	05:52		04:48		04:26				
	16:26	46	10:31 (C14)	17:34			18:34	33	07:35 (C13)	20:39		21:38		22:10				
24	08:29		09:02 (C16)	07:23			06:10		07:02 (C13)	05:49		04:47		04:26				
	16:28	46	10:31 (C14)	17:37			18:36	32	07:34 (C13)	20:41		21:40		22:10				
25	08:27		09:00 (C16)	07:21			06:08		07:02 (C13)	05:47		04:45		04:26				
	16:30	45	10:30 (C14)	17:39			18:38	32	07:34 (C13)	20:43		21:42		22:10				
26	08:26		08:58 (C16)	07:18			06:05		07:02 (C13)	05:44		04:44		04:27				
	16:32	43	10:28 (C14)	17:41			18:41	31	07:33 (C13)	20:45		21:43		22:10				
27	08:24		08:57 (C16)	07:16			06:02		07:02 (C13)	05:42		04:42		04:27				
	16:34	36	10:24 (C14)	17:43			18:43	29	07:31 (C13)	20:47		21:45		22:10				
28	08:22		08:58 (C16)	07:13			05:59		07:04 (C13)	05:40		04:41		04:28				
	16:37	31	09:29 (C15)	17:45			18:45	26	07:30 (C13)	20:49		21:47		22:10				
29	08:20		08:59 (C16)				06:57		08:05 (C13)	05:37		04:40		04:29				
	16:39	30	09:29 (C15)				19:47	23	08:28 (C13)	20:51		21:48		22:10				
30	08:19		09:00 (C16)				06:54		08:06 (C13)	05:35		04:38		04:29				
	16:41	28	09:28 (C15)				19:49	20	08:26 (C13)	20:53		21:50		22:09				
31	08:17		09:01 (C16)				06:51		08:08 (C13)			04:37						
	16:43	27	09:28 (C15)				19:51	16	08:24 (C13)			21:51						
Potential sun hours	235			266			366		426			508		529				
Total, worst case	1100			29			542		7									
Sun reduction	0.13			0.20			0.41		0.50									
Oper. time red.	0.98			0.98			0.98		0.98									
Wind dir. red.	0.60			0.59			0.63		0.63									
Total reduction	0.08			0.11			0.25		0.30									
Total, real	86			3			135		2									

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Cuculi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (169)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:53 (C13) 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:57 (C13) 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:58 18:02	08:05 15:58	08:48 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:00 18:00	08:07 15:56	08:49 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 16:48	08:17 15:49	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 16:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			536	23	787	945
Sun reduction			0.43	0.26	0.08	0.07
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.63	0.63	0.60	0.61
Total reduction			0.26	0.16	0.05	0.04
Total, real			139	4	38	39

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Daugavas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (30)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:46	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:08	05:18 21:26	06:20 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:21 18:48	07:27 16:32	08:28 15:44
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:24 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:28	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:41	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:32 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:23 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:39
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:12	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:24	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:26 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:26 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	05:00 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:08 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:10 20:24	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:12 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:16 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Dimanti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (145)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:33	04:36
	15:48	16:45	17:48	19:53	20:56	21:53
2	08:51	08:13	08:43 (C14)	07:08	06:46	05:30
	15:50	16:48	4 08:47 (C14)	17:50	19:55	20:58
3	08:50	08:11	08:41 (C14)	07:06	06:44	05:28
	15:51	16:50	7 08:48 (C14)	17:52	19:57	21:00
4	08:50	08:09	08:39 (C14)	07:03	06:41	05:26
	15:52	16:52	10 08:49 (C14)	17:54	19:59	21:02
5	08:49	08:07	08:37 (C14)	07:01	06:38	05:24
	15:53	16:54	13 08:50 (C14)	17:56	20:01	21:04
6	08:49	08:05	08:34 (C14)	06:58	06:36	05:21
	15:55	16:57	15 08:49 (C14)	17:58	20:04	21:06
7	08:48	08:03	08:33 (C14)	06:55	06:33	05:19
	15:56	16:59	17 08:50 (C14)	18:01	20:06	21:08
8	08:48	08:01	08:34 (C14)	06:53	06:30	05:17
	15:58	17:01	16 08:50 (C14)	18:03	20:08	21:10
9	08:47	07:58	08:33 (C14)	06:50	07:16 (C13)	06:28
	16:00	17:03	16 08:49 (C14)	18:05	2 07:18 (C13)	20:10
10	08:46	07:56	08:34 (C14)	06:48	07:13 (C13)	06:25
	16:01	17:05	15 08:49 (C14)	18:07	6 07:19 (C13)	20:12
11	08:45	07:54	08:36 (C14)	06:45	07:10 (C13)	06:22
	16:03	17:08	12 08:48 (C14)	18:09	9 07:19 (C13)	20:14
12	08:44	07:52	08:37 (C14)	06:42	07:08 (C13)	06:20
	16:05	17:10	9 08:46 (C14)	18:11	12 07:20 (C13)	20:16
13	08:43	07:50		06:40	07:05 (C13)	06:17
	16:06	17:12		18:13	15 07:20 (C13)	20:18
14	08:42	07:47		06:37	07:04 (C13)	06:15
	16:08	17:14		18:16	15 07:19 (C13)	20:20
15	08:41	07:45		06:34	07:05 (C13)	06:12
	16:10	17:17		18:18	13 07:18 (C13)	20:22
16	08:40	07:43		06:32	07:05 (C13)	06:09
	16:12	17:19		18:20	12 07:17 (C13)	20:24
17	08:39	07:40		06:29	07:07 (C13)	06:07
	16:14	17:21		18:22	7 07:14 (C13)	20:26
18	08:38	07:38		06:26		06:04
	16:16	17:23		18:24		20:28
19	08:36	07:36		06:24		06:02
	16:18	17:26		18:26		20:31
20	08:35	07:33		06:21		05:59
	16:20	17:28		18:28		20:33
21	08:33	07:31		06:18		05:57
	16:22	17:30		18:30		20:35
22	08:32	07:28		06:16		05:54
	16:24	17:32		18:32		20:37
23	08:30	07:26		06:13		05:52
	16:26	17:35		18:34		20:39
24	08:29	07:23		06:10		05:49
	16:28	17:37		18:36		20:41
25	08:27	07:21		06:08		05:47
	16:30	17:39		18:39		20:43
26	08:26	07:18		06:05		05:45
	16:32	17:41		18:41		20:45
27	08:24	07:16		06:02		05:42
	16:34	17:43		18:43		20:47
28	08:22	07:13		06:00		05:40
	16:37	17:45		18:45		20:49
29	08:20			06:57		05:37
	16:39			19:47		20:51
30	08:19			06:54		05:35
	16:41			19:49		20:53
31	08:17			06:52		
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		134	91			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.61	0.63			
Total reduction		0.12	0.25			
Total, real		16	23			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Dimanti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (145)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:46 (C13) 07:59 (C13)	07:23 08:04 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:48 (C13) 07:58 (C13)	07:25 08:19 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:50 (C13) 07:58 (C13)	07:27 08:20 (C14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:52 (C13) 07:56 (C13)	07:29 08:19 (C14)
5	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:05 (C14) 08:20 (C14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:07 (C14) 08:19 (C14)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:09 (C14) 08:19 (C14)
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:12 (C14) 08:19 (C14)
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:14 (C14) 08:17 (C14)
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:51 (C13) 07:56 (C13)	07:10 16:50	08:15 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:48 (C13) 07:58 (C13)	07:12 16:48	08:17 15:43
28	05:08 21:36	06:09 20:25	07:11 19:02	07:46 (C13) 07:59 (C13)	07:14 16:45	08:19 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:45 (C13) 07:59 (C13)	07:16 16:43	08:21 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:44 (C13) 07:59 (C13)	07:18 16:41	08:23 15:46
31	05:14 21:30	06:15 20:17		07:21 16:38	08:05 (C14) 08:18 (C14)	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			57	60	110	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.63	0.62	0.61	
Total reduction			0.26	0.16	0.05	
Total, real			15	9	5	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Dravnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (104)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:51 15:48 8	14:08 (C17) 16:45 17:47	08:15 16:45 17:47	07:11 19:53 20:55	06:48 19:53 20:55	05:32 20:55 21:53	04:35 21:53 22:09	04:30 22:09 21:28	05:15 21:28 20:14	06:17 20:14 18:53	07:17 18:53 16:36	07:22 16:36 15:45	
2	08:50 15:49 5	14:10 (C17) 16:47 17:49	08:13 16:47 17:49	07:08 19:55 20:57	06:46 19:55 20:57	05:30 20:57 21:54	04:34 22:09 21:26	04:30 21:26 20:11	05:17 20:11 18:51	06:19 18:51 16:33	07:19 16:33 15:44	07:25 15:44 15:44	
3	08:50 15:50	14:15 (C17) 16:47 17:49	08:11 16:49 17:52	07:05 19:57 20:59	06:43 19:57 20:59	05:28 20:59 21:55	04:33 22:08 21:24	04:31 21:24 20:09	05:19 20:09 18:48	06:21 18:48 16:31	07:21 16:31 15:43	07:27 15:43 15:43	
4	08:50 15:52	14:15 (C17) 16:47 17:49	08:09 16:52 17:54	07:03 19:59 21:02	06:40 19:59 21:02	05:25 21:02 21:57	04:32 22:07 21:22	04:32 21:22 20:06	05:21 20:06 18:45	06:23 18:45 16:29	07:23 16:29 15:42	07:29 15:42 15:42	
5	08:49 15:53	14:15 (C17) 16:47 17:49	08:07 16:54 17:56	07:00 19:59 21:04	06:38 19:59 21:04	05:23 21:04 21:58	04:31 22:07 21:23	04:33 21:23 20:03	05:23 20:03 18:43	06:25 18:43 16:27	07:25 16:27 15:41	07:31 15:41 15:41	
6	08:49 15:54	14:15 (C17) 16:47 17:49	08:05 16:56 17:58	06:58 20:03 21:06	06:35 20:03 21:06	05:21 21:06 21:59	04:30 22:06 21:21	04:34 21:21 20:01	05:25 20:01 18:40	06:27 18:40 16:25	07:27 16:25 15:40	07:33 15:40 15:40	
7	08:48 15:56	14:15 (C17) 16:47 17:49	08:03 16:58 18:00	06:55 20:05 21:08	06:33 20:05 21:08	05:19 21:08 22:00	04:30 22:00 21:15	04:35 21:15 19:58	05:27 19:58 18:37	06:29 18:37 16:23	07:29 16:23 15:40	07:36 15:40 15:40	
8	08:48 15:57	14:15 (C17) 16:47 17:49	08:00 17:01 18:02	06:53 20:07 21:10	06:30 20:07 21:10	05:16 21:10 22:01	04:29 22:01 21:13	04:36 21:13 19:55	05:29 19:55 18:35	06:31 18:35 16:21	07:31 16:21 15:39	07:38 15:39 15:39	
9	08:47 15:59	14:15 (C17) 16:47 17:49	07:58 17:03 18:05	06:50 20:09 21:12	06:27 20:09 21:12	05:14 21:12 22:02	04:28 22:02 21:11	04:38 21:11 19:53	05:31 19:53 18:32	06:33 18:32 16:19	07:33 16:19 15:39	07:40 15:39 15:39	
10	08:46 16:01	14:15 (C17) 16:47 17:49	07:56 17:05 18:07	06:47 20:12 21:14	06:25 20:12 21:14	05:12 21:14 22:03	04:27 22:03 21:11	04:39 21:11 19:50	05:33 19:50 18:30	06:35 18:30 16:17	07:36 16:17 15:38	07:42 15:38 15:38	13:59 (C17)
11	08:45 16:02	14:15 (C17) 16:47 17:49	07:54 17:07 18:09	06:45 20:14 21:16	06:22 20:14 21:16	05:10 21:16 22:04	04:27 22:04 21:06	04:40 21:06 19:47	05:35 19:47 18:27	06:37 18:27 16:15	07:38 16:15 15:38	07:44 15:38 15:38	5 14:04 (C17)
12	08:44 16:04	14:15 (C17) 16:47 17:49	07:52 17:10 18:11	06:42 20:16 21:18	06:19 20:16 21:18	05:08 21:18 22:05	04:26 22:05 21:04	04:42 21:04 19:45	05:37 19:45 18:24	06:39 18:24 16:13	07:40 16:13 15:38	07:46 15:38 15:38	10 14:08 (C17)
13	08:43 16:06	14:15 (C17) 16:47 17:49	07:49 17:12 18:13	06:39 20:18 21:20	06:17 20:18 21:20	05:06 21:20 22:06	04:26 22:06 21:01	04:43 21:01 19:42	05:39 19:42 18:22	06:41 18:22 16:11	07:42 16:11 15:38	07:49 15:38 15:38	10 14:08 (C17)
14	08:42 16:08	14:15 (C17) 16:47 17:49	07:47 17:14 18:15	06:37 20:20 21:22	06:14 20:20 21:22	05:04 21:22 22:07	04:26 22:07 21:58	04:44 21:58 20:59	05:41 20:59 19:39	06:43 19:39 18:19	07:44 18:19 16:09	07:51 16:09 15:37	11 14:09 (C17)
15	08:41 16:10	14:15 (C17) 16:47 17:49	07:45 17:16 18:17	06:34 20:22 21:24	06:12 20:22 21:24	05:02 21:24 22:07	04:25 22:07 21:57	04:46 21:57 20:57	05:43 20:57 19:36	06:45 19:36 18:17	07:46 18:17 16:07	07:53 16:07 15:37	12 14:10 (C17)
16	08:40 16:11	14:15 (C17) 16:47 17:49	07:42 17:19 18:19	06:31 20:24 21:25	06:09 20:24 21:25	05:00 21:25 22:08	04:25 22:08 21:55	04:47 21:55 20:54	05:45 20:54 19:34	06:47 19:34 18:14	07:48 18:14 16:05	07:55 16:05 15:37	13 14:11 (C17)
17	08:39 16:13	14:15 (C17) 16:47 17:49	07:40 17:21 18:22	06:29 20:26 21:27	06:06 20:26 21:27	04:58 21:27 22:09	04:25 22:09 21:54	04:49 21:54 20:52	05:47 20:52 19:31	06:49 19:31 18:12	07:50 18:12 16:04	07:57 16:04 15:37	13 14:11 (C17)
18	08:37 16:15	14:15 (C17) 16:47 17:49	07:38 17:23 18:24	06:26 20:28 21:29	06:04 20:28 21:29	04:56 21:29 22:09	04:25 22:09 21:52	04:50 21:52 20:49	05:49 20:49 19:28	06:51 19:28 18:09	07:52 18:09 16:02	07:59 16:02 15:38	13 14:12 (C17)
19	08:36 16:17	14:15 (C17) 16:47 17:49	07:35 17:25 18:26	06:23 20:30 21:31	06:01 20:30 21:31	04:55 21:31 22:09	04:25 22:09 21:51	04:52 21:51 20:47	05:51 20:47 19:26	06:53 19:26 18:07	07:54 18:07 16:00	08:01 16:00 15:38	14 14:13 (C17)
20	08:35 16:19	14:15 (C17) 16:47 17:49	07:33 17:27 18:28	06:21 20:32 21:33	06:01 20:32 21:33	04:55 21:33 22:10	04:25 22:10 21:49	04:54 21:49 20:45	05:53 20:45 19:23	06:55 19:23 18:04	07:57 18:04 15:59	08:03 15:59 15:38	14 14:13 (C17)
21	08:33 16:21	14:15 (C17) 16:47 17:49	07:31 17:30 18:30	06:18 20:35 21:35	05:56 20:35 21:35	04:51 21:35 22:10	04:25 22:10 21:48	04:55 21:48 20:42	05:55 20:42 19:20	06:57 19:20 18:02	07:59 18:02 15:57	08:05 15:57 15:39	14 14:14 (C17)
22	08:32 16:23	14:15 (C17) 16:47 17:49	07:28 17:32 18:32	06:15 20:37 21:37	05:54 20:37 21:37	04:50 21:37 22:10	04:25 22:10 21:46	04:57 21:46 20:40	05:57 20:40 19:18	06:59 19:18 17:59	08:01 17:59 15:56	08:07 15:56 15:39	14 14:14 (C17)
23	08:30 16:25	14:15 (C17) 16:47 17:49	07:26 17:34 18:34	06:13 20:39 21:38	05:51 20:39 21:38	04:48 21:38 22:10	04:25 22:10 21:45	04:59 21:45 20:37	05:59 20:37 19:15	07:01 19:15 17:57	08:03 17:57 15:54	08:09 15:54 15:39	14 14:15 (C17)
24	08:29 16:27	14:15 (C17) 16:47 17:49	07:23 17:36 18:36	06:10 20:41 21:40	05:49 20:41 21:40	04:46 21:40 22:10	04:26 22:10 21:43	05:00 21:43 20:34	06:01 20:34 19:12	07:03 19:12 17:54	08:05 17:54 15:53	08:11 15:53 15:40	14 14:15 (C17)
25	08:27 16:30	14:15 (C17) 16:47 17:49	07:21 17:38 18:38	06:07 20:43 21:42	05:46 20:43 21:42	04:45 21:42 22:10	04:26 22:10 21:41	05:02 21:41 20:32	06:03 20:32 19:09	07:05 19:09 16:52	08:07 16:52 15:52	08:13 15:52 15:41	14 14:15 (C17)
26	08:25 16:32	14:15 (C17) 16:47 17:49	07:18 17:41 18:40	06:05 20:45 21:43	05:44 20:45 21:43	04:43 21:43 22:10	04:26 22:10 21:39	05:04 21:39 20:29	06:05 20:29 19:07	07:07 19:07 16:50	08:09 16:50 15:50	08:15 15:50 15:41	13 14:15 (C17)
27	08:24 16:34	14:15 (C17) 16:47 17:49	07:16 17:43 18:42	06:02 20:42 21:45	05:42 20:42 21:45	04:42 21:45 22:10	04:27 22:10 21:38	05:06 21:38 20:27	06:07 20:27 19:04	07:09 19:04 16:47	08:12 16:47 15:49	08:17 15:49 15:42	13 14:16 (C17)
28	08:22 16:36	14:15 (C17) 16:47 17:49	07:13 17:45 18:44	05:59 20:49 21:47	05:39 20:49 21:47	04:40 21:47 22:10	04:27 22:10 21:36	05:08 21:36 20:24	06:09 20:24 19:01	07:11 19:01 16:45	08:19 16:45 15:48	08:21 15:48 15:43	13 14:16 (C17)
29	08:20 16:38	14:15 (C17) 16:47 17:49	07:11 19:47 20:51	05:57 20:51 21:48	05:37 20:51 21:48	04:39 21:48 22:10	04:28 22:10 21:34	05:10 21:34 20:22	06:11 20:22 18:59	07:13 18:59 16:42	08:21 16:42 15:47	08:51 15:47 15:44	12 14:16 (C17)
30	08:18 16:40	14:15 (C17) 16:47 17:49	06:54 19:49 20:53	05:34 21:50 22:09	05:34 21:50 22:09	04:38 22:09 21:32	04:29 22:09 21:19	05:11 21:19 20:19	06:13 20:19 18:56	07:15 18:56 17:18	08:22 17:18 15:46	08:51 15:46 15:45	11 14:16 (C17)
31	08:17 16:43	14:15 (C17) 16:47 17:49	06:51 19:51 21:51	05:31 21:51 22:10	05:31 21:51 22:10	04:37 22:10 21:30	05:13 21:30 20:16	06:15 20:16 18:56	07:17 18:56 17:20	08:24 17:20 16:38	08:51 16:38 15:46	08:51 15:46 15:46	9 14:16 (C17)
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216	
Total, worst case	13												264
Sun reduction	0.13												0.07
Oper. time red.	0.98												0.98
Wind dir. red.	0.66												0.66
Total reduction	0.09												0.05
Total, real	1												12

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Druvas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (47)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:32	04:36
	15:48	16:45	17:47	19:53	20:55	21:53
2	08:50	08:13	07:08	06:46	05:30	04:35
	15:49	16:47	17:50	19:55	20:57	21:54
3	08:50	08:11	07:06	06:43	05:28	04:34
	15:51	16:50	17:52	19:57	21:00	21:55
4	08:50	08:09	07:03	07:29 (C6)	06:41	07:20 (C1)
	15:52	16:52	17:54	1 07:30 (C6)	19:59	13 07:33 (C1)
5	08:49	08:07	07:00	07:26 (C6)	06:38	07:03 (C2)
	15:53	16:54	17:56	5 07:31 (C6)	20:01	20 07:35 (C1)
6	08:49	08:05	06:58	07:24 (C6)	06:35	07:01 (C2)
	15:55	16:56	17:58	8 07:32 (C6)	20:03	30 07:38 (C1)
7	08:48	08:03	06:55	07:21 (C6)	06:33	06:58 (C2)
	15:56	16:59	18:00	11 07:32 (C6)	20:05	37 07:39 (C1)
8	08:48	08:00	06:53	07:18 (C6)	06:30	06:55 (C2)
	15:58	17:01	18:03	14 07:32 (C6)	20:08	43 07:40 (C1)
9	08:47	07:58	06:50	07:16 (C4)	06:27	06:53 (C2)
	15:59	17:03	18:05	16 07:32 (C6)	20:10	48 07:41 (C1)
10	08:46	07:56	06:47	07:13 (C4)	06:25	06:51 (C2)
	16:01	17:05	18:07	18 07:31 (C6)	20:12	50 07:41 (C1)
11	08:45	07:54	06:45	07:10 (C4)	06:22	06:51 (C2)
	16:03	17:08	18:09	19 07:29 (C6)	20:14	51 07:42 (C1)
12	08:44	07:52	06:42	07:09 (C4)	06:20	06:50 (C2)
	16:04	17:10	18:11	20 07:29 (C4)	20:16	52 07:42 (C1)
13	08:43	07:49	06:39	07:08 (C4)	06:17	06:51 (C2)
	16:06	17:12	18:13	21 07:29 (C4)	20:18	52 07:43 (C1)
14	08:42	07:47	06:37	07:08 (C4)	06:14	06:51 (C2)
	16:08	17:14	18:15	20 07:28 (C4)	20:20	51 07:42 (C1)
15	08:41	07:45	06:34	07:07 (C4)	06:12	06:52 (C2)
	16:10	17:17	18:17	20 07:27 (C4)	20:22	51 07:43 (C1)
16	08:40	07:43	06:32	07:08 (C4)	06:09	06:54 (C2)
	16:12	17:19	18:20	19 07:27 (C4)	20:24	48 07:42 (C1)
17	08:39	07:40	06:29	07:09 (C4)	06:07	07:03 (C1)
	16:14	17:21	18:22	17 07:26 (C4)	20:26	39 07:42 (C1)
18	08:37	07:38	06:26	07:09 (C4)	06:04	07:03 (C1)
	16:16	17:23	18:24	15 07:24 (C4)	20:28	38 07:41 (C1)
19	08:36	07:35	06:23	07:12 (C4)	06:02	07:03 (C1)
	16:18	17:25	18:26	10 07:22 (C4)	20:30	38 07:41 (C1)
20	08:35	07:33	06:21		05:59	07:03 (C1)
	16:20	17:28	18:28		20:33	37 07:40 (C1)
21	08:33	07:31	06:18		05:57	07:03 (C1)
	16:22	17:30	18:30		20:35	37 07:40 (C1)
22	08:32	07:28	06:15		05:54	07:04 (C1)
	16:24	17:32	18:32		20:37	35 07:39 (C1)
23	08:30	07:26	06:13		05:52	07:04 (C1)
	16:26	17:34	18:34		20:39	34 07:38 (C1)
24	08:29	07:23	06:10		05:49	07:05 (C1)
	16:28	17:37	18:36		20:41	32 07:37 (C1)
25	08:27	07:21	06:07		05:47	07:06 (C1)
	16:30	17:39	18:38		20:43	30 07:36 (C1)
26	08:26	07:18	06:05		05:44	07:06 (C1)
	16:32	17:41	18:40		20:45	28 07:34 (C1)
27	08:24	07:16	06:02		05:42	07:08 (C1)
	16:34	17:43	18:43		20:47	24 07:32 (C1)
28	08:22	07:13	05:59		05:39	07:09 (C1)
	16:36	17:45	18:45		20:49	22 07:31 (C1)
29	08:20		06:57		05:37	07:12 (C1)
	16:39		19:47		20:51	16 07:28 (C1)
30	08:18		06:54		05:35	07:14 (C1)
	16:41		19:49		20:53	10 07:24 (C1)
31	08:17		06:51			04:37
	16:43		19:51			21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case			234	966	61	610
Sun reduction			0.41	0.50	0.57	0.56
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.62	0.66	0.67	0.67
Total reduction			0.25	0.32	0.37	0.36
Total, real			59	310	23	223

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Druvas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (47)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December	
1	04:30	05:12 (C17)	05:16	06:17	06:50 (C2)	07:17	07:48 (C4)	07:23	08:24		
	22:09	21	05:33 (C17)	21:28	20:14	51	07:41 (C1)	18:54	20	08:08 (C4)	16:36
2	04:31	05:13 (C17)	05:17	06:19	06:50 (C2)	07:19	07:48 (C4)	07:25	08:26		
	22:09	20	05:33 (C17)	21:26	20:11	50	07:40 (C1)	18:51	20	08:08 (C6)	16:34
3	04:32	05:13 (C17)	05:19	06:21	06:51 (C2)	07:21	07:50 (C4)	07:27	08:28		
	22:08	21	05:34 (C17)	21:24	20:09	48	07:39 (C1)	18:48	19	08:09 (C6)	16:31
4	04:33	05:13 (C17)	05:21	06:23	06:53 (C2)	07:23	07:52 (C4)	07:29	08:29		
	22:07	21	05:34 (C17)	21:22	20:06	43	07:38 (C1)	18:46	17	08:09 (C6)	16:29
5	04:33	05:14 (C17)	05:23	06:25	06:54 (C2)	07:25	07:54 (C6)	07:31	08:31		
	22:07	20	05:34 (C17)	21:19	20:03	37	07:35 (C1)	18:43	15	08:09 (C6)	16:27
6	04:35	05:14 (C17)	05:25	06:27	06:56 (C2)	07:27	07:56 (C6)	07:33	08:32		
	22:06	20	05:34 (C17)	21:17	20:01	31	07:33 (C1)	18:40	13	08:09 (C6)	16:25
7	04:36	05:14 (C17)	05:27	06:29	06:58 (C2)	07:29	07:58 (C6)	07:36	08:34		
	22:05	20	05:34 (C17)	21:15	19:58	22	07:31 (C1)	18:38	10	08:08 (C6)	16:23
8	04:37	05:15 (C17)	05:29	06:31	07:14 (C1)	07:32	08:00 (C6)	07:38	08:35		
	22:04	19	05:34 (C17)	21:13	19:55	13	07:27 (C1)	18:35	7	08:07 (C6)	16:21
9	04:38	05:15 (C17)	05:31	06:33		07:34	08:03 (C6)	07:40	08:37		
	22:03	19	05:34 (C17)	21:11	19:53		08:06 (C6)	16:19	15:39		
10	04:39	05:16 (C17)	05:33	06:35		07:36		07:42	08:38		
	22:02	18	05:34 (C17)	21:08	19:50			16:17	15:39		
11	04:41	05:17 (C17)	05:35	06:37		07:38		07:44	08:39		
	22:01	17	05:34 (C17)	21:06	19:47			16:15	15:38		
12	04:42	05:19 (C17)	05:37	06:39		07:40		07:46	08:40		
	22:00	15	05:34 (C17)	21:04	19:45			16:13	15:38		
13	04:43	05:20 (C17)	05:39	07:21 (C1)	06:41	07:42		07:49	08:42		
	21:59	14	05:34 (C17)	21:01	13	07:34 (C1)	18:22	16:11	15:38		
14	04:45	05:21 (C17)	05:41	07:18 (C1)	06:43	07:44		07:51	08:43		
	21:58	12	05:33 (C17)	20:59	18	07:36 (C1)	18:19	16:09	15:38		
15	04:46	05:22 (C17)	05:43	07:16 (C1)	06:45	07:46		07:53	08:44		
	21:57	10	05:32 (C17)	20:57	23	07:39 (C1)	18:17	16:07	15:38		
16	04:48	05:24 (C17)	05:45	07:15 (C1)	06:47	07:48		07:55	08:45		
	21:55	8	05:32 (C17)	20:54	25	07:40 (C1)	18:14	16:06	15:38		
17	04:49	05:25 (C17)	05:47	07:12 (C1)	06:49	07:50		07:57	08:46		
	21:54	6	05:31 (C17)	20:52	29	07:41 (C1)	18:12	16:04	15:38		
18	04:51	05:27 (C17)	05:49	07:11 (C1)	06:51	07:52		07:59	08:46		
	21:52	3	05:30 (C17)	20:50	31	07:42 (C1)	18:09	16:02	15:38		
19	04:52		05:51	07:10 (C1)	06:53	07:55		08:01	08:47		
	21:51		20:47	33	07:43 (C1)	18:07		16:01	15:38		
20	04:54		05:53	07:09 (C1)	06:55	07:57		08:03	08:48		
	21:49		20:45	34	07:43 (C1)	18:04		15:59	15:38		
21	04:56		05:55	07:09 (C1)	06:57	07:59		08:05	08:48		
	21:48		20:42	35	07:44 (C1)	18:02		15:58	15:39		
22	04:57		05:57	07:08 (C1)	06:59	08:01		08:07	08:49		
	21:46		20:40	36	07:44 (C1)	17:59		15:56	15:39		
23	04:59		05:59	07:07 (C1)	07:01	08:03		08:09	08:50		
	21:45		20:37	38	07:45 (C1)	17:57		15:55	15:40		
24	05:01		06:01	07:07 (C1)	07:03	08:05		08:11	08:50		
	21:43		20:35	38	07:45 (C1)	17:55		15:53	15:40		
25	05:03		06:03	07:07 (C1)	07:05	08:06 (C4)		08:13	08:50		
	21:41		20:32	38	07:45 (C1)	17:52		15:52	15:41		
26	05:04		06:05	07:05 (C1)	07:07	08:07 (C4)		08:15	08:51		
	21:39		20:29	39	07:44 (C1)	17:50		15:51	15:42		
27	05:06		06:07	06:55 (C2)	07:09	08:08 (C4)		08:17	08:51		
	21:38		20:27	49	07:44 (C1)	17:47		15:49	15:43		
28	05:08		06:09	06:53 (C2)	07:11	08:09 (C4)		08:19	08:51		
	21:36		20:24	51	07:44 (C1)	17:45		15:48	15:44		
29	05:10		06:11	06:52 (C2)	07:13	08:09 (C4)		08:21	08:51		
	21:34		20:22	51	07:43 (C1)	17:43		15:47	15:44		
30	05:12		06:13	06:51 (C2)	07:15	08:09 (C4)		08:22	08:51		
	21:32		20:19	52	07:43 (C1)	17:40		15:46	15:45		
31	05:14		06:15	06:50 (C2)		07:20			08:51		
	21:30		20:17	52	07:42 (C1)	16:38			15:47		
Potential sun hours	529		469		385	324		247	216		
Total, worst case	284		685		412	124					
Sun reduction	0.49		0.50		0.43	0.26					
Oper. time red.	0.98		0.98		0.98	0.98					
Wind dir. red.	0.67		0.66		0.65	0.62					
Total reduction	0.32		0.32		0.27	0.16					
Total, real	91		219		111	19					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Dzelmēs - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (129)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:33	04:36
	15:48	16:45	17:48	19:53	20:56	21:53
2	08:51	08:13	07:08	06:46	05:30	04:35
	15:50	16:48	17:50	19:55	20:58	21:54
3	08:50	08:11	07:06	06:44	05:28	04:34
	15:51	16:50	17:52	19:57	21:00	21:55
4	08:50	08:09	07:03	06:41	05:26	04:33
	15:52	16:52	17:54	19:59	21:02	21:57
5	08:49	08:07	07:01	06:38	05:24	04:32
	15:54	16:54	17:56	20:01	21:04	21:58
6	08:49	08:05	06:58	06:36	05:21	04:31
	15:55	16:57	17:58	20:04	21:06	21:59
7	08:48	08:03	08:32 (C14)	06:33	05:19	04:30
	15:56	16:59	18:01	20:06	21:08	22:00
8	08:48	08:01	08:30 (C14)	06:30	05:17	04:29
	15:58	17:01	18:03	20:08	21:10	22:01
9	08:47	07:58	08:27 (C14)	06:28	05:15	04:29
	16:00	17:03	18:05	20:10	21:12	22:02
10	08:46	07:56	08:25 (C14)	06:25	05:13	04:28
	16:01	17:06	18:07	20:12	21:14	22:03
11	08:45	07:54	08:23 (C14)	06:22	05:11	04:27
	16:03	17:08	18:09	20:14	21:16	22:04
12	08:44	07:52	08:20 (C14)	06:20	05:09	04:27
	16:05	17:10	18:11	20:16	21:18	22:05
13	08:43	07:50	08:20 (C14)	06:17	05:07	04:27
	16:06	17:12	18:13	20:18	21:20	22:06
14	08:42	07:47	08:19 (C14)	06:15	05:05	04:26
	16:08	17:14	18:16	20:20	21:22	22:07
15	08:41	07:45	08:21 (C14)	06:12	05:03	04:26
	16:10	17:17	18:18	3 07:00 (C13)	20:22	21:24
16	08:40	07:43	08:22 (C14)	06:09	05:01	04:26
	16:12	17:19	18:20	6 07:03 (C13)	20:24	21:26
17	08:39	07:40	08:23 (C14)	06:07	04:59	04:25
	16:14	17:21	18:22	9 07:03 (C13)	20:26	21:27
18	08:38	07:38	08:26 (C14)	06:04	04:57	04:25
	16:16	17:23	18:24	12 07:04 (C13)	20:28	21:29
19	08:36	07:36	06:24	06:02	04:55	04:25
	16:18	17:26	18:26	15 07:04 (C13)	20:31	21:31
20	08:35	07:33	06:21	05:59	04:53	04:25
	16:20	17:28	18:28	15 07:03 (C13)	20:33	21:33
21	08:33	07:31	06:18	05:57	04:52	04:25
	16:22	17:30	18:30	13 07:01 (C13)	20:35	21:35
22	08:32	07:28	06:16	05:54	04:50	04:26
	16:24	17:32	18:32	11 07:00 (C13)	20:37	21:37
23	08:30	07:26	06:13	05:52	04:48	04:26
	16:26	17:35	18:34	6 06:57 (C13)	20:39	21:38
24	08:29	07:23	06:10	05:49	04:47	04:26
	16:28	17:37	18:36	20:41	21:40	22:11
25	08:27	07:21	06:08	05:47	04:45	04:27
	16:30	17:39	18:39	20:43	21:42	22:11
26	08:26	07:18	06:05	05:45	04:44	04:27
	16:32	17:41	18:41	20:45	21:43	22:10
27	08:24	07:16	06:02	05:42	04:42	04:27
	16:34	17:43	18:43	20:47	21:45	22:10
28	08:22	07:13	06:00	05:40	04:41	04:28
	16:37	17:45	18:45	20:49	21:47	22:10
29	08:20		06:57	05:37	04:40	04:29
	16:39		19:47	20:51	21:48	22:10
30	08:19		06:54	05:35	04:38	04:29
	16:41		19:49	20:53	21:50	22:09
31	08:17		06:52		04:37	
	16:43		19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		133	90			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.62	0.64			
Total reduction		0.12	0.26			
Total, real		16	23			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Dzelmēs - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (129)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:23	07:55 (C14) 08:24
	22:09	21:28	20:14	18:54	16:36 11	08:06 (C14) 15:45
2	04:31	05:18	06:19	07:19	07:25	07:57 (C14) 08:26
	22:09	21:26	20:11	18:51	16:34 8	08:05 (C14) 15:44
3	04:32	05:20	06:21	07:21	07:27	08:00 (C14) 08:28
	22:08	21:24	20:09	18:48	16:32 4	08:04 (C14) 15:43
4	04:33	05:22	06:23	07:23	07:29	08:02 (C14) 08:29
	22:07	21:22	20:06	18:46	16:30 1	08:03 (C14) 15:43
5	04:34	05:24	06:25	07:26	07:31	08:31
	22:07	21:20	20:04	18:43	16:27	15:42
6	04:35	05:25	06:27	07:28	07:34	08:32
	22:06	21:17	20:01	18:40	16:25	15:41
7	04:36	05:27	06:29	07:30	07:36	08:34
	22:05	21:15	19:58	18:38	16:23	15:40
8	04:37	05:29	06:31	07:32	07:38	08:35
	22:04	21:13	19:56	18:35	16:21	15:40
9	04:38	05:31	06:33	07:34	07:40	08:37
	22:03	21:11	19:53	18:33	16:19	15:39
10	04:40	05:33	06:35	07:36	07:42	08:38
	22:02	21:09	19:50	18:30	16:17	15:39
11	04:41	05:35	06:37	07:38	07:44	08:39
	22:01	21:06	19:48	18:27	16:15	15:39
12	04:42	05:37	06:39	07:40	07:47	08:40
	22:00	21:04	19:45	18:25	16:13	15:38
13	04:44	05:39	06:41	07:42	07:49	08:42
	21:59	21:02	19:42	18:22	16:11	15:38
14	04:45	05:41	06:43	07:44	07:51	08:43
	21:58	20:59	19:39	18:20	16:10	15:38
15	04:46	05:43	06:45	07:46	07:53	08:44
	21:57	20:57	19:37	18:17	16:08	15:38
16	04:48	05:45	06:47	07:48	07:55	08:45
	21:55	20:54	19:34	18:15	16:06	15:38
17	04:49	05:47	06:49	07:50	07:57	08:46
	21:54	20:52	19:31	18:12	16:04	15:38
18	04:51	05:49	06:51	07:53	07:59	08:46
	21:53	20:50	19:29	18:09	16:03	15:38
19	04:53	05:51	06:53	07:55	08:01	08:47
	21:51	20:47	19:26	18:07	16:01	15:38
20	04:54	05:53	06:55	07:39 (C13) 07:57	08:03	08:48
	21:50	20:45	19:23	3 07:42 (C13) 18:05	15:59	15:39
21	04:56	05:55	06:57	07:36 (C13) 07:59	08:05	08:49
	21:48	20:42	19:21	9 07:45 (C13) 18:02	15:58	15:39
22	04:58	05:57	06:59	07:34 (C13) 08:01	08:07	08:49
	21:46	20:40	19:18	13 07:47 (C13) 18:00	15:56	15:40
23	04:59	05:59	07:01	07:33 (C13) 08:03	08:09	08:50
	21:45	20:37	19:15	14 07:47 (C13) 17:57	15:55	15:40
24	05:01	06:01	07:03	07:32 (C13) 08:05	08:11	08:50
	21:43	20:35	19:13	15 07:47 (C13) 17:55	7 09:01 (C14) 15:53	15:41
25	05:03	06:03	07:05	07:34 (C13) 07:07	07:52 (C14) 08:13	08:50
	21:41	20:32	19:10	13 07:47 (C13) 16:52	11 08:03 (C14) 15:52	15:41
26	05:05	06:05	07:07	07:36 (C13) 07:10	07:51 (C14) 08:15	08:51
	21:39	20:30	19:07	10 07:46 (C13) 16:50	14 08:05 (C14) 15:51	15:42
27	05:06	06:07	07:09	07:38 (C13) 07:12	07:50 (C14) 08:17	08:51
	21:38	20:27	19:04	8 07:46 (C13) 16:48	16 08:06 (C14) 15:50	15:43
28	05:08	06:09	07:11	07:40 (C13) 07:14	07:49 (C14) 08:19	08:51
	21:36	20:25	19:02	4 07:44 (C13) 16:45	17 08:06 (C14) 15:48	15:44
29	05:10	06:11	07:13	07:16	07:49 (C14) 08:21	08:51
	21:34	20:22	18:59	16:43	17 08:06 (C14) 15:47	15:45
30	05:12	06:13	07:15	07:18	07:50 (C14) 08:23	08:51
	21:32	20:19	18:56	16:41	16 08:06 (C14) 15:46	15:46
31	05:14	06:15		07:20	07:53 (C14)	08:51
	21:30	20:17		16:38	14 08:07 (C14)	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			89	112	24	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.64	0.62	0.62	
Total reduction			0.27	0.16	0.05	
Total, real			24	17	1	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Dzintari - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (62)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:33	04:36
	15:48	16:45	17:48	19:53	20:56	21:53
2	08:51	08:13	07:08	06:46	05:30	04:35
	15:50	16:48	17:50	19:55	20:58	21:54
3	08:50	08:11	07:06	06:44	05:28	04:34
	15:51	16:50	17:52	19:57	21:00	21:55
4	08:50	08:09	07:03	06:41	05:26	04:33
	15:52	16:52	17:54	19:59	21:02	21:57
5	08:49	08:07	07:01	06:38	05:24	04:32
	15:54	16:54	17:56	20:01	21:04	21:58
6	08:49	08:05	06:58	06:36	05:21	04:31
	15:55	16:57	17:58	20:04	21:06	21:59
7	08:48	08:03	08:32 (C14)	06:33	05:19	04:30
	15:56	16:59	2	20:06	21:08	22:00
8	08:48	08:01	08:30 (C14)	06:30	05:17	04:29
	15:58	17:01	6	20:08	21:10	22:01
9	08:47	07:58	08:27 (C14)	06:28	05:15	04:29
	16:00	17:03	9	20:10	21:12	22:02
10	08:46	07:56	08:25 (C14)	06:25	05:13	04:28
	16:01	17:06	12	20:12	21:14	22:03
11	08:45	07:54	08:23 (C14)	06:22	05:11	04:27
	16:03	17:08	15	20:14	21:16	22:04
12	08:44	07:52	08:20 (C14)	06:20	05:09	04:27
	16:05	17:10	17	20:16	21:18	22:05
13	08:43	07:50	08:21 (C14)	06:17	05:07	04:27
	16:06	17:12	16	20:18	21:20	22:06
14	08:42	07:47	08:21 (C14)	07:02 (C13)	06:15	05:05
	16:08	17:14	15	07:06 (C13)	20:20	21:22
15	08:41	07:45	08:22 (C14)	07:00 (C13)	06:12	05:03
	16:10	17:17	14	07:07 (C13)	20:22	21:24
16	08:40	07:43	08:24 (C14)	06:57 (C13)	06:09	05:01
	16:12	17:19	11	07:07 (C13)	20:24	21:26
17	08:39	07:40	08:25 (C14)	06:54 (C13)	06:07	04:59
	16:14	17:21	8	07:07 (C13)	20:26	21:27
18	08:38	07:38	06:26	06:52 (C13)	06:04	04:57
	16:16	17:23	18:24	07:07 (C13)	20:28	21:29
19	08:36	07:36	06:24	06:52 (C13)	06:02	04:55
	16:18	17:26	18:26	07:06 (C13)	20:31	21:31
20	08:35	07:33	06:21	06:52 (C13)	05:59	04:53
	16:20	17:28	18:28	07:04 (C13)	20:33	21:33
21	08:33	07:31	06:18	06:53 (C13)	05:57	04:52
	16:22	17:30	18:30	07:02 (C13)	20:35	21:35
22	08:32	07:28	06:16	05:54	04:50	04:26
	16:24	17:32	18:32	20:37	21:37	22:10
23	08:30	07:26	06:13	05:52	04:48	04:26
	16:26	17:35	18:34	20:39	21:38	22:10
24	08:29	07:23	06:10	05:49	04:47	04:26
	16:28	17:37	18:36	20:41	21:40	22:11
25	08:27	07:21	06:08	05:47	04:45	04:27
	16:30	17:39	18:39	20:43	21:42	22:11
26	08:26	07:18	06:05	05:45	04:44	04:27
	16:32	17:41	18:41	20:45	21:43	22:10
27	08:24	07:16	06:02	05:42	04:42	04:27
	16:34	17:43	18:43	20:47	21:45	22:10
28	08:22	07:13	06:00	05:40	04:41	04:28
	16:37	17:45	18:45	20:49	21:47	22:10
29	08:20		06:57	05:37	04:40	04:29
	16:39		19:47	20:51	21:48	22:10
30	08:19		06:54	05:35	04:38	04:29
	16:41		19:49	20:53	21:50	22:09
31	08:17		06:52		04:37	
	16:43		19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		125	84			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.62	0.64			
Total reduction		0.12	0.26			
Total, real		15	21			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Dzintari - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (62)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	07:55 (C14) 08:06 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	07:57 (C14) 08:05 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:00 (C14) 08:05 (C14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:02 (C14) 08:04 (C14)
5	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 17:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 17:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:25	07:11 19:02	08:13 17:46	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:44	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:41	08:23 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		08:19 17:38	08:25 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			88	100	26	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.64	0.62	0.62	
Total reduction			0.27	0.16	0.05	
Total, real			23	16	1	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Dzervites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (204)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:16 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:58	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:12	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:39 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27 22:04	04:42 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:58	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:56 20:34	04:52 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:48 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:51 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:45
30	08:18 16:41		06:54 19:48	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Darzupites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (58)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March	April	May	June		
1	08:51		10:04 (C13)	08:15		10:11 (C13)	07:11	06:49	05:33	06:00 (C1)	04:36	
	15:48	29	10:33 (C13)	16:45	35	10:46 (C13)	17:48	19:53	20:55	4	06:04 (C1)	21:53
2	08:50		10:04 (C13)	08:13		10:12 (C13)	07:08	06:46	05:30		05:58 (C1)	04:35
	15:49	31	10:35 (C13)	16:47	33	10:45 (C13)	17:50	19:55	20:57	8	06:06 (C1)	21:54
3	08:50		10:04 (C13)	08:11		10:13 (C13)	07:06	06:43	05:28		05:56 (C1)	04:34
	15:51	31	10:35 (C13)	16:50	32	10:45 (C13)	17:52	19:57	21:00	11	06:07 (C1)	21:55
4	08:50		10:04 (C13)	08:09		10:15 (C13)	07:03	06:41	05:26		05:54 (C1)	04:33
	15:52	31	10:35 (C13)	16:52	29	10:44 (C13)	17:54	19:59	21:02	14	06:08 (C1)	21:57
5	08:49		10:04 (C13)	08:07		10:16 (C13)	07:00	06:38	05:23		05:52 (C1)	04:32
	15:53	33	10:37 (C13)	16:54	27	10:43 (C13)	17:56	20:01	21:04	16	06:08 (C1)	21:58
6	08:49		10:04 (C13)	08:05		10:17 (C13)	06:58	06:35	05:21		05:50 (C1)	04:31
	15:55	34	10:38 (C13)	16:56	23	10:40 (C13)	17:58	20:03	21:06	19	06:09 (C1)	21:59
7	08:48		10:04 (C13)	08:03		10:20 (C13)	06:55	06:33	05:19		05:50 (C1)	04:30
	15:56	34	10:38 (C13)	16:59	18	10:38 (C13)	18:00	20:05	21:08	19	06:09 (C1)	22:00
8	08:48		10:04 (C13)	08:01		10:24 (C13)	06:53	06:30	05:17		05:49 (C1)	04:29
	15:58	35	10:39 (C13)	17:01	11	10:35 (C13)	18:03	20:08	21:10	20	06:09 (C1)	22:01
9	08:47		10:04 (C13)	07:58			06:50	06:28	05:15		05:49 (C1)	04:29
	15:59	36	10:40 (C13)	17:03			18:05	20:10	21:12	20	06:09 (C1)	22:02
10	08:46		10:04 (C13)	07:56			06:47	06:25	05:13		05:49 (C1)	04:28
	16:01	37	10:41 (C13)	17:05			18:07	20:12	21:14	19	06:08 (C1)	22:03
11	08:45		10:05 (C13)	07:54			06:45	06:22	05:11		05:49 (C1)	04:27
	16:03	36	10:41 (C13)	17:08			18:09	20:14	21:16	19	06:08 (C1)	22:04
12	08:44		10:05 (C13)	07:52			06:42	06:20	05:08		05:50 (C1)	04:27
	16:04	37	10:42 (C13)	17:10			18:11	20:16	21:18	17	06:07 (C1)	22:05
13	08:43		10:04 (C13)	07:50			06:40	06:17	05:06		05:50 (C1)	04:26
	16:06	38	10:42 (C13)	17:12			18:13	20:18	21:20	16	06:06 (C1)	22:06
14	08:42		10:05 (C13)	07:47			06:37	06:14	05:04		05:52 (C1)	04:26
	16:08	38	10:43 (C13)	17:14			18:15	20:20	21:22	14	06:06 (C1)	22:07
15	08:41		10:04 (C13)	07:45			06:34	06:12	05:03		05:52 (C1)	04:26
	16:10	39	10:43 (C13)	17:17			18:18	20:22	21:24	13	06:05 (C1)	22:07
16	08:40		10:05 (C13)	07:43			06:32	06:09	05:01		05:53 (C1)	04:25
	16:12	39	10:44 (C13)	17:19			18:20	20:24	21:25	10	06:03 (C1)	22:08
17	08:39		10:05 (C13)	07:40			06:29	06:07	04:59		05:56 (C1)	04:25
	16:14	41	10:46 (C13)	17:21			18:22	20:26	21:27	6	06:02 (C1)	22:08
18	08:37		10:05 (C13)	07:38			06:26	06:04	04:57			04:25
	16:16	41	10:46 (C13)	17:23			18:24	20:28	21:29			22:09
19	08:36		10:05 (C13)	07:36			06:24	06:02	04:55			04:25
	16:18	41	10:46 (C13)	17:26			18:26	20:30	21:31			22:09
20	08:35		10:06 (C13)	07:33			06:21	05:59	04:53			04:25
	16:20	41	10:47 (C13)	17:28			18:28	20:33	21:33			22:10
21	08:33		10:06 (C13)	07:31			06:18	05:57	04:52			04:25
	16:22	41	10:47 (C13)	17:30			18:30	20:35	21:35			22:10
22	08:32		10:06 (C13)	07:28			06:16	05:54	04:50			04:25
	16:24	41	10:47 (C13)	17:32			18:32	20:37	21:37			22:10
23	08:30		10:06 (C13)	07:26			06:13	05:52	04:48			04:26
	16:26	41	10:47 (C13)	17:34			18:34	20:39	21:38			22:10
24	08:29		10:07 (C13)	07:23			06:10	05:49	04:47			04:26
	16:28	41	10:48 (C13)	17:37			18:36	20:41	21:40			22:10
25	08:27		10:07 (C13)	07:21			06:07	05:47	04:45			04:26
	16:30	41	10:48 (C13)	17:39			18:38	20:43	21:42			22:10
26	08:26		10:08 (C13)	07:18			06:05	05:44	04:44			04:27
	16:32	40	10:48 (C13)	17:41			18:41	20:45	21:43			22:10
27	08:24		10:08 (C13)	07:16			06:02	05:42	04:42			04:27
	16:34	40	10:48 (C13)	17:43			18:43	20:47	21:45			22:10
28	08:22		10:09 (C13)	07:13			05:59	05:40	04:41			04:28
	16:36	39	10:48 (C13)	17:45			18:45	20:49	21:47			22:10
29	08:20		10:09 (C13)				06:57	05:37	04:40			04:29
	16:39	39	10:48 (C13)				19:47	20:51	21:48			22:10
30	08:18		10:10 (C13)				06:54	05:35	04:38			04:29
	16:41	38	10:48 (C13)				19:49	20:53	21:50			22:09
31	08:17		10:11 (C13)				06:51		04:37			
	16:43	36	10:47 (C13)				19:51		21:51			
Potential sun hours	235			266			366	426	508		529	
Total, worst case	1159			208					245			
Sun reduction	0.13			0.20					0.57			
Oper. time red.	0.98			0.98					0.98			
Wind dir. red.	0.61			0.61					0.67			
Total reduction	0.08			0.12					0.36			
Total, real	90			24					89			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Darzupites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (58)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:00 (C1)	06:17	07:17	07:23
	22:09	21:28	18 06:18 (C1)	20:14	18:54	16:36
2	04:31	05:18	06:00 (C1)	06:19	07:19	07:25
	22:09	21:26	18 06:18 (C1)	20:11	18:51	16:34
3	04:32	05:19	06:00 (C1)	06:21	07:21	07:27
	22:08	21:24	19 06:19 (C1)	20:09	18:48	16:32
4	04:33	05:21	06:00 (C1)	06:23	07:23	07:29
	22:07	21:22	19 06:19 (C1)	20:06	18:46	16:29
5	04:34	05:23	05:59 (C1)	06:25	07:25	07:31
	22:07	21:20	19 06:18 (C1)	20:03	18:43	16:27
6	04:35	05:25	05:59 (C1)	06:27	07:27	07:33
	22:06	21:17	19 06:18 (C1)	20:01	18:40	16:25
7	04:36	05:27	06:00 (C1)	06:29	07:30	07:36
	22:05	21:15	18 06:18 (C1)	19:58	18:38	16:23
8	04:37	05:29	06:02 (C1)	06:31	07:32	07:38
	22:04	21:13	16 06:18 (C1)	19:55	18:35	16:21
9	04:38	05:31	06:04 (C1)	06:33	07:34	07:40
	22:03	21:11	13 06:17 (C1)	19:53	18:32	16:19
10	04:39	05:33	06:06 (C1)	06:35	07:36	07:42
	22:02	21:08	10 06:16 (C1)	19:50	18:30	16:17
11	04:41	05:35	06:07 (C1)	06:37	07:38	07:44
	22:01	21:06	7 06:14 (C1)	19:47	18:27	16:15
12	04:42	05:37	06:09 (C1)	06:39	07:40	07:46
	22:00	21:04	3 06:12 (C1)	19:45	18:25	16:13
13	04:43	05:39	06:11	06:41	07:42	07:49
	21:59	21:02		19:42	18:22	16:11
14	04:45	05:41	06:13	06:43	07:44	07:51
	21:58	20:59		19:39	18:19	16:09
15	04:46	05:43	06:15	06:45	07:46	07:53
	21:57	20:57		19:37	18:17	16:08
16	04:48	05:45	06:17	06:47	07:48	07:55
	21:55	20:54		19:34	18:14	16:06
17	04:49	05:47	06:19	06:49	07:50	07:57
	21:54	20:52		19:31	18:12	16:04
18	04:51	05:49	06:21	06:51	07:52	07:59
	21:52	20:50		19:29	18:09	16:02
19	04:52	05:51	06:23	06:53	07:55	08:01
	21:51	20:47		19:26	18:07	16:01
20	04:54	05:53	06:25	06:55	07:57	08:03
	21:49	20:45		19:23	18:04	15:59
21	04:56	05:55	06:27	06:57	07:59	08:05
	21:48	20:42		19:20	18:02	15:58
22	04:57	05:57	06:29	06:59	08:01	08:07
	21:46	20:40		19:18	17:59	15:56
23	04:59	05:59	06:31	07:01	08:03	08:09
	21:45	20:37		19:15	17:57	15:55
24	05:01	06:01	06:33	07:03	08:05	08:11
	21:43	20:35		19:12	17:55	15:53
25	05:03	06:03	06:35	07:05	08:07	08:13
	21:41	20:32		19:10	16:52	15:52
26	05:04	06:05	06:37	07:07	08:09	08:15
	21:39	20:30		19:07	16:50	15:51
27	05:06	06:05 (C1)	06:39	07:09	08:11	08:17
	21:38	8 06:13 (C1)	20:27	19:04	16:47	15:49
28	05:08	06:03 (C1)	06:41	07:11	08:13	08:19
	21:36	11 06:14 (C1)	20:24	19:02	16:45	15:48
29	05:10	06:02 (C1)	06:43	07:13	08:15	08:21
	21:34	14 06:16 (C1)	20:22	18:59	16:43	15:47
30	05:12	06:02 (C1)	06:45	07:15	08:17	08:22
	21:32	15 06:17 (C1)	20:19	18:56	16:40	15:46
31	05:14	06:01 (C1)	06:47	07:17	08:19	08:25
	21:30	17 06:18 (C1)	20:17	18:54	16:38	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	65	179			1008	900
Sun reduction	0.49	0.50			0.08	0.07
Oper. time red.	0.98	0.98			0.98	0.98
Wind dir. red.	0.67	0.67			0.61	0.61
Total reduction	0.31	0.32			0.05	0.04
Total, real	20	57			49	37

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Elkš ni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (77)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:41	07:34 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:09	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:11	05:03 21:41	06:03 20:32	07:05 19:10	07:08 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ezeravoti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (50)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:18	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:31 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:40	06:05 20:30	07:07 19:07	08:09 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:54	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ezerkrasts - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (202)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:11 17:47	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:50	08:12 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:23	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:22 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:46 16:00	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:51 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:05	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:05 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:52 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:10	04:56 21:47	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:50	08:50 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	07:14 16:45	08:18 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:22	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ezermali - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (26)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:15 16:45	07:11 17:47	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	05:49 (C12) 20:14	06:17 18:54	07:17 16:36	07:22 15:45
2	08:50 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	05:51 (C12) 20:11	06:19 18:51	07:19 16:34	07:25 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:24	05:53 (C12) 20:09	06:21 18:48	07:21 16:32	07:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:21 21:21	05:55 (C12) 20:06	06:23 18:46	07:23 16:29	07:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:58	04:34 22:06	05:23 21:19	05:56 (C12) 20:03	06:25 18:43	07:25 16:27	07:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	05:58 (C12) 20:01	06:27 18:40	07:27 16:25	07:33 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	05:48 (C12) 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	07:35 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:10	05:46 (C12) 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	07:38 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:12	05:44 (C12) 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:34 18:32	07:40 16:19	07:40 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	05:42 (C12) 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	07:42 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	05:40 (C12) 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	07:44 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:17	05:38 (C12) 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	07:46 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	05:36 (C12) 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	07:48 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:05 21:21	05:36 (C12) 22:06	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	07:50 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	05:36 (C12) 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	07:53 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	05:36 (C12) 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	07:55 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	05:38 (C12) 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	07:57 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	05:38 (C12) 22:09	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	07:59 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	05:38 (C12) 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:01 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	05:49 (C12) 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:57 18:04	08:03 15:59	08:03 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:34	04:52 21:34	05:49 (C12) 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:05 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:36	05:46 (C12) 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:07 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	05:51 (C12) 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:09 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	05:50 (C12) 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:11 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	05:49 (C12) 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:13 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	05:48 (C12) 22:10	05:05 21:39	06:05 20:29	07:07 19:07	08:09 16:50	08:15 15:51	08:15 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	05:48 (C12) 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:12 16:47	08:17 15:49	08:17 15:43
28	08:22 16:36	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	05:48 (C12) 22:10	05:08 21:35	06:09 20:24	07:11 19:02	08:14 16:45	08:19 15:48	08:19 15:44
29	08:20 16:39	07:11 17:57	06:57 18:57	05:37 20:51	04:40 21:48	05:47 (C12) 22:09	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:20 15:47	08:20 15:45
30	08:18 16:41	07:04 17:59	06:54 18:59	05:35 20:53	04:38 21:49	05:47 (C12) 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:40	08:22 15:46	08:22 15:41
31	08:16 16:43	07:02 17:51	06:51 18:51	05:34 20:51	04:37 21:51	05:46 (C12) 22:10	05:14 21:30	06:15 20:16	07:16 16:38	08:19 16:38	08:23 15:47	08:23 15:41
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case					167		118	47				
Sun reduction					0.57		0.49	0.50				
Oper. time red.					0.98		0.98	0.98				
Wind dir. red.					0.67		0.67	0.67				
Total reduction					0.37		0.32	0.33				
Total, real					62		38	15				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ezermuiža - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (221)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:23	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:22 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:43
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:24 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:46 16:00	07:58 17:03	06:50 18:05	06:28 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:15	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:05	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:03	08:46 15:38
19	08:36 16:18	07:35 17:26	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:54 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:26 22:10	04:56 21:47	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	08:09 17:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:11 17:47	08:17 15:50	08:50 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	08:14 17:45	08:18 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:22	07:13 18:59	08:16 17:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	08:18 17:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ezerkikaukas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (110)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:18	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:31 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	07:08 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:54	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Galvani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (105)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April	May	June
1	08:51		10:18 (C1)	08:15			07:11			06:49	05:32	04:36
	15:48	19	10:37 (C1)	16:45			17:47			19:53	20:55	21:53
2	08:51		10:19 (C1)	08:13			07:08			06:46	05:30	04:34
	15:49	19	10:38 (C1)	16:47			17:50			19:55	20:57	21:54
3	08:50		10:19 (C1)	08:11		08:41 (C2)	07:06		07:33 (C17)	06:43	05:28	04:33
	15:50	18	10:37 (C1)	16:50	4	08:45 (C2)	17:52	12	07:45 (C17)	19:57	21:00	21:55
4	08:50		10:20 (C1)	08:09		08:39 (C2)	07:03		07:30 (C17)	06:41	05:25	04:32
	15:52	17	10:37 (C1)	16:52	7	08:46 (C2)	17:54	17	07:47 (C17)	19:59	21:02	21:57
5	08:49		10:22 (C1)	08:07		08:37 (C2)	07:00		07:28 (C17)	06:38	05:23	04:31
	15:53	15	10:37 (C1)	16:54	11	08:48 (C2)	17:56	20	07:48 (C17)	20:01	21:04	21:58
6	08:49		10:23 (C1)	08:05		08:34 (C2)	06:58		07:27 (C17)	06:35	05:21	04:31
	15:55	14	10:37 (C1)	16:56	13	08:47 (C2)	17:58	23	07:50 (C17)	20:03	21:06	21:59
7	08:48		10:24 (C1)	08:03		08:32 (C2)	06:55		07:26 (C17)	06:33	05:19	04:30
	15:56	12	10:36 (C1)	16:58	16	08:48 (C2)	18:00	24	07:50 (C17)	20:05	21:08	22:00
8	08:48		10:25 (C1)	08:01		08:31 (C2)	06:53		07:25 (C17)	06:30	05:17	04:29
	15:58	11	10:36 (C1)	17:01	18	08:49 (C2)	18:03	26	07:51 (C17)	20:08	21:10	22:01
9	08:47		10:27 (C1)	07:58		08:30 (C2)	06:50		07:25 (C17)	06:27	05:15	04:28
	15:59	7	10:34 (C1)	17:03	18	08:48 (C2)	18:05	26	07:51 (C17)	20:10	21:12	22:02
10	08:46			07:56		08:31 (C2)	06:47		07:24 (C17)	06:25	05:12	04:28
	16:01			17:05	17	08:48 (C2)	18:07	27	07:51 (C17)	20:12	21:14	22:03
11	08:45			07:54		08:32 (C2)	06:45		07:23 (C17)	06:22	05:10	04:27
	16:03			17:07	16	08:48 (C2)	18:09	28	07:51 (C17)	20:14	21:16	22:04
12	08:44			07:52		08:32 (C2)	06:42		07:24 (C17)	06:20	05:08	04:27
	16:04			17:10	14	08:46 (C2)	18:11	27	07:51 (C17)	20:16	21:18	22:05
13	08:43			07:49		08:34 (C2)	06:39		07:24 (C17)	06:17	05:06	04:26
	16:06			17:12	11	08:45 (C2)	18:13	26	07:50 (C17)	20:18	21:20	22:06
14	08:42			07:47		08:36 (C2)	06:37		07:24 (C17)	06:14	05:04	04:26
	16:08			17:14	6	08:42 (C2)	18:15	25	07:49 (C17)	20:20	21:22	22:07
15	08:41			07:45		06:34			07:24 (C17)	06:12	05:02	04:25
	16:10			17:16		18:17	24	07:48 (C17)	20:22	21:24	22:07	
16	08:40			07:43		06:31			07:25 (C17)	06:09	05:00	04:25
	16:12			17:19		18:20	22	07:47 (C17)	20:24	21:26	22:08	
17	08:39			07:40		06:29			07:26 (C17)	06:07	04:59	04:25
	16:14			17:21		18:22	19	07:45 (C17)	20:26	21:27	22:09	
18	08:38			07:38		06:26			07:27 (C17)	06:04	04:57	04:25
	16:15			17:23		18:24	15	07:42 (C17)	20:28	21:29	22:09	
19	08:36			07:35		06:23			07:31 (C17)	06:02	04:55	04:25
	16:17			17:25		18:26	8	07:39 (C17)	20:30	21:31	22:09	
20	08:35			07:33		06:21			05:59	04:53	04:25	
	16:19			17:28		18:28			20:33	21:33	22:10	
21	08:33			07:31		06:18			05:57	04:51	04:25	
	16:21			17:30		18:30			20:35	21:35	22:10	
22	08:32			07:28		06:15			05:54	04:50	04:25	
	16:24			17:32		18:32			20:37	21:37	22:10	
23	08:30			07:26		06:13			05:52	04:48	04:25	
	16:26			17:34		18:34			20:39	21:38	22:10	
24	08:29			07:23		06:10			05:49	04:47	04:26	
	16:28			17:36		18:36			20:41	21:40	22:11	
25	08:27			07:21		06:07			05:47	04:45	04:26	
	16:30			17:39		18:38			20:43	21:42	22:11	
26	08:26			07:18		06:05			05:44	04:43	04:27	
	16:32			17:41		18:40			20:45	21:43	22:10	
27	08:24			07:16		06:02			05:42	04:42	04:27	
	16:34			17:43		18:43			20:47	21:45	22:10	
28	08:22			07:13		05:59			05:39	04:41	04:28	
	16:36			17:45		18:45			20:49	21:47	22:10	
29	08:20					06:57			05:37	04:39	04:28	
	16:38					19:47			20:51	21:48	22:10	
30	08:19					06:54			05:35	04:38	04:29	
	16:41					19:49			20:53	21:50	22:09	
31	08:17					06:51				04:37		
	16:43					19:51				21:51		
Potential sun hours	235			266		366			426	508	529	
Total, worst case	132			151		369						
Sun reduction	0.13			0.20		0.41						
Oper. time red.	0.98			0.98		0.98						
Wind dir. red.	0.61			0.61		0.62						
Total reduction	0.08			0.12		0.25						
Total, real	10			18		92						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Galvani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (105)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:15	06:17	07:17	08:03 (C17)	08:01 (C2)
2	22:09	21:28	20:14	18:54	27 08:30 (C17)	16:36 17 08:18 (C2)
3	04:31	05:17	06:19	07:19	08:02 (C17)	07:25 08:00 (C2)
4	22:09	21:26	20:11	18:51	28 08:30 (C17)	16:34 17 08:17 (C2)
5	04:31	05:19	06:21	07:21	08:02 (C17)	07:27 08:00 (C2)
6	22:08	21:24	20:09	18:48	27 08:29 (C17)	16:31 18 08:18 (C2)
7	04:32	05:21	06:23	07:23	08:02 (C17)	07:29 08:02 (C2)
8	22:07	21:22	20:06	18:46	27 08:29 (C17)	16:29 16 08:18 (C2)
9	04:33	05:23	06:25	07:25	08:02 (C17)	07:31 08:05 (C2)
10	22:07	21:20	20:03	18:43	26 08:28 (C17)	16:27 13 08:18 (C2)
11	04:34	05:25	06:27	07:27	08:02 (C17)	07:33 08:07 (C2)
12	22:06	21:17	20:01	18:40	25 08:27 (C17)	16:25 10 08:17 (C2)
13	04:36	05:27	06:29	07:29	08:02 (C17)	07:36 08:09 (C2)
14	22:05	21:15	19:58	18:38	24 08:26 (C17)	16:23 7 08:16 (C2)
15	04:37	05:29	06:31	07:32	08:03 (C17)	07:38 08:12 (C2)
16	22:04	21:13	19:55	18:35	21 08:24 (C17)	16:21 4 08:16 (C2)
17	04:38	05:31	06:33	07:34	08:05 (C17)	07:40 08:37
18	22:03	21:11	19:53	18:32	19 08:24 (C17)	16:19 15:39
19	04:39	05:33	06:35	07:36	08:06 (C17)	07:42 08:38
20	22:02	21:08	19:50	18:30	15 08:21 (C17)	16:17 15:39
21	04:40	05:35	06:37	07:38	08:09 (C17)	07:44 08:39
22	22:01	21:06	19:47	18:27	9 08:18 (C17)	16:15 15:38
23	04:42	05:37	06:39	07:40	07:46 08:40	15:38 19 10:27 (C1)
24	22:00	21:04	19:45	18:25	16:13 15:38	19 10:09 (C1)
25	04:43	05:39	06:41	07:42	07:49 08:42	19 10:09 (C1)
26	21:59	21:02	19:42	18:22	16:11 15:38	20 10:29 (C1)
27	04:45	05:41	06:43	07:44	07:51 08:43	20 10:09 (C1)
28	21:58	20:59	19:39	18:19	16:09 15:38	20 10:29 (C1)
29	04:46	05:43	06:45	07:46	07:53 08:44	20 10:09 (C1)
30	21:57	20:57	19:37	18:17	16:07 15:38	21 10:30 (C1)
31	04:48	05:45	06:47	07:48	07:55 08:45	21 10:09 (C1)
32	21:55	20:54	19:34	18:14	16:06 15:38	22 10:31 (C1)
33	04:49	05:47	06:49	07:50	07:57 08:46	22 10:10 (C1)
34	21:54	20:52	19:31	18:12	16:04 15:38	21 10:31 (C1)
35	04:51	05:49	06:51	07:52	07:59 08:46	22 10:10 (C1)
36	21:53	20:50	19:29	18:09	16:02 15:38	22 10:32 (C1)
37	04:52	05:51	06:53	07:55	08:01 08:47	22 10:11 (C1)
38	21:51	20:47	19:26	18:07	16:01 15:38	22 10:33 (C1)
39	04:54	05:53	06:55	07:57	08:03 08:48	22 10:11 (C1)
40	21:50	20:45	19:23	18:04	15:59 15:38	22 10:33 (C1)
41	04:56	05:55	06:57	07:59	08:05 08:49	22 10:12 (C1)
42	21:48	20:42	19:20	18:02	15:57 15:39	21 10:33 (C1)
43	04:57	05:57	06:59	08:01	08:07 08:49	21 10:12 (C1)
44	21:46	20:40	19:18	17:59	15:56 15:39	21 10:33 (C1)
45	04:59	05:59	07:01	08:03	08:09 08:50	21 10:13 (C1)
46	21:45	20:37	19:15	17:57	15:54 15:40	21 10:34 (C1)
47	05:01	06:01	07:03	08:05	08:11 08:50	21 10:13 (C1)
48	21:43	20:35	19:12	17:54	15:53 15:40	22 10:35 (C1)
49	05:02	06:03	07:05	08:07	08:13 08:51	22 10:13 (C1)
50	21:41	20:32	19:10	16:52	15:52 15:41	22 10:35 (C1)
51	05:04	06:05	07:07	08:08	08:15 08:51	21 10:14 (C1)
52	21:39	20:30	19:07	16:50	15:50 15:42	21 10:35 (C1)
53	05:06	06:07	07:09	08:07	08:17 08:51	21 10:14 (C1)
54	21:38	20:27	19:04	16:47	15:49 15:43	21 10:35 (C1)
55	05:08	06:09	07:11	08:06	08:19 08:51	21 10:15 (C1)
56	21:36	20:24	19:02	16:45	7 08:12 (C2)	15:48 15:43
57	05:10	06:11	07:13	08:05	08:03 (C2)	08:21 08:51
58	21:34	20:22	18:59	16:43	12 08:15 (C2)	15:47 15:44
59	05:12	06:13	07:15	08:04	08:02 (C2)	08:22 08:51
60	21:32	20:19	18:56	16:40	14 08:16 (C2)	15:46 15:45
61	05:14	06:15		07:20	08:02 (C2)	08:51 10:17 (C1)
62	21:30	20:17		16:38	15 08:17 (C2)	15:46 10:37 (C1)
Potential sun hours	529	469	385	324	247	216
Total, worst case			130	296	102	553
Sun reduction			0.43	0.26	0.08	0.07
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.62	0.62	0.61	0.61
Total reduction			0.26	0.16	0.05	0.04
Total, real			34	46	5	23

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Galvani 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (98)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	07:37 (C1)	06:49	05:32
	15:48	16:45	17:47	18	07:55 (C1)	19:53
2	08:51	08:13	07:08	07:34 (C1)	06:46	05:30
	15:49	16:47	17:50	21	07:55 (C1)	19:55
3	08:50	08:11	07:06	07:34 (C1)	06:43	05:28
	15:51	16:50	17:52	22	07:56 (C1)	19:57
4	08:50	08:09	07:03	07:33 (C1)	06:41	05:26
	15:52	16:52	17:54	23	07:56 (C1)	19:59
5	08:49	08:07	07:00	07:32 (C1)	06:38	05:23
	15:53	16:54	17:56	24	07:56 (C1)	20:01
6	08:49	08:05	06:58	07:33 (C1)	06:35	05:21
	15:55	16:56	17:58	23	07:56 (C1)	20:03
7	08:48	08:03	06:55	07:32 (C1)	06:33	05:19
	15:56	16:59	18:00	24	07:56 (C1)	20:05
8	08:48	08:01	06:53	07:32 (C1)	06:30	05:17
	15:58	17:01	18:03	23	07:55 (C1)	20:08
9	08:47	07:58	06:50	07:33 (C1)	06:27	05:15
	15:59	17:03	18:05	21	07:54 (C1)	20:10
10	08:46	07:56	06:47	07:34 (C1)	06:25	05:13
	16:01	17:05	18:07	19	07:53 (C1)	20:12
11	08:45	07:54	06:45	07:34 (C1)	06:22	05:10
	16:03	17:08	18:09	17	07:51 (C1)	20:14
12	08:44	07:52	06:42	07:37 (C1)	06:20	05:08
	16:04	17:10	18:11	12	07:49 (C1)	20:16
13	08:43	07:50	06:40	07:40 (C1)	06:17	05:06
	16:06	17:12	18:13	5	07:45 (C1)	20:18
14	08:42	07:47	06:37		06:14	05:04
	16:08	17:14	18:15		20:20	21:22
15	08:41	07:45	06:34		06:12	06:38 (C17)
	16:10	17:17	18:17		20:22	1
16	08:40	07:43	06:32		06:09	06:35 (C17)
	16:12	17:19	18:20		20:24	5
17	08:39	07:40	06:29		06:07	06:33 (C17)
	16:14	17:21	18:22		20:26	9
18	08:38	07:38	06:26		06:04	06:30 (C17)
	16:16	17:23	18:24		20:28	12
19	08:36	07:36	06:24		06:02	06:28 (C17)
	16:18	17:25	18:26		20:30	14
20	08:35	07:33	06:21		05:59	06:25 (C17)
	16:20	17:28	18:28		20:33	17
21	08:33	07:31	06:18		05:57	06:24 (C17)
	16:22	17:30	18:30		20:35	18
22	08:32	07:28	06:15		05:54	06:25 (C17)
	16:24	17:32	18:32		20:37	17
23	08:30	07:26	06:13		05:52	06:24 (C17)
	16:26	17:34	18:34		20:39	16
24	08:29	07:23	06:10		05:49	06:25 (C17)
	16:28	17:37	18:36		20:41	14
25	08:27	07:21	06:07		05:47	06:27 (C17)
	16:30	17:39	18:38		20:43	11
26	08:26	07:18	07:45 (C1)	06:05	05:44	06:28 (C17)
	16:32	17:41	3	07:48 (C1)	20:45	7
27	08:24	07:16	07:42 (C1)	06:02	05:42	06:35 (C17)
	16:34	17:43	9	07:51 (C1)	20:47	
28	08:22	07:13	07:40 (C1)	05:59	05:39	
	16:36	17:45	14	07:54 (C1)	20:49	
29	08:20		06:57	05:37	04:39	
	16:39		19:47	20:51	21:48	
30	08:19		06:54	05:35	04:38	
	16:41		19:49	20:53	21:50	
31	08:17		06:51		04:37	
	16:43		19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		26	252	141		
Sun reduction		0.20	0.41	0.50		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.62	0.62	0.65		
Total reduction		0.12	0.25	0.32		
Total, real		3	63	45		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Galvani 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (98)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	08:17 (C1) 16:36	08:24 15:45
2	04:31 22:09	05:17 21:26	06:19 20:11	07:19 18:51	08:14 (C1) 16:34	08:26 15:44
3	04:32 22:08	05:19 21:24	06:21 20:09	07:21 18:48	08:12 (C1) 16:31	08:28 15:43
4	04:32 22:07	05:21 21:22	06:23 20:06	07:23 18:46	08:11 (C1) 16:29	08:29 15:42
5	04:33 22:07	05:23 21:20	06:25 20:03	07:25 18:43	08:10 (C1) 16:27	08:31 15:41
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	08:09 (C1) 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:08 (C1) 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	08:07 (C1) 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	08:08 (C1) 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:08 (C1) 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	08:08 (C1) 16:15	08:39 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:09 (C1) 16:13	08:40 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:11 (C1) 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:19	08:13 (C1) 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:16 (C1) 16:07	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	08:23 (C1) 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:52 19:29	07:52 18:09	07:59 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:49 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:40
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:50 15:41
26	05:04 21:39	06:05 20:30	07:07 19:07	08:10 16:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:47	08:17 15:49	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:21 15:47	08:51 15:44
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:40	08:22 15:46	08:51 15:45
31	05:14 21:30	06:15 20:17		08:20 16:38		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		140		278		
Sun reduction		0.50		0.26		
Oper. time red.		0.98		0.98		
Wind dir. red.		0.65		0.62		
Total reduction		0.32		0.16		
Total, real		44		44		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Grantini 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (157)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:22 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:18	06:27 20:01	07:28 18:41	07:34 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	06:18 20:35	05:57 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	06:16 20:37	05:54 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:31 16:26	07:26 17:35	06:13 18:34	06:13 20:39	05:52 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	06:10 20:41	05:49 21:40	04:26 22:11	04:26 21:43	05:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	06:08 20:43	05:47 21:42	04:27 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:19 17:41	06:05 18:41	06:05 20:45	05:45 21:43	04:27 22:10	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	06:02 20:47	05:42 21:45	04:28 22:10	05:07 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	06:00 20:49	05:40 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	06:57 20:51	05:37 21:48	04:40 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	06:54 20:54	05:35 21:50	04:38 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		05:37 21:51	04:37 21:51	05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Graudini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (175)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:48 19:53	05:32 20:55	04:35 21:53	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:40 19:59	05:25 21:02	04:32 21:57	04:32 22:07	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:36 16:23	08:34 15:40
8	08:48 15:57	08:00 17:01	06:53 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:26 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:06 20:26	04:58 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:37
18	08:37 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 17:30	06:18 18:30	05:56 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:39
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:39
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:47	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Gulbji - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (180)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:49	08:15 16:46	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:08	05:18 21:26	06:20 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:21 18:48	07:27 16:32	08:28 15:44
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:24 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:26 20:04	07:26 18:43	07:31 16:28	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:41	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:32 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:23 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:39
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:12	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:24	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:26 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:26 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	05:00 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:50 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:06 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:08 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:10 20:24	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:12 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:16 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Mezares\_AB211223

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Anna / anna@environment.lv  
Calculated:  
10/04/2024 03:59/4.0.531

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ievas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (59)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:52 (C15) 08:22 (C14)	06:49 19:53	05:33 20:55
2	08:50 15:50	08:13 16:48	07:08 17:50	07:56 (C14) 08:21 (C14)	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	07:06 17:52	07:57 (C14) 08:20 (C14)	06:43 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	07:03 17:54	07:58 (C14) 08:19 (C14)	06:41 19:59	05:26 21:02
5	08:49 15:54	08:07 16:54	07:01 17:56	07:59 (C14) 08:16 (C14)	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:56	06:58 17:58	08:01 (C14) 08:14 (C14)	06:36 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	06:55 18:01	08:06 (C14) 08:09 (C14)	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	06:56 (C13) 07:00 (C13)	05:17 21:10
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	06:53 (C13) 07:02 (C13)	05:15 21:12
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	06:50 (C13) 07:02 (C13)	05:13 21:14
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	06:48 (C13) 07:03 (C13)	05:11 21:16
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	06:45 (C13) 07:03 (C13)	05:09 21:18
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	06:43 (C13) 07:04 (C13)	05:07 21:20
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	06:41 (C13) 07:03 (C13)	05:05 21:22
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	06:42 (C13) 07:04 (C13)	05:03 21:24
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	06:41 (C13) 07:03 (C13)	05:01 21:26
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	06:42 (C13) 07:02 (C13)	04:59 21:27
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	06:41 (C13) 07:01 (C13)	04:57 21:29
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	06:42 (C13) 07:00 (C13)	04:55 21:31
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	06:44 (C13) 06:59 (C13)	04:53 21:33
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:45 (C13) 06:57 (C13)	04:52 21:35
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	06:48 (C13) 06:54 (C13)	04:50 21:37
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39		05:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09
31	08:17 16:43		06:51 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		305	132		236	
Sun reduction		0.20	0.41		0.50	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.63	0.63		0.66	
Total reduction		0.12	0.25		0.32	
Total, real		37	33	75		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ievas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (59)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	06:47 (C13) 18:54	07:17 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	06:49 (C13) 18:51	07:19 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	06:51 (C13) 18:48	07:21 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	06:53 (C13) 18:46	07:23 16:30	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	06:57 (C13) 18:43	07:25 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:38 (C14) 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:35 (C14) 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:34 (C14) 16:19	08:37 15:39
10	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:32 (C14) 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	08:30 (C14) 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:28 (C15) 16:13	08:40 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:24 (C15) 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:22 (C15) 16:10	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:22 (C15) 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	08:21 (C15) 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:20 (C15) 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	08:22 (C15) 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:25 (C15) 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:27 (C15) 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:29 (C14) 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:31 (C14) 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:34 (C14) 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:36 (C14) 15:53	08:51 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:38 (C14) 15:52	08:51 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 17:50	08:40 (C14) 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 17:48	08:42 (C14) 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 17:46	08:44 (C14) 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:43	08:46 (C14) 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:41	08:48 (C14) 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	07:17 18:53	08:19 17:39	08:50 (C14) 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		199	40	446		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.66	0.66	0.63		
Total reduction		0.32	0.27	0.16		
Total, real		63	11	70		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ievinas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (142)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	07:49 (C13)	06:49	05:33
	15:48	16:45	17:48	11 08:00 (C13)	19:53	20:56
2	08:51	08:13	07:08	07:51 (C13)	06:46	05:30
	15:49	16:48	17:50	5 07:56 (C13)	19:55	20:58
3	08:50	08:11	07:06		06:44	05:28
	15:51	16:50	17:52		19:57	21:00
4	08:50	08:09	07:03		06:41	05:26
	15:52	16:52	17:54		19:59	21:02
5	08:49	08:07	07:01		06:38	05:24
	15:53	16:54	17:56		20:01	21:04
6	08:49	08:05	06:58		06:36	05:21
	15:55	16:56	17:58		20:04	21:06
7	08:48	08:03	06:55		06:33	05:19
	15:56	16:59	18:01		20:06	21:08
8	08:48	08:01	06:53		06:30	05:17
	15:58	17:01	18:03		20:08	21:10
9	08:47	07:58	06:50		06:28	05:15
	16:00	17:03	18:05		20:10	21:12
10	08:46	07:56	06:48		06:25	05:13
	16:01	17:05	18:07		20:12	21:14
11	08:45	09:22 (C14)	07:54		06:22	05:11
	16:03	1 09:23 (C14)	17:08		20:14	21:16
12	08:44	09:21 (C14)	07:52		06:20	05:09
	16:05	3 09:24 (C14)	17:10		20:16	21:18
13	08:43	09:19 (C14)	07:50		06:17	05:07
	16:06	5 09:24 (C14)	17:12		20:18	21:20
14	08:42	09:18 (C14)	07:47		06:15	05:05
	16:08	7 09:25 (C14)	17:14		20:20	21:22
15	08:41	09:17 (C14)	07:45		06:12	05:03
	16:10	9 09:26 (C14)	17:17		20:22	21:24
16	08:40	09:15 (C14)	07:43		06:09	05:01
	16:12	11 09:26 (C14)	17:19		20:24	21:26
17	08:39	09:14 (C14)	07:40		06:07	04:59
	16:14	13 09:27 (C14)	17:21		20:26	21:27
18	08:38	09:12 (C14)	07:38		06:04	04:57
	16:16	15 09:27 (C14)	17:23		20:28	21:29
19	08:36	09:11 (C14)	07:36		06:02	04:55
	16:18	16 09:27 (C14)	17:26		20:31	21:31
20	08:35	09:12 (C14)	07:33		05:59	04:53
	16:20	16 09:28 (C14)	17:28		20:33	21:33
21	08:33	09:12 (C14)	07:31	07:58 (C13)	06:18	05:57
	16:22	16 09:28 (C14)	17:30	3 08:01 (C13)	18:30	20:35
22	08:32	09:13 (C14)	07:28	07:55 (C13)	06:16	05:54
	16:24	15 09:28 (C14)	17:32	7 08:02 (C13)	18:32	20:37
23	08:30	09:14 (C14)	07:26	07:53 (C13)	06:13	05:52
	16:26	14 09:28 (C14)	17:34	10 08:03 (C13)	18:34	20:39
24	08:29	09:15 (C14)	07:23	07:50 (C13)	06:10	05:49
	16:28	12 09:27 (C14)	17:37	13 08:03 (C13)	18:36	20:41
25	08:27	09:17 (C14)	07:21	07:48 (C13)	06:08	05:47
	16:30	9 09:26 (C14)	17:39	16 08:04 (C13)	18:39	20:43
26	08:26	09:19 (C14)	07:18	07:47 (C13)	06:05	05:44
	16:32	6 09:25 (C14)	17:41	16 08:03 (C13)	18:41	20:45
27	08:24		07:16	07:47 (C13)	06:02	05:42
	16:34		17:43	15 08:02 (C13)	18:43	20:47
28	08:22		07:13	07:48 (C13)	06:00	05:40
	16:37		17:45	14 08:02 (C13)	18:45	20:49
29	08:20				06:57	05:37
	16:39				19:47	20:51
30	08:19				06:54	05:35
	16:41				19:49	20:53
31	08:17				06:52	04:37
	16:43				19:51	21:51
Potential sun hours	235	266	366		426	508
Total, worst case	168	94	16			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.63	0.63			
Total reduction	0.08	0.12	0.25			
Total, real	13	11	4			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ievinas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (142)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36	08:24 15:45 09:04 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43		07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40		07:34 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38		07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35		07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33		07:40 16:19	08:37 15:39
10	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30		07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27		07:44 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	8	08:24 (C13) 08:32 (C13)	07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	12	08:21 (C13) 08:33 (C13)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	14	08:21 (C13) 08:35 (C13)	07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	15	08:20 (C13) 08:35 (C13)	07:53 16:08
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	16	08:19 (C13) 08:35 (C13)	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	15	08:20 (C13) 08:35 (C13)	07:57 16:04
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	12	08:22 (C13) 08:34 (C13)	07:59 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	9	08:25 (C13) 08:34 (C13)	08:01 16:01
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	6	08:27 (C13) 08:33 (C13)	08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	2	08:29 (C13) 08:31 (C13)	08:05 15:58
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56	08:07 15:56
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	08:09 15:55
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	08:11 15:53
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	08:13 15:52
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50		08:15 15:51	08:15 15:51
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:49	08:17 15:49
28	05:08 21:36	06:09 20:25	07:11 19:02	08:14 16:45		08:19 15:48	08:19 15:48
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	08:21 15:47
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41		08:23 15:46	08:23 15:46
31	05:14 21:30	06:15 20:17		08:20 16:38			08:25 15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				109		168	1
Sun reduction				0.26		0.08	0.07
Oper. time red.				0.98		0.98	0.98
Wind dir. red.				0.63		0.59	0.59
Total reduction				0.16		0.05	0.04
Total, real				17		8	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Irbites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (167)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:48 19:53	05:32 20:55	04:35 21:53	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:06 17:52	06:43 19:57	05:28 21:00	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:51	08:09 16:52	07:03 17:54	06:40 19:59	05:25 21:02	04:32 21:57	04:32 22:08	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:36 16:23	08:34 15:40
8	08:48 15:57	08:00 17:01	06:53 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:10	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:27 22:03	04:39 22:03	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:41 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:37
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:43 17:18	06:31 18:19	06:09 20:24	05:00 21:26	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:06 20:26	04:58 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:37
18	08:38 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:53	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:10	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 17:30	06:18 18:30	05:56 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:49 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:11	05:00 21:43	06:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:11	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:26 22:11	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:40 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:47	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:10	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jasmini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (93)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:33	04:36
	15:48	16:45	17:48	19:53	20:56	21:53
2	08:51	08:13	07:08	06:46	05:30	04:35
	15:50	16:48	17:50	19:55	20:58	21:54
3	08:50	08:11	07:06	06:44	05:28	04:34
	15:51	16:50	17:52	19:57	21:00	21:55
4	08:50	08:09	07:03	06:41	05:26	04:33
	15:52	16:52	17:54	19:59	21:02	21:57
5	08:49	08:07	07:01	06:38	05:24	04:32
	15:54	16:54	17:56	20:01	21:04	21:58
6	08:49	08:05	06:58	06:36	05:21	04:31
	15:55	16:57	17:58	20:04	21:06	21:59
7	08:48	08:03	06:55	06:33	05:19	04:30
	15:56	16:59	18:01	20:06	21:08	22:00
8	08:48	08:01	06:53	06:30	05:17	04:29
	15:58	17:01	18:03	20:08	21:10	22:01
9	08:47	07:58	06:50	06:28	05:15	04:29
	16:00	17:03	18:05	20:10	21:12	22:02
10	08:46	07:56	06:48	06:25	05:13	04:28
	16:01	17:05	18:07	20:12	21:14	22:03
11	08:45	07:54	06:45	06:22	05:11	04:27
	16:03	17:08	18:09	20:14	21:16	22:04
12	08:44	07:52	06:42	06:20	05:09	04:27
	16:05	17:10	18:11	20:16	21:18	22:05
13	08:43	07:50	06:40	06:17	05:07	04:27
	16:06	17:12	18:13	20:18	21:20	22:06
14	08:42	07:47	06:37	07:02 (C13)	06:15	05:05
	16:08	17:14	18:16	07:03 (C13)	20:20	21:22
15	08:41	07:45	06:34	07:00 (C13)	06:12	05:03
	16:10	17:17	18:18	07:05 (C13)	20:22	21:24
16	08:40	07:43	06:32	06:57 (C13)	06:09	05:01
	16:12	17:19	18:20	07:06 (C13)	20:24	21:26
17	08:39	07:40	06:29	06:54 (C13)	06:07	04:59
	16:14	17:21	18:22	07:06 (C13)	20:26	21:27
18	08:38	07:38	06:26	06:52 (C13)	06:04	04:57
	16:16	17:23	18:24	07:06 (C13)	20:28	21:29
19	08:36	07:36	06:24	06:49 (C13)	06:02	04:55
	16:18	17:26	18:26	07:05 (C13)	20:31	21:31
20	08:35	07:33	06:21	06:49 (C13)	05:59	04:53
	16:20	17:28	18:28	07:04 (C13)	20:33	21:33
21	08:33	07:31	06:18	06:49 (C13)	05:57	04:52
	16:22	17:30	18:30	07:03 (C13)	20:35	21:35
22	08:32	07:28	06:16	06:51 (C13)	05:54	04:50
	16:24	17:32	18:32	07:02 (C13)	20:37	21:37
23	08:30	07:26	06:13	06:53 (C13)	05:52	04:48
	16:26	17:35	18:34	06:58 (C13)	20:39	21:38
24	08:29	07:23	06:10	05:49	04:47	04:26
	16:28	17:37	18:36	20:41	21:40	22:10
25	08:27	07:21	06:08	05:47	04:45	04:27
	16:30	17:39	18:39	20:43	21:42	22:10
26	08:26	07:18	06:05	05:45	04:44	04:27
	16:32	17:41	18:41	20:45	21:43	22:10
27	08:24	07:16	06:02	05:42	04:42	04:27
	16:34	17:43	18:43	20:47	21:45	22:10
28	08:22	07:13	06:00	05:40	04:41	04:28
	16:37	17:45	18:45	20:49	21:47	22:10
29	08:20		06:57	05:37	04:40	04:29
	16:39		19:47	20:51	21:48	22:10
30	08:19		06:54	05:35	04:38	04:29
	16:41		19:49	20:53	21:50	22:09
31	08:17		06:52		04:37	
	16:43		19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		151	102			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.62	0.64			
Total reduction		0.12	0.26			
Total, real		18	26			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jasmini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (93)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	07:55 (C14) 08:12 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	07:57 (C14) 08:11 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:00 (C14) 08:11 (C14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:02 (C14) 08:10 (C14)
5	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:05 (C14) 08:10 (C14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:07 (C14) 08:08 (C14)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:40 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 17:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 17:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 17:46	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:44	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:41	08:23 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		08:19 17:38	08:25 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			101	92	56	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.64	0.62	0.62	
Total reduction			0.27	0.15	0.05	
Total, real			27	14	3	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunberzi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (189)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	07:14 (C15) 20:55	06:19 (C14) 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	07:11 (C15) 20:57	06:19 (C14) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	07:11 (C15) 21:00	06:19 (C14) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:10 (C15) 21:02	06:19 (C14) 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	07:10 (C15) 21:04	06:20 (C14) 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	07:11 (C15) 21:06	06:20 (C14) 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	07:11 (C15) 21:08	06:21 (C14) 22:00
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	07:12 (C15) 21:10	06:22 (C14) 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	07:14 (C15) 21:12	06:23 (C14) 22:02
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	07:22 (C15) 21:14	06:43 (C14) 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	06:26 (C14) 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	06:29 (C14) 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	06:36 (C14) 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:25	04:26 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:30	06:31 (C14) 21:31	04:55 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	06:00 20:33	06:29 (C14) 21:33	04:54 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:44 (C14) 21:35	04:52 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	06:25 (C14) 21:36	04:50 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	06:47 (C14) 21:38	04:49 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	06:22 (C14) 21:40	04:47 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	06:48 (C14) 21:42	05:19 (C13) 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	06:21 (C14) 21:44	05:20 (C13) 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:43 20:47	06:49 (C14) 21:45	05:18 (C13) 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:41 20:49	06:20 (C14) 21:47	05:21 (C13) 22:10
29	08:20 16:39	06:57 19:47	05:57 19:47	05:37 20:51	06:20 (C14) 21:48	05:17 (C13) 22:10
30	08:18 16:41	06:54 19:49	05:54 19:49	05:35 20:53	06:19 (C14) 21:50	05:23 (C13) 22:10
31	08:17 16:43	06:52 19:51	05:52 19:51	05:33 20:55	06:50 (C14) 21:51	05:25 (C13) 22:09
Potential sun hours	235	266	366	426	508	528
Total, worst case			113	437	336	555
Sun reduction			0.41	0.50	0.57	0.56
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.65	0.65	0.65	0.67
Total reduction			0.26	0.32	0.36	0.37
Total, real			29	139	122	203

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunberzi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (189)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July			August			September			October	November	December
1	04:30	05:13 (C13)	05:16	06:39 (C14)	06:17				07:17	07:23	08:24	
	22:09	19	05:32 (C13)	21:28	10	06:49 (C14)	20:14		18:54	16:36	15:45	
2	04:31	05:13 (C13)	05:18	06:35 (C14)	06:19				07:19	07:25	08:26	
	22:08	19	05:32 (C13)	21:26	15	06:50 (C14)	20:11		18:51	16:34	15:44	
3	04:32	05:13 (C13)	05:20	06:34 (C14)	06:21			07:12 (C15)	07:21	07:27	08:28	
	22:08	19	05:32 (C13)	21:24	18	06:52 (C14)	20:09	8	07:20 (C15)	18:48	16:32	15:43
4	04:33	05:13 (C13)	05:22	06:33 (C14)	06:23				07:09 (C15)	07:23	07:29	08:29
	22:07	19	05:32 (C13)	21:22	21	06:54 (C14)	20:06	13	07:22 (C15)	18:46	16:30	15:43
5	04:34	05:13 (C13)	05:24	06:32 (C14)	06:25				07:08 (C15)	07:25	07:31	08:31
	22:07	20	05:33 (C13)	21:20	23	06:55 (C14)	20:03	15	07:23 (C15)	18:43	16:27	15:42
6	04:35	05:14 (C13)	05:25	06:30 (C14)	06:27				07:07 (C15)	07:28	07:33	08:32
	22:06	19	05:33 (C13)	21:17	25	06:55 (C14)	20:01	17	07:24 (C15)	18:40	16:25	15:41
7	04:36	05:14 (C13)	05:27	06:30 (C14)	06:29				07:05 (C15)	07:30	07:36	08:34
	22:05	19	05:33 (C13)	21:15	26	06:56 (C14)	19:58	18	07:23 (C15)	18:38	16:23	15:40
8	04:37	05:14 (C13)	05:29	06:29 (C14)	06:31				07:04 (C15)	07:32	07:38	08:35
	22:04	19	05:33 (C13)	21:13	27	06:56 (C14)	19:56	19	07:23 (C15)	18:35	16:21	15:40
9	04:38	05:15 (C13)	05:31	06:29 (C14)	06:33				07:04 (C15)	07:34	07:40	08:37
	22:03	18	05:33 (C13)	21:11	28	06:57 (C14)	19:53	19	07:23 (C15)	18:33	16:19	15:39
10	04:40	05:16 (C13)	05:33	06:28 (C14)	06:35				07:04 (C15)	07:36	07:42	08:38
	22:02	17	05:33 (C13)	21:08	29	06:57 (C14)	19:50	19	07:23 (C15)	18:30	16:17	15:39
11	04:41	05:18 (C13)	05:35	06:28 (C14)	06:37				07:06 (C15)	07:38	07:44	08:39
	22:01	16	05:34 (C13)	21:06	30	06:58 (C14)	19:47	16	07:22 (C15)	18:27	16:15	15:39
12	04:42	05:19 (C13)	05:37	06:27 (C14)	06:39				07:08 (C15)	07:40	07:46	08:40
	22:00	15	05:34 (C13)	21:04	30	06:57 (C14)	19:45	13	07:21 (C15)	18:25	16:13	15:38
13	04:44	05:20 (C13)	05:39	06:27 (C14)	06:41				07:10 (C15)	07:42	07:49	08:42
	21:59	13	05:33 (C13)	21:02	30	06:57 (C14)	19:42	10	07:20 (C15)	18:22	16:11	15:38
14	04:45	05:21 (C13)	05:41	06:27 (C14)	06:43				07:12 (C15)	07:44	07:51	08:43
	21:58	12	05:33 (C13)	20:59	30	06:57 (C14)	19:39	6	07:18 (C15)	18:20	16:10	15:38
15	04:46	05:23 (C13)	05:43	06:27 (C14)	06:45					07:46	07:53	08:44
	21:57	10	05:33 (C13)	20:57	30	06:57 (C14)	19:37			18:17	16:08	15:38
16	04:48	05:24 (C13)	05:45	06:27 (C14)	06:47					07:48	07:55	08:45
	21:55	9	05:33 (C13)	20:54	29	06:56 (C14)	19:34			18:15	16:06	15:38
17	04:49	05:25 (C13)	05:47	06:27 (C14)	06:49					07:50	07:57	08:46
	21:54	7	05:32 (C13)	20:52	29	06:56 (C14)	19:31			18:12	16:04	15:38
18	04:51	05:27 (C13)	05:49	06:28 (C14)	06:51			07:32 (C16)	07:52	07:59	08:46	
	21:52	5	05:32 (C13)	20:50	27	06:55 (C14)	19:29	6	07:38 (C16)	18:09	16:03	15:38
19	04:53	05:28 (C13)	05:51	06:28 (C14)	06:53				07:30 (C16)	07:55	08:01	08:47
	21:51	2	05:30 (C13)	20:47	26	06:54 (C14)	19:26	10	07:40 (C16)	18:07	16:01	15:38
20	04:54		05:53	06:28 (C14)	06:55				07:28 (C16)	07:57	08:03	08:48
	21:49		20:45	25	06:53 (C14)	19:23	13	07:41 (C16)	18:04	15:59	15:39	
21	04:56		05:55	06:29 (C14)	06:57				07:27 (C16)	07:59	08:05	08:48
	21:48		20:42	22	06:51 (C14)	19:21	15	07:42 (C16)	18:02	15:58	15:39	
22	04:58		05:57	06:31 (C14)	06:59				07:28 (C16)	08:01	08:07	08:49
	21:46		20:40	19	06:50 (C14)	19:18	14	07:42 (C16)	18:00	15:56	15:40	
23	04:59		05:59	06:33 (C14)	07:01				07:30 (C16)	08:03	08:09	08:49
	21:45		20:37	15	06:48 (C14)	19:15	11	07:41 (C16)	17:57	15:55	15:40	
24	05:01		06:01	06:36 (C14)	07:03				07:32 (C16)	08:05	08:11	08:50
	21:43		20:35	8	06:44 (C14)	19:12	9	07:41 (C16)	17:55	15:53	15:41	
25	05:03		06:03		07:05				07:34 (C16)	07:07	08:13	08:50
	21:41		20:32		19:10		6	07:40 (C16)	16:52	15:52	15:41	
26	05:05		06:05		07:07				07:36 (C16)	07:10	08:15	08:51
	21:39		20:30		19:07		2	07:38 (C16)	16:50	15:51	15:42	
27	05:06		06:07		07:09				07:12	08:17	08:51	
	21:38		20:27		19:04				16:48	15:50	15:43	
28	05:08		06:09		07:11				07:14	08:19	08:51	
	21:36		20:24		19:02				16:45	15:48	15:44	
29	05:10		06:11		07:13				07:16	08:21	08:51	
	21:34		20:22		18:59				16:43	15:47	15:45	
30	05:12		06:13		07:15				07:18	08:22	08:51	
	21:32		20:19		18:56				16:41	15:46	15:46	
31	05:14		06:15						07:20		08:51	
	21:30		20:17						16:38		15:47	
Potential sun hours	529		469		385				324	247	216	
Total, worst case		277		572		259						
Sun reduction		0.49		0.50		0.43						
Oper. time red.		0.98		0.98		0.98						
Wind dir. red.		0.67		0.65		0.65						
Total reduction		0.32		0.32		0.27						
Total, real		89		181		71						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaundruvas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (23)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March		April		May		June	
1	08:51	08:15	07:11		06:49		05:32		04:36	05:10 (C17)
	15:48	16:45	17:47		19:53		20:55		21:53	18 05:28 (C17)
2	08:50	08:13	07:08		06:46		05:30		04:35	05:09 (C17)
	15:49	16:47	17:50		19:55		20:57		21:54	19 05:28 (C17)
3	08:50	08:11	07:06		06:43		05:28		04:34	05:09 (C17)
	15:51	16:50	17:52		19:57		21:00		21:55	19 05:28 (C17)
4	08:50	08:09	07:03		06:41	07:21 (C1)	05:26		04:33	05:09 (C17)
	15:52	16:52	17:54		19:59	5 07:26 (C1)	21:02		21:57	20 05:29 (C17)
5	08:49	08:07	07:00		06:38	07:15 (C1)	05:23		04:32	05:10 (C17)
	15:53	16:54	17:56		20:01	15 07:30 (C1)	21:04		21:58	20 05:30 (C17)
6	08:49	08:05	06:58		06:35	07:01 (C2)	05:21		04:31	05:09 (C17)
	15:55	16:56	17:58		20:03	25 07:33 (C1)	21:06		21:59	20 05:29 (C17)
7	08:48	08:03	06:55		06:33	06:58 (C2)	05:19		04:30	05:09 (C17)
	15:56	16:59	18:00		20:05	34 07:35 (C1)	21:08		22:00	20 05:29 (C17)
8	08:48	08:00	06:53		06:30	06:55 (C2)	05:17		04:29	05:10 (C17)
	15:58	17:01	18:03		20:08	39 07:35 (C1)	21:10		22:01	20 05:30 (C17)
9	08:47	07:58	06:50		06:27	06:53 (C2)	05:15		04:28	05:10 (C17)
	15:59	17:03	18:05	6 07:22 (C4)	20:10	44 07:37 (C1)	21:12		22:02	20 05:30 (C17)
10	08:46	07:56	06:47		07:13 (C4)	06:25	05:13		04:28	05:10 (C17)
	16:01	17:05	18:07	10 07:23 (C4)	20:12	47 07:37 (C1)	21:14		22:03	21 05:31 (C17)
11	08:45	07:54	06:45		07:10 (C4)	06:22	05:10		04:27	05:10 (C17)
	16:03	17:08	18:09	14 07:24 (C4)	20:14	48 07:38 (C1)	21:16		22:04	20 05:30 (C17)
12	08:44	07:52	06:42		07:08 (C4)	06:20	05:08		04:27	05:10 (C17)
	16:04	17:10	18:11	17 07:25 (C4)	20:16	48 07:38 (C1)	21:18		22:05	21 05:31 (C17)
13	08:43	07:49	06:39		07:06 (C4)	06:17	05:06		04:26	05:11 (C17)
	16:06	17:12	18:13	19 07:25 (C4)	20:18	49 07:39 (C1)	21:20		22:06	20 05:31 (C17)
14	08:42	07:47	06:37		07:05 (C4)	06:14	05:04		04:26	05:10 (C17)
	16:08	17:14	18:15	20 07:25 (C4)	20:20	48 07:38 (C1)	21:22		22:07	20 05:30 (C17)
15	08:41	07:45	06:34		07:05 (C4)	06:12	05:02		04:26	05:11 (C17)
	16:10	17:17	18:17	19 07:24 (C4)	20:22	47 07:39 (C1)	21:24		22:07	20 05:31 (C17)
16	08:40	07:43	06:32		07:05 (C4)	06:09	05:01		04:25	05:11 (C17)
	16:12	17:19	18:20	19 07:24 (C4)	20:24	45 07:38 (C1)	21:25		22:08	20 05:31 (C17)
17	08:39	07:40	06:29		07:05 (C4)	06:07	04:59		04:25	05:12 (C17)
	16:14	17:21	18:22	18 07:23 (C4)	20:26	37 07:38 (C1)	21:27		22:08	19 05:31 (C17)
18	08:37	07:38	06:26		07:06 (C4)	06:04	04:57		04:25	05:12 (C17)
	16:16	17:23	18:24	16 07:22 (C4)	20:28	36 07:37 (C1)	21:29		22:09	20 05:32 (C17)
19	08:36	07:35	06:23		07:08 (C4)	06:02	04:55		04:25	05:12 (C17)
	16:18	17:25	18:26	13 07:21 (C4)	20:30	36 07:37 (C1)	21:31		22:09	20 05:32 (C17)
20	08:35	07:33	06:21		07:09 (C4)	05:59	04:53		04:25	05:12 (C17)
	16:20	17:28	18:28	9 07:18 (C4)	20:33	35 07:36 (C1)	21:33		22:10	20 05:32 (C17)
21	08:33	07:31	06:18		05:57	07:01 (C1)	04:52		04:25	05:12 (C17)
	16:22	17:30	18:30		20:35	34 07:35 (C1)	21:35		22:10	20 05:32 (C17)
22	08:32	07:28	06:15		05:54	07:02 (C1)	04:50		04:25	05:13 (C17)
	16:24	17:32	18:32		20:37	33 07:35 (C1)	21:37		22:10	20 05:33 (C17)
23	08:30	07:26	06:13		05:52	07:02 (C1)	04:48		04:26	05:13 (C17)
	16:26	17:34	18:34		20:39	31 07:33 (C1)	21:38		22:10	20 05:33 (C17)
24	08:29	07:23	06:10		05:49	07:03 (C1)	04:47	05:19 (C17)	04:26	05:13 (C17)
	16:28	17:37	18:36		20:41	30 07:33 (C1)	21:40	2 05:21 (C17)	22:10	20 05:33 (C17)
25	08:27	07:21	06:07		05:47	07:04 (C1)	04:45	05:18 (C17)	04:26	05:14 (C17)
	16:30	17:39	18:38		20:43	27 07:31 (C1)	21:42	5 05:23 (C17)	22:10	19 05:33 (C17)
26	08:26	07:18	06:05		05:44	07:04 (C1)	04:44	05:17 (C17)	04:27	05:13 (C17)
	16:32	17:41	18:40		20:45	25 07:29 (C1)	21:43	8 05:25 (C17)	22:10	20 05:33 (C17)
27	08:24	07:16	06:02		05:42	07:06 (C1)	04:42	05:15 (C17)	04:27	05:14 (C17)
	16:34	17:43	18:43		20:47	22 07:28 (C1)	21:45	10 05:25 (C17)	22:10	20 05:34 (C17)
28	08:22	07:13	05:59		05:39	07:08 (C1)	04:41	05:14 (C17)	04:28	05:14 (C17)
	16:36	17:45	18:45		20:49	18 07:26 (C1)	21:47	12 05:26 (C17)	22:10	20 05:34 (C17)
29	08:20		06:57		05:37	07:11 (C1)	04:39	05:13 (C17)	04:28	05:14 (C17)
	16:39		19:47		20:51	12 07:23 (C1)	21:48	14 05:27 (C17)	22:10	20 05:34 (C17)
30	08:18		06:54		05:35		04:38	05:12 (C17)	04:29	05:15 (C17)
	16:41		19:49		20:53		21:50	15 05:27 (C17)	22:09	20 05:35 (C17)
31	08:17		06:51				04:37	05:11 (C17)		
	16:43		19:51				21:51	17 05:28 (C17)		
Potential sun hours	235	266	366		426		508		529	
Total, worst case			180		870		83		596	
Sun reduction			0.41		0.50		0.57		0.56	
Oper. time red.			0.98		0.98		0.98		0.98	
Wind dir. red.			0.63		0.66		0.67		0.67	
Total reduction			0.25		0.32		0.37		0.37	
Total, real			45		280		31		218	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaundruvas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (23)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December	
1	04:30	05:14 (C17)	05:16	06:17	06:49 (C2)	07:17	07:46 (C4)	07:23	08:24		
	22:09	20 05:34 (C17)	21:28	20:14	48 07:37 (C1)	18:54	19 08:05 (C4)	16:36	15:45		
2	04:31	05:15 (C17)	05:17	06:19	06:49 (C2)	07:19	07:48 (C4)	07:25	08:26		
	22:09	20 05:35 (C17)	21:26	20:11	47 07:36 (C1)	18:51	16 08:04 (C4)	16:34	15:44		
3	04:32	05:15 (C17)	05:19	06:21	06:51 (C2)	07:21	07:50 (C4)	07:27	08:28		
	22:08	20 05:35 (C17)	21:24	20:09	44 07:35 (C1)	18:48	12 08:02 (C4)	16:31	15:43		
4	04:33	05:15 (C17)	05:21	06:23	06:53 (C2)	07:23	07:52 (C4)	07:29	08:29		
	22:07	20 05:35 (C17)	21:22	20:06	39 07:33 (C1)	18:46	8 08:00 (C4)	16:29	15:42		
5	04:33	05:15 (C17)	05:23	06:25	06:54 (C2)	07:25	07:54 (C4)	07:31	08:31		
	22:07	21 05:36 (C17)	21:19	20:03	34 07:31 (C1)	18:43	3 07:57 (C4)	16:27	15:41		
6	04:35	05:16 (C17)	05:25	06:27	06:56 (C2)	07:27		07:33	08:32		
	22:06	20 05:36 (C17)	21:17	20:01	26 07:29 (C1)	18:40		16:25	15:41		
7	04:36	05:16 (C17)	05:27	06:29	07:10 (C1)	07:29		07:36	08:34		
	22:05	20 05:36 (C17)	21:15	19:58	16 07:26 (C1)	18:38		16:23	15:40		
8	04:37	05:16 (C17)	05:29	06:31	07:14 (C1)	07:32		07:38	08:35		
	22:04	20 05:36 (C17)	21:13	19:55	7 07:21 (C1)	18:35		16:21	15:40		
9	04:38	05:16 (C17)	05:31	06:33		07:34		07:40	08:37		
	22:03	20 05:36 (C17)	21:11	19:53		18:32		16:19	15:39		
10	04:39	05:16 (C17)	05:33	06:35		07:36		07:42	08:38		
	22:02	20 05:36 (C17)	21:08	19:50		18:30		16:17	15:39		
11	04:41	05:17 (C17)	05:35	06:37		07:38		07:44	08:39		
	22:01	19 05:36 (C17)	21:06	19:47		18:27		16:15	15:38		
12	04:42	05:19 (C17)	05:37	06:39		07:40		07:46	08:40		
	22:00	17 05:36 (C17)	21:04	19:45		18:25		16:13	15:38		
13	04:43	05:20 (C17)	05:39	07:24 (C1)	06:41	07:42		07:49	08:42		
	21:59	16 05:36 (C17)	21:01	1 07:25 (C1)	19:42	18:22		16:11	15:38		
14	04:45	05:21 (C17)	05:41	07:18 (C1)	06:43	07:44		07:51	08:43		
	21:58	14 05:35 (C17)	20:59	13 07:31 (C1)	19:39	18:19		16:09	15:38		
15	04:46	05:22 (C17)	05:43	07:15 (C1)	06:45	07:46		07:53	08:44		
	21:57	13 05:35 (C17)	20:57	19 07:34 (C1)	19:37	18:17		16:07	15:38		
16	04:48	05:24 (C17)	05:45	07:13 (C1)	06:47	07:48		07:55	08:45		
	21:55	11 05:35 (C17)	20:54	23 07:36 (C1)	19:34	18:14		16:06	15:38		
17	04:49	05:25 (C17)	05:47	07:11 (C1)	06:49	07:50		07:57	08:46		
	21:54	9 05:34 (C17)	20:52	25 07:36 (C1)	19:31	18:12		16:04	15:38		
18	04:51	05:27 (C17)	05:49	07:09 (C1)	06:51	07:52		07:59	08:46		
	21:52	7 05:34 (C17)	20:50	28 07:37 (C1)	19:29	18:09		16:02	15:38		
19	04:52	05:28 (C17)	05:51	07:08 (C1)	06:53	07:55		08:01	08:47		
	21:51	4 05:32 (C17)	20:47	30 07:38 (C1)	19:26	18:07		16:01	15:38		
20	04:54	05:30 (C17)	05:53	07:07 (C1)	06:55	07:57		08:03	08:48		
	21:49	1 05:31 (C17)	20:45	32 07:39 (C1)	19:23	18:04		15:59	15:38		
21	04:56		05:55	07:06 (C1)	06:57	07:59		08:05	08:48		
	21:48		20:42	34 07:40 (C1)	19:20	18:02		15:58	15:39		
22	04:57		05:57	07:06 (C1)	06:59	08:01		08:07	08:49		
	21:46		20:40	34 07:40 (C1)	19:18	17:59		15:56	15:39		
23	04:59		05:59	07:05 (C1)	07:01	08:03		08:09	08:50		
	21:45		20:37	36 07:41 (C1)	19:15	6 08:00 (C4)	17:57	15:55	15:40		
24	05:01		06:01	07:05 (C1)	07:03	08:05		08:11	08:50		
	21:43		20:35	36 07:41 (C1)	19:12	12 08:03 (C4)	17:55	15:53	15:40		
25	05:03		06:03	07:04 (C1)	07:05	08:07		08:13	08:50		
	21:41		20:32	37 07:41 (C1)	19:10	15 08:04 (C4)	16:52	15:52	15:41		
26	05:04		06:05	07:03 (C1)	07:07	08:09		08:15	08:51		
	21:39		20:29	37 07:40 (C1)	19:07	18 08:06 (C4)	16:50	15:51	15:42		
27	05:06		06:07	06:54 (C2)	07:09	08:11		08:17	08:51		
	21:38		20:27	46 07:40 (C1)	19:04	19 08:06 (C4)	16:47	15:49	15:43		
28	05:08		06:09	06:52 (C2)	07:11	08:13		08:19	08:51		
	21:36		20:24	47 07:39 (C1)	19:02	19 08:06 (C4)	16:45	15:48	15:44		
29	05:10		06:11	06:51 (C2)	07:13	08:15		08:21	08:51		
	21:34		20:22	48 07:39 (C1)	18:59	20 08:06 (C4)	16:43	15:47	15:44		
30	05:12		06:13	06:50 (C2)	07:15	08:17		08:22	08:51		
	21:32		20:19	49 07:39 (C1)	18:56	19 08:05 (C4)	16:40	15:46	15:45		
31	05:14		06:15	06:49 (C2)		07:20			08:51		
	21:30		20:17	49 07:38 (C1)		16:38			15:47		
Potential sun hours	529		469	385		324		247	216		
Total, worst case		312		624			58				
Sun reduction		0.49		0.50			0.26				
Oper. time red.		0.98		0.98			0.98				
Wind dir. red.		0.67		0.66			0.63				
Total reduction		0.32		0.32			0.16				
Total, real		101		200		105	9				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaundruvas 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (113)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:32	06:39 (C1)   04:36
	15:48	16:45	17:47	19:53	20:55	39 07:18 (C1)   21:53
2	08:50	08:13	07:08	06:46	05:30	06:39 (C1)   04:35
	15:49	16:47	17:50	19:55	20:57	38 07:17 (C1)   21:54
3	08:50	08:11	07:06	06:43	05:28	06:40 (C1)   04:34
	15:51	16:50	17:52	19:57	21:00	37 07:17 (C1)   21:55
4	08:50	08:09	07:03	06:41	05:26	06:40 (C1)   04:33
	15:52	16:52	17:54	19:59	21:02	36 07:16 (C1)   21:57
5	08:49	08:07	07:00	06:38	05:23	06:41 (C1)   04:32
	15:53	16:54	17:56	20:01	21:04	35 07:16 (C1)   21:58
6	08:49	08:05	06:58	06:35	05:21	06:42 (C1)   04:31
	15:55	16:56	17:58	20:03	21:06	33 07:15 (C1)   21:59
7	08:48	08:03	06:55	07:21 (C6)   06:33	05:19	06:42 (C1)   04:30
	15:56	16:59	18:00	1 07:22 (C6)   20:05	21:08	32 07:14 (C1)   22:00
8	08:48	08:00	06:53	07:18 (C6)   06:30	05:17	06:43 (C1)   04:29
	15:58	17:01	18:03	5 07:23 (C6)   20:08	21:10	30 07:13 (C1)   22:01
9	08:47	07:58	06:50	07:16 (C6)   06:27	05:15	06:44 (C1)   04:28
	15:59	17:03	18:05	9 07:25 (C6)   20:10	21:12	27 07:11 (C1)   22:02
10	08:46	07:56	06:47	07:13 (C6)   06:25	05:13	06:45 (C1)   04:28
	16:01	17:05	18:07	11 07:24 (C6)   20:12	5 06:55 (C2)   21:14	25 07:10 (C1)   22:03
11	08:45	07:54	06:45	07:10 (C6)   06:22	05:10	06:46 (C1)   04:27
	16:03	17:08	18:09	14 07:24 (C6)   20:14	9 06:57 (C2)   21:16	22 07:08 (C1)   22:04
12	08:44	07:52	06:42	07:08 (C4)   06:20	05:08	06:48 (C1)   04:27
	16:04	17:10	18:11	16 07:24 (C6)   20:16	12 06:57 (C2)   21:18	18 07:06 (C1)   22:05
13	08:43	07:49	06:39	07:05 (C4)   06:17	05:06	06:50 (C1)   04:26
	16:06	17:12	18:13	18 07:23 (C6)   20:18	21 07:06 (C1)   21:20	13 07:03 (C1)   22:06
14	08:42	07:47	06:37	07:02 (C4)   06:14	05:04	06:56 (C1)   04:26
	16:08	17:14	18:15	20 07:22 (C6)   20:20	30 07:10 (C1)   21:22	3 06:59 (C1)   22:07
15	08:41	07:45	06:34	06:59 (C4)   06:12	05:02	06:40 (C2)   05:02
	16:10	17:17	18:17	20 07:19 (C6)   20:22	33 07:13 (C1)   21:24	22:07
16	08:40	07:43	06:31	06:58 (C4)   06:09	05:01	04:25
	16:12	17:19	18:20	20 07:18 (C4)   20:24	35 07:14 (C1)   21:25	22:08
17	08:39	07:40	06:29	06:57 (C4)   06:07	04:59	04:25
	16:14	17:21	18:22	21 07:18 (C4)   20:26	37 07:16 (C1)   21:27	22:08
18	08:37	07:38	06:26	06:56 (C4)   06:04	04:57	04:25
	16:16	17:23	18:24	21 07:17 (C4)   20:28	38 07:17 (C1)   21:29	22:09
19	08:36	07:35	06:23	06:57 (C4)   06:02	04:55	04:25
	16:18	17:25	18:26	20 07:17 (C4)   20:30	38 07:18 (C1)   21:31	22:09
20	08:35	07:33	06:21	06:57 (C4)   05:59	04:53	04:25
	16:20	17:28	18:28	19 07:16 (C4)   20:33	37 07:18 (C1)   21:33	22:10
21	08:33	07:31	06:18	06:57 (C4)   05:57	04:52	04:25
	16:22	17:30	18:30	18 07:15 (C4)   20:35	37 07:19 (C1)   21:35	22:10
22	08:32	07:28	06:15	06:58 (C4)   05:54	04:50	04:25
	16:24	17:32	18:32	16 07:14 (C4)   20:37	38 07:20 (C1)   21:36	22:10
23	08:30	07:26	06:13	06:59 (C4)   05:52	04:48	04:26
	16:26	17:34	18:34	13 07:12 (C4)   20:39	38 07:19 (C1)   21:38	22:10
24	08:29	07:23	06:10	07:01 (C4)   05:49	04:47	04:26
	16:28	17:37	18:36	8 07:09 (C4)   20:41	40 07:20 (C1)   21:40	22:10
25	08:27	07:21	06:07	05:47	04:45	04:26
	16:30	17:39	18:38	20:43	40 07:20 (C1)   21:42	22:10
26	08:26	07:18	06:05	05:44	04:44	04:27
	16:32	17:41	18:40	20:45	40 07:19 (C1)   21:43	22:10
27	08:24	07:16	06:02	05:42	04:42	04:27
	16:34	17:43	18:43	20:47	40 07:19 (C1)   21:45	22:10
28	08:22	07:13	05:59	05:39	04:41	04:28
	16:36	17:45	18:45	20:49	40 07:19 (C1)   21:47	22:10
29	08:20		06:57	05:37	04:39	04:28
	16:39		19:47	20:51	39 07:19 (C1)   21:48	22:10
30	08:18		06:54	05:35	04:38	04:29
	16:41		19:49	20:53	39 07:18 (C1)   21:50	22:09
31	08:17		06:51		04:37	
	16:43		19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case			270	686	388	348
Sun reduction			0.41	0.50	0.57	0.56
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.63	0.66	0.66	0.67
Total reduction			0.25	0.32	0.36	0.36
Total, real			68	220	141	126

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaundruvas 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (113)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December	
1	04:30	05:07 (C17)	05:16	06:58 (C1)	06:17	06:47 (C2)	07:17	07:46 (C4)	07:23	08:24	
2	22:09	12 05:19 (C17)	21:28	19 07:17 (C1)	20:14	9 06:56 (C2)	18:54	17 08:03 (C6)	16:36	15:45	
3	04:31	05:08 (C17)	05:17	06:56 (C1)	06:19	06:49 (C2)	07:19	07:48 (C6)	07:25	08:26	
4	22:09	11 05:19 (C17)	21:26	23 07:19 (C1)	20:11	5 06:54 (C2)	18:51	15 08:03 (C6)	16:34	15:44	
5	04:32	05:09 (C17)	05:19	06:55 (C1)	06:21		07:21	07:50 (C6)	07:27	08:28	
6	22:08	11 05:20 (C17)	21:24	26 07:21 (C1)	20:09		18:48	13 08:03 (C6)	16:31	15:43	
7	04:33	05:10 (C17)	05:21	06:54 (C1)	06:23		07:23	07:52 (C6)	07:29	08:29	
8	22:07	10 05:20 (C17)	21:22	28 07:22 (C1)	20:06		18:46	10 08:02 (C6)	16:29	15:42	
9	04:33	05:11 (C17)	05:23	06:52 (C1)	06:25		07:25	07:54 (C6)	07:31	08:31	
10	22:07	8 05:19 (C17)	21:19	30 07:22 (C1)	20:03		18:43	7 08:01 (C6)	16:27	15:41	
11	04:35	05:12 (C17)	05:25	06:51 (C1)	06:27		07:27	07:56 (C6)	07:33	08:32	
12	22:06	7 05:19 (C17)	21:17	32 07:23 (C1)	20:01		18:40	3 07:59 (C6)	16:25	15:41	
13	04:36	05:13 (C17)	05:27	06:51 (C1)	06:29		07:29		07:36	08:34	
14	22:05	6 05:19 (C17)	21:15	33 07:24 (C1)	19:58		18:38		16:23	15:40	
15	04:37	05:14 (C17)	05:29	06:50 (C1)	06:31		07:32		07:38	08:35	
16	22:04	4 05:18 (C17)	21:13	35 07:25 (C1)	19:55		18:35		16:21	15:40	
17	04:38	05:15 (C17)	05:31	06:50 (C1)	06:33		07:34		07:40	08:37	
18	22:03	2 05:17 (C17)	21:11	36 07:26 (C1)	19:53		18:32		16:19	15:39	
19	04:39		05:33	06:48 (C1)	06:35		07:36		07:42	08:38	
20	22:02		21:08	37 07:25 (C1)	19:50		18:30		16:17	15:39	
21	04:41		05:35	06:48 (C1)	06:37		07:38		07:44	08:39	
22	22:01		21:06	38 07:26 (C1)	19:47		18:27		16:15	15:38	
23	04:42		05:37	06:47 (C1)	06:39		07:40		07:46	08:40	
24	22:00		21:04	39 07:26 (C1)	19:45		18:25		16:13	15:38	5 13:25 (C13)
25	04:43		05:39	06:47 (C1)	06:41		07:42		07:49	08:42	13:19 (C13)
26	21:59		21:01	40 07:27 (C1)	19:42		18:22		16:11	15:38	8 13:27 (C13)
27	04:45		05:41	06:47 (C1)	06:43		07:44		07:51	08:43	13:19 (C13)
28	21:58		20:59	40 07:27 (C1)	19:39		18:19		16:09	15:38	9 13:28 (C13)
29	04:46		05:43	06:47 (C1)	06:45		07:46		07:53	08:44	13:18 (C13)
30	21:57		20:57	40 07:27 (C1)	19:37		18:17		16:07	15:38	11 13:29 (C13)
31	04:48		05:45	06:47 (C1)	06:47		07:48		07:55	08:45	13:18 (C13)
32	21:55		20:54	40 07:27 (C1)	19:34		18:14		16:06	15:38	12 13:30 (C13)
33	04:49		05:47	06:46 (C1)	06:49		07:50		07:57	08:46	13:19 (C13)
34	21:54		20:52	40 07:26 (C1)	19:31		18:12		16:04	15:38	12 13:31 (C13)
35	04:51		05:49	06:46 (C1)	06:51		07:52		07:59	08:46	13:19 (C13)
36	21:52		20:50	39 07:25 (C1)	19:29		18:09		16:02	15:38	13 13:32 (C13)
37	04:52		05:51	06:46 (C1)	06:53		07:55		08:01	08:47	13:18 (C13)
38	21:51		20:47	39 07:25 (C1)	19:26	5 07:55 (C4)	18:07		16:01	15:38	14 13:32 (C13)
39	04:54		05:53	06:46 (C1)	06:55		07:57		08:03	08:48	13:19 (C13)
40	21:49		20:45	39 07:25 (C1)	19:23	12 07:58 (C4)	18:04		15:59	15:38	14 13:33 (C13)
41	04:56		05:55	06:47 (C1)	06:57		07:59		08:05	08:48	13:20 (C13)
42	21:48		20:42	37 07:24 (C1)	19:20	16 08:00 (C4)	18:02		15:58	15:39	14 13:34 (C13)
43	04:57		05:57	06:47 (C1)	06:59		07:42 (C4)	08:01	08:07	08:49	13:20 (C13)
44	21:46		20:40	36 07:23 (C1)	19:18	17 07:59 (C4)	17:59		15:56	15:39	14 13:34 (C13)
45	04:59		05:59	06:45 (C2)	07:01		07:41 (C4)	08:03	08:09	08:50	13:21 (C13)
46	21:45		20:37	37 07:22 (C1)	19:15	19 08:00 (C4)	17:57		15:55	15:40	14 13:35 (C13)
47	05:01		06:01	06:44 (C2)	07:03		07:40 (C4)	08:05	08:11	08:50	13:21 (C13)
48	21:43		20:35	37 07:21 (C1)	19:12	20 08:00 (C4)	17:55		15:53	15:40	14 13:35 (C13)
49	05:03		06:03	06:43 (C2)	07:05		07:39 (C4)	07:07	08:13	08:50	13:22 (C13)
50	21:41		20:32	37 07:20 (C1)	19:10	21 08:00 (C4)	16:52		15:52	15:41	13 13:35 (C13)
51	05:04		06:05	06:41 (C2)	07:07		07:39 (C4)	07:09	08:15	08:51	13:22 (C13)
52	21:39		20:29	37 07:18 (C1)	19:07	20 07:59 (C4)	16:50		15:51	15:42	13 13:35 (C13)
53	05:06		06:07	06:41 (C2)	07:09		07:40 (C4)	07:12	08:17	08:51	13:23 (C13)
54	21:38		20:27	35 07:16 (C1)	19:04	20 08:00 (C4)	16:47		15:49	15:43	12 13:35 (C13)
55	05:08		06:09	06:40 (C2)	07:11		07:40 (C4)	07:14	08:19	08:51	13:24 (C13)
56	21:36		20:24	34 07:14 (C1)	19:02	20 08:00 (C6)	16:45		15:48	15:44	11 13:35 (C13)
57	05:10		06:11	06:41 (C2)	07:13		07:42 (C4)	07:16	08:21	08:51	13:25 (C13)
58	21:34		20:22	30 07:11 (C1)	18:59	20 08:02 (C6)	16:43		15:47	15:44	10 13:35 (C13)
59	05:12		06:13	06:43 (C2)	07:15		07:44 (C4)	07:18	08:22	08:51	13:27 (C13)
60	21:32	9 07:12 (C1)	20:19	20 07:05 (C1)	18:56	19 08:03 (C6)	16:40		15:46	15:45	8 13:35 (C13)
61	05:14		07:01 (C1)	06:15	06:45 (C2)		07:20			08:51	13:28 (C13)
62	21:30	15 07:16 (C1)	20:17	12 06:57 (C2)			16:38			15:47	7 13:35 (C13)
Potential sun hours		529	469	385		324		247	216		
Total, worst case		95	1045	223		65				228	
Sun reduction		0.49	0.50	0.43		0.26				0.07	
Oper. time red.		0.98	0.98	0.98		0.98				0.98	
Wind dir. red.		0.66	0.66	0.63		0.63				0.64	
Total reduction		0.32	0.32	0.26		0.16				0.04	
Total, real		30	333	59		10				10	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunie Robežnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (222)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:50 15:48	08:14 16:45	07:11 17:47	06:49 19:53	05:32 20:55	19:57 (C16) 20:13 (C16)	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45	
2	08:50 15:49	08:12 16:47	07:08 17:50	06:46 19:55	05:30 20:57	19:58 (C16) 20:12 (C16)	04:35 21:54	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:26 15:44	
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	19:59 (C16) 20:11 (C16)	04:34 21:55	04:32 22:08	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43	
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	20:01 (C16) 20:09 (C16)	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42	
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03		04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42	
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05		04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41	
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07		04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40	
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09		04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40	
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11		04:28 22:02	04:38 22:03	05:31 21:10	20:10 (C16) 20:19 (C16)	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:13 21:13		04:28 22:03	04:39 22:02	05:33 21:08	20:07 (C16) 20:19 (C16)	06:35 19:50	07:35 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:15		04:27 22:04	04:41 22:01	05:35 21:06	20:06 (C16) 20:21 (C16)	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:20 20:16	05:08 21:17		04:27 22:05	04:42 22:00	05:37 21:04	20:05 (C16) 20:21 (C16)	06:39 19:45	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19		04:26 22:05	04:43 21:59	05:39 21:01	20:05 (C16) 20:22 (C16)	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21		04:26 22:06	04:45 21:57	05:41 20:59	20:04 (C16) 20:22 (C16)	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23		04:26 22:07	04:46 21:56	05:43 20:56	20:04 (C16) 20:22 (C16)	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:01 21:25		04:25 22:08	04:48 21:55	05:45 20:54	20:04 (C16) 20:22 (C16)	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27		04:25 22:08	04:49 21:53	05:47 20:52	20:03 (C16) 20:19 (C16)	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29		04:25 22:09	04:51 21:52	05:49 20:49	20:04 (C16) 20:17 (C16)	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31		04:25 22:09	04:52 21:51	05:51 20:47	20:04 (C16) 20:15 (C16)	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33		04:25 22:09	04:54 21:49	05:53 20:44	20:05 (C16) 20:13 (C16)	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34		04:25 22:10	04:56 21:48	05:55 20:42	20:06 (C16) 20:11 (C16)	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	20:02 (C16) 20:06 (C16)	04:25 22:10	04:57 21:46	05:57 20:39		06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	19:59 (C16) 20:08 (C16)	04:26 22:10	04:59 21:44	05:59 20:37		07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 21:40	19:58 (C16) 20:10 (C16)	04:26 22:10	05:01 21:43	06:01 20:34		07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	19:58 (C16) 20:12 (C16)	04:26 22:10	05:03 21:41	06:03 20:32		07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	19:57 (C16) 20:13 (C16)	04:27 22:10	05:04 21:39	06:05 20:29		07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	19:57 (C16) 20:15 (C16)	04:27 22:10	05:06 21:37	06:07 20:27		07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	19:57 (C16) 20:15 (C16)	04:28 22:10	05:08 21:35	06:09 20:24		07:11 19:01	07:14 16:45	08:18 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	19:56 (C16) 20:14 (C16)	04:29 22:09	05:10 21:33	06:11 20:22		07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	19:56 (C16) 20:13 (C16)	04:29 22:09	05:12 21:31	06:13 20:19		07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51			05:14 21:30	06:15 20:16			07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508		528	529	469	384	324	248	216	
Total, worst case				126	50				176					
Sun reduction				0.50	0.57				0.50					
Oper. time red.				0.98	0.98				0.98					
Wind dir. red.				0.62	0.62				0.62					
Total reduction				0.30	0.35				0.30					
Total, real				38	17				53					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunjostī - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (182)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:46	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:20 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:22 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:24 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:26 20:04	07:26 18:43	07:31 16:28	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:28 20:01	07:28 18:41	07:34 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:30 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:32 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:23 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:40 15:39
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:12	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:09	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:24	06:26 18:24	06:04 20:29	04:57 21:29	04:26 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:54 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:50 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:04 20:32	07:05 19:10	07:08 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:06 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:08 20:27	07:09 19:05	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:10 20:25	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:12 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:16 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunlakstīgalas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (63)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:00 (C13) 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	06:20 (C13) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	06:00 (C13) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	06:00 (C13) 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	06:00 (C13) 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	06:01 (C13) 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	06:01 (C13) 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	06:02 (C13) 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	06:04 (C13) 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	06:06 (C13) 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	06:12 (C13) 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	06:00 (C13) 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	06:00 (C13) 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	06:00 (C13) 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	06:00 (C13) 22:08
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:25	06:00 (C13) 22:09
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	06:00 (C13) 22:10
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	06:00 (C13) 22:11
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	06:00 (C13) 22:12
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	06:00 (C13) 22:13
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	06:00 (C13) 22:14
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	06:00 (C13) 22:15
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	06:00 (C13) 22:16
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	06:00 (C13) 22:17
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	06:14 (C13) 21:42	06:00 (C13) 22:18
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	06:11 (C13) 21:43	06:00 (C13) 22:19
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:09 (C13) 21:45	06:00 (C13) 22:20
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	06:07 (C13) 21:47	06:00 (C13) 22:21
29	08:20 16:39	07:11 17:47	05:57 18:47	05:37 20:51	06:05 (C13) 21:48	06:00 (C13) 22:22
30	08:19 16:41	07:09 17:49	05:54 18:49	05:35 20:53	06:03 (C13) 21:50	06:00 (C13) 22:23
31	08:17 16:43	07:07 17:51	05:52 18:51	05:33 20:55	06:01 (C13) 21:51	06:00 (C13) 22:24
Potential sun hours	235	266	366	426	508	528
Total, worst case			511	66	166	
Sun reduction			0.41	0.50	0.57	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.63	0.66	0.66	
Total reduction			0.25	0.32	0.37	
Total, real			130	21	61	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunlakstīgalas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (63)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:46 (C14)	07:23
	22:09	21:28	20:14	18:54	21	08:07 (C15)
2	04:31	05:18	06:19	07:19	07:49 (C15)	07:25
	22:09	21:26	20:11	18:51	18	08:07 (C15)
3	04:32	05:20	06:15 (C13)	07:21	07:50 (C15)	07:27
	22:08	21:24	9	18:48	17	08:07 (C15)
4	04:33	05:22	06:13 (C13)	07:23	07:52 (C15)	07:29
	22:07	21:22	13	18:46	14	08:06 (C15)
5	04:34	05:24	06:12 (C13)	07:25	07:54 (C15)	07:31
	22:07	21:20	15	18:43	12	08:06 (C15)
6	04:35	05:25	06:10 (C13)	07:28	07:56 (C15)	07:33
	22:06	21:17	17	18:40	8	08:04 (C15)
7	04:36	05:27	06:10 (C13)	07:30	07:58 (C15)	07:36
	22:05	21:15	18	18:38	5	08:03 (C15)
8	04:37	05:29	06:09 (C13)	07:32	08:00 (C15)	07:38
	22:04	21:13	20	18:35	1	08:01 (C15)
9	04:38	05:31	06:09 (C13)	07:34		07:40
	22:03	21:11	20	18:33		16:19
10	04:40	05:33	06:09 (C13)	07:36		07:42
	22:02	21:08	20	18:30		16:17
11	04:41	05:35	06:09 (C13)	07:38		07:44
	22:01	21:06	21	18:27		16:15
12	04:42	05:37	06:09 (C13)	07:40		07:46
	22:00	21:04	19	18:25		16:13
13	04:44	05:39	06:11 (C13)	07:42		07:49
	21:59	21:02	17	18:22		16:11
14	04:45	05:41	06:13 (C13)	07:50 (C14)	07:44	07:51
	21:58	20:59	15	08:02 (C14)	18:20	16:10
15	04:46	05:43	06:15 (C13)	07:47 (C14)	07:46	07:53
	21:57	20:57	12	08:05 (C14)	18:17	16:08
16	04:48	05:45	06:17 (C13)	07:45 (C14)	07:48	07:55
	21:55	20:54	9	08:06 (C14)	18:15	16:06
17	04:49	05:47	06:19 (C13)	07:44 (C14)	07:50	07:57
	21:54	20:52	6	08:07 (C14)	18:12	16:04
18	04:51	05:49	06:21 (C13)	07:42 (C14)	07:52	07:59
	21:52	20:50	2	08:08 (C14)	18:09	16:03
19	04:53	05:51	06:53	07:41 (C14)	07:55	08:01
	21:51	20:47	19:26	08:08 (C14)	18:07	16:01
20	04:54	05:53	06:55	07:40 (C14)	07:57	08:03
	21:49	20:45	19:23	08:08 (C14)	18:04	15:59
21	04:56	05:55	06:57	07:40 (C14)	07:59	08:05
	21:48	20:42	19:21	08:08 (C14)	18:02	15:58
22	04:58	05:57	06:59	07:39 (C14)	08:01	08:07
	21:46	20:40	19:18	08:08 (C14)	18:00	15:56
23	04:59	05:59	07:01	07:39 (C14)	08:03	08:09
	21:45	20:37	19:15	08:08 (C14)	17:57	15:55
24	05:01	06:01	07:03	07:39 (C14)	08:05	08:11
	21:43	20:35	19:12	08:07 (C14)	17:55	15:53
25	05:03	06:03	07:05	07:39 (C14)	07:07	08:13
	21:41	20:32	19:10	08:07 (C14)	16:52	15:52
26	05:05	06:05	07:07	07:39 (C14)	07:10	08:15
	21:39	20:30	19:07	08:06 (C14)	16:50	15:51
27	05:06	06:07	07:09	07:39 (C14)	07:12	08:17
	21:38	20:27	19:04	08:05 (C14)	16:48	15:50
28	05:08	06:09	07:11	07:40 (C14)	07:14	08:19
	21:36	20:24	19:02	08:05 (C15)	16:45	15:48
29	05:10	06:11	07:13	07:42 (C14)	07:16	08:21
	21:34	20:22	18:59	08:06 (C15)	16:43	15:47
30	05:12	06:13	07:15	07:44 (C14)	07:18	08:22
	21:32	20:19	18:56	08:07 (C15)	16:41	15:46
31	05:14	06:15			07:20	08:51
	21:30	20:17			16:38	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		233	422		96	
Sun reduction		0.50	0.43		0.26	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.66	0.63		0.62	
Total reduction		0.32	0.26		0.16	
Total, real		75	111		15	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunleiš upi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (16)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:00 (C14) 21:53	04:30 22:09	05:16 21:28	06:02 (C14) 20:14	06:17 18:54	07:17 16:36	07:23 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	05:58 (C14) 21:54	04:31 22:08	05:18 21:26	06:00 (C14) 20:11	06:19 18:51	07:19 16:34	07:25 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	05:56 (C14) 21:55	04:32 22:08	05:20 21:24	06:00 (C14) 20:09	06:21 18:48	07:21 16:32	07:27 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	05:54 (C14) 21:57	04:33 22:07	05:22 21:22	06:00 (C14) 20:06	06:23 18:46	07:23 16:30	07:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	05:52 (C14) 21:58	04:32 22:07	05:24 21:20	06:00 (C14) 20:04	06:25 18:43	07:26 16:27	07:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:03	05:21 21:06	05:50 (C14) 21:59	04:31 22:06	05:26 21:17	05:59 (C14) 20:01	06:27 18:40	07:28 16:25	07:33 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	05:50 (C14) 22:00	04:30 22:05	05:28 21:15	06:00 (C14) 19:58	06:29 18:38	07:30 16:23	07:36 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	05:50 (C14) 22:01	04:30 22:04	05:29 21:13	06:02 (C14) 19:56	06:31 18:35	07:32 16:21	07:38 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	05:50 (C14) 22:02	04:38 22:03	05:31 21:11	06:04 (C14) 19:53	06:33 18:33	07:34 16:19	07:40 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	05:50 (C14) 22:03	04:40 22:02	05:33 21:08	06:06 (C14) 19:50	06:35 18:30	07:36 16:17	07:42 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	05:50 (C14) 22:04	04:41 22:01	05:35 21:06	06:08 (C14) 19:48	06:37 18:27	07:38 16:15	07:44 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	05:51 (C14) 22:05	04:42 22:00	05:37 21:04	06:09 (C14) 19:45	06:39 18:25	07:40 16:13	07:46 15:38
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	05:53 (C14) 22:06	04:44 21:59	05:39 21:02	06:13 (C14) 19:42	06:41 18:22	07:42 16:11	07:49 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	05:54 (C14) 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:03 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	05:55 (C14) 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:03	08:04 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	06:01 (C14) 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:05 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	06:06 (C14) 22:09	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:06 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	06:05 (C14) 22:10	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:06 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	06:06 (C14) 22:11	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:07 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	06:07 (C14) 22:12	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:08 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	06:08 (C14) 22:13	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:08 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	06:09 (C14) 22:14	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:09 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	06:10 (C14) 22:15	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	06:11 (C14) 22:16	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	06:12 (C14) 22:17	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	06:13 (C14) 22:18	05:05 21:39	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	06:14 (C14) 22:19	05:07 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	06:15 (C14) 22:20	05:08 21:36	06:09 20:24	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39	07:11 17:47	06:57 18:41	05:37 20:51	04:40 21:48	06:16 (C14) 22:21	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41	07:04 17:54	06:54 18:35	05:35 20:53	04:39 21:50	06:17 (C14) 22:22	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:22 15:46	08:51 15:46
31	08:17 16:43	07:02 17:51	06:52 18:31	05:34 20:52	04:37 21:51	06:18 (C14) 22:23	05:14 21:30	06:15 20:17	07:16 18:57	08:19 17:40	08:23 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case				1	201		33	169				
Sun reduction				0.50	0.57		0.49	0.50				
Oper. time red.				0.98	0.98		0.98	0.98				
Wind dir. red.				0.67	0.67		0.67	0.67				
Total reduction				0.33	0.37		0.32	0.33				
Total, real				0	75		11	55				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunmedni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (174)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:48 19:53	05:32 20:55	04:35 21:53	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:06 17:52	06:43 19:57	05:28 21:00	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:51	08:09 16:52	07:03 17:54	06:40 19:59	05:25 21:02	04:32 21:57	04:32 22:08	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:36 16:23	08:34 15:40
8	08:48 15:57	08:00 17:01	06:53 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:10	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:27 22:03	04:39 22:03	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:41 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:37
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:43 17:19	06:31 18:19	06:09 20:24	05:00 21:26	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:06 20:26	04:58 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:37
18	08:38 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:53	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:10	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 17:30	06:18 18:30	05:56 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:11	05:00 21:43	06:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:11	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:40 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:47	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:10	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:17		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunmasani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (213)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:16 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:58	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:12	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:01 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:37 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:56 20:34	04:52 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:58	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:48 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:52 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:29 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:45
30	08:18 16:41		06:54 19:48	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Jaunrudzati - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (83)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	07:14 (C14) 20:55	05:33 21:53	04:36 22:09	04:30 21:28	06:17 20:14	07:06 (C14) 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	07:11 (C14) 20:58	05:30 21:54	04:35 22:09	04:31 21:26	06:19 20:11	07:04 (C14) 18:51	07:19 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	07:09 (C14) 21:00	05:28 21:55	04:34 22:08	04:32 21:24	06:21 20:09	07:03 (C14) 18:48	07:21 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:06 (C14) 21:02	05:26 21:57	04:33 22:07	04:33 21:22	06:23 20:06	07:02 (C14) 18:46	07:23 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	07:04 (C14) 21:04	05:24 21:58	04:32 22:07	04:34 21:20	06:25 20:04	07:01 (C14) 18:43	07:26 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	07:04 (C14) 21:06	05:21 21:59	04:31 22:06	04:35 21:17	06:27 20:01	07:01 (C14) 18:40	07:28 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	07:04 (C14) 21:08	05:19 22:00	04:30 22:05	04:36 21:15	06:29 19:58	07:00 (C14) 18:38	07:30 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	07:05 (C14) 21:10	05:17 22:01	04:29 22:04	05:29 21:13	06:31 19:56	07:00 (C14) 18:35	07:32 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	07:05 (C14) 21:12	05:15 22:02	04:29 22:03	05:31 21:11	06:33 19:53	07:02 (C14) 18:33	07:34 16:19	08:37 15:39
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	07:05 (C14) 21:14	05:13 22:03	04:28 22:02	05:33 21:08	06:35 19:50	07:04 (C14) 18:30	07:36 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	07:07 (C14) 21:16	05:11 22:04	04:28 22:01	05:35 21:06	06:37 19:48	07:06 (C14) 18:27	07:38 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	07:10 (C14) 21:18	05:09 22:05	04:27 22:00	05:37 21:04	06:39 19:45	07:08 (C14) 18:25	07:40 16:13	08:40 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	07:11 (C14) 21:20	05:07 22:06	04:27 21:59	05:39 21:02	06:41 19:42	07:14 (C14) 18:22	07:42 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	07:12 (C14) 21:22	05:05 22:07	04:26 21:58	05:41 20:59	06:43 19:39	07:11 (C14) 18:20	07:44 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	07:13 (C14) 21:24	05:03 22:07	04:26 21:57	05:43 20:57	06:45 19:37	07:12 (C14) 18:17	07:46 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	07:14 (C14) 21:26	05:01 22:08	04:26 21:55	05:45 20:54	06:47 19:34	07:13 (C14) 18:15	07:48 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	07:15 (C14) 21:27	04:59 22:08	04:26 21:54	05:47 20:52	06:49 19:31	07:14 (C14) 18:12	07:50 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	07:16 (C14) 21:29	04:57 22:09	04:25 21:52	05:49 20:50	06:51 19:29	07:15 (C14) 18:10	07:53 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	07:17 (C14) 21:31	04:55 22:09	04:25 21:51	05:51 20:47	06:53 19:26	07:16 (C14) 18:07	07:55 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	07:18 (C14) 21:33	04:54 22:10	04:25 21:49	05:53 20:45	06:55 19:23	07:17 (C14) 18:05	07:57 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	07:19 (C14) 21:35	04:52 22:10	04:26 21:48	05:55 20:42	06:57 19:21	07:18 (C14) 18:02	07:59 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	07:20 (C14) 21:37	04:50 22:10	04:26 21:46	05:57 20:40	06:59 19:18	07:19 (C14) 18:00	08:01 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	07:21 (C14) 21:38	04:49 22:10	04:26 21:45	05:59 20:37	07:01 19:15	07:20 (C14) 18:03	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	07:22 (C14) 21:40	04:47 22:10	04:26 21:43	06:01 20:35	07:03 19:13	07:21 (C14) 18:05	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	07:23 (C14) 21:42	04:45 22:10	04:27 21:41	06:03 20:32	07:05 19:10	07:22 (C14) 18:07	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	07:24 (C14) 21:43	04:44 22:10	04:27 21:39	06:05 20:30	07:07 19:07	07:23 (C14) 18:09	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	07:25 (C14) 21:45	04:42 22:10	04:28 21:38	06:07 20:27	07:09 19:04	07:24 (C14) 18:08	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	07:26 (C14) 21:47	04:41 22:10	04:28 21:36	06:09 20:24	07:11 19:02	07:25 (C14) 18:09	08:19 15:48	08:51 15:44
29	08:20 16:39	07:06 17:47	05:57 18:47	05:37 20:51	07:27 (C14) 21:48	04:40 22:10	04:29 21:34	06:11 20:22	07:13 18:59	07:26 (C14) 18:10	08:21 15:47	08:51 15:45
30	08:19 16:41	07:04 17:49	05:54 18:49	05:35 20:53	07:28 (C14) 21:50	04:38 22:09	04:29 21:32	06:13 20:19	07:15 18:56	07:27 (C14) 18:11	08:22 15:46	08:51 15:46
31	08:17 16:43	07:02 17:51	05:52 18:51	07:17 (C14) 20:53	07:29 (C14) 21:51	04:37 22:10	05:14 21:30	06:15 20:17	07:16 (C14) 18:57	07:28 (C14) 18:12	08:23 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	385	324	247	216
Total, worst case			6	186				5	189			
Sun reduction			0.41	0.50				0.50	0.43			
Oper. time red.			0.98	0.98				0.98	0.98			
Wind dir. red.			0.66	0.66				0.66	0.66			
Total reduction			0.27	0.32				0.32	0.28			
Total, real			2	60				2	52			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kalna Galvani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (35)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		10:37 (C1)	08:15		08:59 (C6)	07:11		07:56 (C2)	06:49		05:32		06:31 (C17)	04:36			
	15:48	43	11:20 (C1)	16:45	11	09:10 (C6)	17:47	22	08:18 (C2)	19:53		20:55	41	07:12 (C17)	21:53			
2	08:50		09:30 (C4)	08:13		09:02 (C6)	07:08		07:56 (C2)	06:46		05:30		06:31 (C17)	04:34			
	15:49	44	11:21 (C1)	16:47	6	09:08 (C6)	17:50	20	08:16 (C2)	19:55		20:57	41	07:12 (C17)	21:54			
3	08:50		09:29 (C4)	08:11			07:06		07:58 (C2)	06:43		05:28		06:31 (C17)	04:33			
	15:50	46	11:21 (C1)	16:49			17:52	17	08:15 (C2)	19:57		21:00	40	07:11 (C17)	21:55			
4	08:50		09:28 (C4)	08:09			07:03		07:59 (C2)	06:41		05:25		06:32 (C17)	04:32			
	15:52	47	11:21 (C1)	16:52			17:54	14	08:13 (C2)	19:59		21:02	39	07:11 (C17)	21:57			
5	08:49		09:28 (C4)	08:07			07:00		08:02 (C2)	06:38		05:23		06:32 (C17)	04:31			
	15:53	49	11:22 (C1)	16:54			17:56	7	08:09 (C2)	20:01		21:04	38	07:10 (C17)	21:58			
6	08:49		09:27 (C4)	08:05			06:58			06:35		05:21		06:32 (C17)	04:31			
	15:55	51	11:23 (C1)	16:56			17:58			20:03		21:06	38	07:10 (C17)	21:59			
7	08:48		09:26 (C4)	08:03			06:55			06:33		05:19		06:33 (C17)	04:30			
	15:56	53	11:23 (C1)	16:58			18:00			20:05		21:08	36	07:09 (C17)	22:00			
8	08:48		09:25 (C4)	08:00			06:53			06:30		05:17		06:33 (C17)	04:29			
	15:58	55	11:23 (C1)	17:01			18:03			20:07		21:10	36	07:09 (C17)	22:01			
9	08:47		09:24 (C4)	07:58			06:50			06:27		05:15		06:34 (C17)	04:28			
	15:59	57	11:24 (C1)	17:03			18:05			20:10		21:12	34	07:08 (C17)	22:02			
10	08:46		09:23 (C4)	07:56			06:47			06:25		05:12		06:34 (C17)	04:28			
	16:01	59	11:24 (C1)	17:05			18:07			20:12		21:14	33	07:07 (C17)	22:03			
11	08:45		09:22 (C4)	07:54			06:45			06:22		05:10		06:35 (C17)	04:27			
	16:03	61	11:25 (C1)	17:07			18:09			20:14		21:16	31	07:06 (C17)	22:04			
12	08:44		09:21 (C4)	07:52			06:42			06:20		05:08		06:36 (C17)	04:27			
	16:04	62	11:25 (C1)	17:10			18:11			20:16		21:18	28	07:04 (C17)	22:05			
13	08:43		09:20 (C4)	07:49			06:39			06:17		05:06		06:37 (C17)	04:26			
	16:06	63	11:25 (C1)	17:12			18:13			20:18		21:20	26	07:03 (C17)	22:06			
14	08:42		09:20 (C4)	07:47			06:37			06:14		05:04		06:39 (C17)	04:26			
	16:08	63	11:25 (C1)	17:14			18:15			20:20		21:22	23	07:02 (C17)	22:07			
15	08:41		09:21 (C4)	07:45			06:34			06:12	06:51 (C17)	05:02		06:40 (C17)	04:25			
	16:10	63	11:26 (C1)	17:16			18:17			20:22	8	06:59 (C17)	21:24	20	07:00 (C17)	22:07		
16	08:40		09:20 (C4)	07:43			06:31			06:09		06:46 (C17)	05:00		06:42 (C17)	04:25		
	16:12	63	11:25 (C1)	17:19			18:20			20:24	17	07:03 (C17)	21:25	16	06:58 (C17)	22:08		
17	08:39		09:21 (C4)	07:40			06:29			06:07		06:44 (C17)	04:59		06:44 (C17)	04:25		
	16:14	62	11:26 (C1)	17:21			18:22			20:26	22	07:06 (C17)	21:27	11	06:55 (C17)	22:09		
18	08:37		09:21 (C4)	07:38		08:05 (C2)	06:26			06:04		06:41 (C17)	04:57			04:25		
	16:15	61	11:25 (C1)	17:23	8	08:13 (C2)	18:24			20:28	26	07:07 (C17)	21:29			22:09		
19	08:36		09:21 (C4)	07:35		08:03 (C2)	06:23			06:02		06:39 (C17)	04:55			04:25		
	16:17	61	11:25 (C1)	17:25	13	08:16 (C2)	18:26			20:30	30	07:09 (C17)	21:31			22:09		
20	08:35		09:22 (C4)	07:33		08:00 (C2)	06:21			05:59		06:37 (C17)	04:53			04:25		
	16:19	59	11:25 (C1)	17:28	17	08:17 (C2)	18:28			20:32	32	07:09 (C17)	21:33			22:10		
21	08:33		09:07 (C6)	07:31		07:58 (C2)	06:18			05:57		06:36 (C17)	04:51			04:25		
	16:21	60	11:25 (C1)	17:30	20	08:18 (C2)	18:30			20:35	34	07:10 (C17)	21:35			22:10		
22	08:32		09:05 (C6)	07:28		07:56 (C2)	06:15			05:54		06:36 (C17)	04:50			04:25		
	16:24	62	11:24 (C1)	17:32	23	08:19 (C2)	18:32			20:37	35	07:11 (C17)	21:37			22:10		
23	08:30		09:03 (C6)	07:26		07:56 (C2)	06:13			05:52		06:34 (C17)	04:48			04:25		
	16:26	60	11:23 (C1)	17:34	24	08:20 (C2)	18:34			20:39	37	07:11 (C17)	21:38			22:10		
24	08:29		09:02 (C6)	07:23		07:55 (C2)	06:10			05:49		06:34 (C17)	04:47			04:26		
	16:28	60	11:23 (C1)	17:36	24	08:19 (C2)	18:36			20:41	38	07:12 (C17)	21:40			22:10		
25	08:27		09:00 (C6)	07:21		07:55 (C2)	06:07			05:47		06:33 (C17)	04:45			04:26		
	16:30	60	11:22 (C1)	17:39	24	08:19 (C2)	18:38			20:43	40	07:13 (C17)	21:42			22:10		
26	08:26		08:58 (C6)	07:18		07:55 (C2)	06:05			05:44		06:32 (C17)	04:44			04:27		
	16:32	58	11:21 (C1)	17:41	25	08:20 (C2)	18:40			20:45	40	07:12 (C17)	21:43			22:10		
27	08:24		08:56 (C6)	07:16		07:55 (C2)	06:02			05:42		06:32 (C17)	04:42			04:27		
	16:34	54	11:20 (C1)	17:43	24	08:19 (C2)	18:43			20:47	40	07:12 (C17)	21:45			22:10		
28	08:22		08:56 (C6)	07:13		07:56 (C2)	05:59			05:39		06:32 (C17)	04:41			04:28		
	16:36	46	11:18 (C1)	17:45	23	08:19 (C2)	18:45			20:49	41	07:13 (C17)	21:47			22:10		
29	08:20		08:57 (C6)				06:57			05:37		06:31 (C17)	04:39			04:28		
	16:38	33	11:15 (C1)				19:47			20:51	41	07:12 (C17)	21:48			22:10		
30	08:18		08:58 (C6)				06:54			05:35		06:31 (C17)	04:38			04:29		
	16:41	14	09:12 (C6)				19:49			20:53	41	07:12 (C17)	21:50			22:09		
31	08:17		08:59 (C6)				06:51					04:37						
	16:43	13	09:12 (C6)				19:51					21:51						
Potential sun hours	235			266			366			426		508				529		
Total, worst case	1642			242			80			522		531						
Sun reduction	0.13			0.20			0.41			0.50		0.57						
Oper. time red.	0.98			0.98			0.98			0.98		0.98						
Wind dir. red.	0.60			0.62			0.63			0.65		0.65						
Total reduction	0.08			0.12			0.24			0.31		0.35						
Total, real	125			29			20			162		188						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kalna Galvani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (35)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December	
1	04:30	05:15	06:46 (C17)	06:17	07:17			07:23		08:24	09:04 (C4)
	22:09	21:28	29 07:15 (C17)	20:14	18:53			16:36		15:45	61 11:07 (C1)
2	04:31	05:17	06:45 (C17)	06:19	07:19			07:25		08:26	09:06 (C4)
	22:09	21:26	31 07:16 (C17)	20:11	18:51			16:34		15:44	58 11:07 (C1)
3	04:31	05:19	06:44 (C17)	06:21	07:21			07:27		08:28	09:08 (C4)
	22:08	21:24	33 07:17 (C17)	20:09	18:48			16:31		15:43	57 11:08 (C1)
4	04:32	05:21	06:44 (C17)	06:23	07:23			07:29		08:29	09:09 (C4)
	22:07	21:22	34 07:18 (C17)	20:06	18:46			16:29		15:42	54 11:07 (C1)
5	04:33	05:23	06:42 (C17)	06:25	07:25			07:31		08:31	09:11 (C4)
	22:07	21:19	36 07:18 (C17)	20:03	18:43			16:27		15:41	53 11:08 (C1)
6	04:34	05:25	06:42 (C17)	06:27	07:27			07:33		08:32	09:13 (C4)
	22:06	21:17	37 07:19 (C17)	20:01	18:40			16:25		15:41	51 11:09 (C1)
7	04:36	05:27	06:41 (C17)	06:29	07:29			07:36		08:34	09:14 (C4)
	22:05	21:15	38 07:19 (C17)	19:58	18:38			16:23		15:40	49 11:09 (C1)
8	04:37	05:29	06:41 (C17)	06:31	07:31			07:38		08:35	09:16 (C4)
	22:04	21:13	39 07:20 (C17)	19:55	18:35			16:21		15:40	48 11:09 (C1)
9	04:38	05:31	06:41 (C17)	06:33	07:34		08:35 (C2)	07:40		08:37	09:18 (C4)
	22:03	21:11	39 07:20 (C17)	19:53	18:32	11	08:46 (C2)	16:19	7	08:39 (C6)	15:39 46 11:10 (C1)
10	04:39	05:33	06:40 (C17)	06:35	07:36		08:33 (C2)	07:42		08:30 (C6)	08:38 09:19 (C4)
	22:02	21:08	40 07:20 (C17)	19:50	18:30	16	08:49 (C2)	16:17	11	08:41 (C6)	15:39 44 11:10 (C1)
11	04:40	05:35	06:39 (C17)	06:37	07:38		08:31 (C2)	07:44		08:30 (C6)	08:39 10:27 (C1)
	22:01	21:06	41 07:20 (C17)	19:47	18:27	19	08:50 (C2)	16:15	13	08:43 (C6)	15:38 43 11:10 (C1)
12	04:42	05:37	06:39 (C17)	06:39	07:40		08:30 (C2)	07:46		08:29 (C6)	08:40 10:29 (C1)
	22:00	21:04	41 07:20 (C17)	19:45	18:25	21	08:51 (C2)	16:13	14	08:43 (C6)	15:38 42 11:11 (C1)
13	04:43	05:39	06:39 (C17)	06:41	07:42		08:28 (C2)	07:49		08:29 (C6)	08:42 10:29 (C1)
	21:59	21:01	41 07:20 (C17)	19:42	18:22	23	08:51 (C2)	16:11	33	10:47 (C1)	15:38 43 11:12 (C1)
14	04:45	05:41	06:39 (C17)	06:43	07:44		08:27 (C2)	07:51		08:28 (C6)	08:43 10:29 (C1)
	21:58	20:59	41 07:20 (C17)	19:39	18:19	24	08:51 (C2)	16:09	46	10:50 (C1)	15:38 43 11:12 (C1)
15	04:46	05:43	06:39 (C17)	06:45	07:46		08:28 (C2)	07:53		08:28 (C6)	08:44 10:30 (C1)
	21:57	20:57	41 07:20 (C17)	19:37	18:17	24	08:52 (C2)	16:07	55	10:52 (C1)	15:38 42 11:12 (C1)
16	04:48	05:45	06:39 (C17)	06:47	07:48		08:27 (C2)	07:55		08:31 (C6)	08:45 10:30 (C1)
	21:55	20:54	41 07:20 (C17)	19:34	18:14	25	08:52 (C2)	16:06	58	10:54 (C1)	15:38 43 11:13 (C1)
17	04:49	05:47	06:39 (C17)	06:49	07:50		08:27 (C2)	07:57		08:33 (C6)	08:46 10:31 (C1)
	21:54	20:52	39 07:18 (C17)	19:31	18:12	24	08:51 (C2)	16:04	59	10:55 (C1)	15:38 42 11:13 (C1)
18	04:51	05:49	06:39 (C17)	06:51	07:52		08:26 (C2)	07:59		08:36 (C6)	08:46 10:31 (C1)
	21:52	20:49	39 07:18 (C17)	19:28	18:09	24	08:50 (C2)	16:02	60	10:57 (C1)	15:38 43 11:14 (C1)
19	04:52	05:51	06:39 (C17)	06:53	07:54		08:27 (C2)	08:01		08:38 (C6)	08:47 10:32 (C1)
	21:51	20:47	38 07:17 (C17)	19:26	18:07	24	08:51 (C2)	16:01	60	10:58 (C1)	15:38 42 11:14 (C1)
20	04:54	05:53	06:40 (C17)	06:55	07:57		08:28 (C2)	08:03		08:40 (C6)	08:48 10:32 (C1)
	21:49	20:45	37 07:17 (C17)	19:23	18:04	22	08:50 (C2)	15:59	61	10:59 (C1)	15:38 42 11:14 (C1)
21	04:56	05:55	06:40 (C17)	06:57	07:59		08:29 (C2)	08:05		08:42 (C6)	08:49 10:33 (C1)
	21:48	20:42	36 07:16 (C17)	19:20	18:02	19	08:48 (C2)	15:57	60	11:00 (C1)	15:39 42 11:15 (C1)
22	04:57	05:57	06:41 (C17)	06:59	08:01		08:31 (C2)	08:07		08:58 (C4)	08:49 10:33 (C1)
	21:46	20:40	34 07:15 (C17)	19:18	17:59	16	08:47 (C2)	15:56	59	11:01 (C1)	15:39 42 11:15 (C1)
23	04:59	05:59	06:42 (C17)	07:01	08:03		08:34 (C2)	08:09		08:58 (C4)	08:50 10:34 (C1)
	21:45	20:37	32 07:14 (C17)	19:15	17:57	12	08:46 (C2)	15:54	60	11:02 (C1)	15:40 42 11:16 (C1)
24	05:01	06:01	06:43 (C17)	07:03	08:05		08:36 (C2)	08:11		08:58 (C4)	08:50 10:34 (C1)
	21:43	20:35	29 07:12 (C17)	19:12	17:54	7	08:43 (C2)	15:53	61	11:02 (C1)	15:40 42 11:16 (C1)
25	05:02	06:03	06:44 (C17)	07:05	07:07			08:13		08:58 (C4)	08:50 10:34 (C1)
	21:41	20:32	26 07:10 (C17)	19:10	16:52			15:52	63	11:03 (C1)	15:41 43 11:17 (C1)
26	05:04	06:05	06:46 (C17)	07:07	07:09			08:15		08:59 (C4)	08:51 10:34 (C1)
	21:39	5 07:03 (C17)	20:29	21 07:07 (C17)	19:07			15:50	63	11:04 (C1)	15:42 43 11:17 (C1)
27	05:06	06:54 (C17)	06:07	06:48 (C17)	07:09			08:17		09:00 (C4)	08:51 10:35 (C1)
	21:38	13 07:07 (C17)	20:27	17 07:05 (C17)	19:04			15:49	63	11:05 (C1)	15:43 42 11:17 (C1)
28	05:08	06:51 (C17)	06:09	06:52 (C17)	07:11			08:19		09:00 (C4)	08:51 10:35 (C1)
	21:36	18 07:09 (C17)	20:24	8 07:00 (C17)	19:02			15:48	63	11:05 (C1)	15:43 43 11:18 (C1)
29	05:10	06:50 (C17)	06:11		07:13			08:21		09:01 (C4)	08:51 10:36 (C1)
	21:34	21 07:11 (C17)	20:22		18:59			15:47	63	11:06 (C1)	15:44 43 11:19 (C1)
30	05:12	06:49 (C17)	06:13		07:15			08:22		09:02 (C4)	08:51 10:37 (C1)
	21:32	24 07:13 (C17)	20:19		18:56			15:46	62	11:06 (C1)	15:45 42 11:19 (C1)
31	05:14	06:47 (C17)	06:15		07:20					08:51	10:37 (C1)
	21:30	27 07:14 (C17)	20:17		16:38					15:46	43 11:20 (C1)
Potential sun hours	529		469		385		324		247		216
Total, worst case	108		958				311		1094		1413
Sun reduction	0.49		0.50				0.26		0.08		0.07
Oper. time red.	0.98		0.98				0.98		0.98		0.98
Wind dir. red.	0.65		0.65				0.63		0.60		0.60
Total reduction	0.31		0.31				0.15		0.05		0.04
Total, real	33		297				48		52		57

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kalnmuiža - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (28)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

		January	February	March	April	May	June		July		August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:11 17:47	06:49 19:53	05:32 20:55	04:36 21:52		04:30 22:09	8 05:07 (C12) 05:15 (C12)	05:16 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45	
2	08:50 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54		04:31 22:08	7 05:15 (C12) 05:09 (C12)	05:18 21:26	06:19 20:11	07:19 18:51	07:24 16:34	08:26 15:44	
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55		04:32 22:08	5 05:14 (C12) 05:10 (C12)	05:19 21:23	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43	
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56		04:33 22:07	4 05:14 (C12) 05:11 (C12)	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42	
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57		04:34 22:06	2 05:13 (C12)	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42	
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59		04:35 22:06		05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41	
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	1 05:05 (C12)	04:30 22:06		05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40	
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	04:29 22:01	3 05:08 (C12)	04:37 22:04		05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40	
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:29 22:02	5 05:09 (C12)	04:38 22:03		05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39	
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	04:28 22:03	6 05:10 (C12)	04:39 22:02		05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39	
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:15	04:27 22:04	7 05:03 (C12)	04:41 22:01		05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39	
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:08 21:17	04:27 22:05	9 21:25 (C15)	04:42 22:00		05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38	
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:06	11 21:26 (C15)	04:43 21:59		05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38	
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	13 21:27 (C12)	04:45 21:58		05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38	
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	14 21:26 (C15)	04:46 21:56		05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38	
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:01 21:25	04:26 22:08	15 21:27 (C15)	04:48 21:55		05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38	
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	17 21:28 (C15)	04:49 21:54		05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38	
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	17 21:28 (C15)	04:51 21:52		05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38	
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	17 21:28 (C15)	04:53 21:51		05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38	
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	18 21:29 (C15)	04:54 21:49		05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:39	
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:10	18 21:30 (C15)	04:56 21:48		05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39	
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	18 21:30 (C15)	04:57 21:46		05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39	
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	17 21:29 (C15)	04:59 21:44		05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40	
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	17 21:30 (C15)	05:01 21:43		06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41	
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	17 21:30 (C15)	05:03 21:41		06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:50 15:41	
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	15 21:29 (C15)	05:05 21:39		06:05 20:29	07:07 19:07	08:09 16:50	08:15 15:51	08:50 15:42	
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	15 21:30 (C15)	05:06 21:37		06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:43	
28	08:22 16:36	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	13 21:29 (C15)	05:08 21:35		06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:44	
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	12 21:29 (C15)	05:10 21:33		06:11 20:22	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:45	
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	10 21:29 (C15)	05:12 21:32		06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:46	
31	08:16 16:43		06:51 19:51		04:37 21:51			05:14 21:30		06:15 20:16		07:20 16:38		08:51 15:47	
Potential sun hours	235	266	366	426	508	528		529		469	384	324	248	216	
Total, worst case						305			26						
Sun reduction						0.56			0.49						
Oper. time red.						0.98			0.98						
Wind dir. red.						0.65			0.66						
Total reduction						0.35			0.32						
Total, real						108			8						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kalnsetas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (8)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	07:08 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kalnvidi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (48)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	07:08 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:49	08:51 15:43
28	08:22 16:36	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kalnares - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (43)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:47	08:15 (C1) 19:53	05:32 20:55	04:36 21:53
2	08:51 15:49	08:13 16:47	07:08 17:50	08:18 (C1) 19:55	05:30 20:58	04:35 21:54
3	08:50 15:50	08:11 16:50	07:06 17:52	06:43 19:57	05:28 21:00	04:33 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:32 21:57
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:32 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01
9	08:47 15:59	07:58 17:03	06:50 18:05	07:16 (C2) 20:10	05:15 21:12	04:28 22:02
10	08:46 16:01	07:56 17:05	06:47 18:07	07:13 (C2) 20:12	05:12 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	07:10 (C2) 20:14	05:10 21:16	04:27 22:04
12	08:44 16:04	07:52 17:10	06:42 18:11	07:08 (C2) 20:16	06:45 (C17) 21:18	05:08 22:05
13	08:43 16:06	07:50 17:12	06:39 18:13	07:05 (C2) 20:18	06:43 (C17) 21:20	05:06 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	07:03 (C2) 20:20	06:40 (C17) 21:22	05:04 22:07
15	08:41 16:10	07:45 17:17	06:34 18:17	07:03 (C2) 20:22	06:38 (C17) 21:24	05:02 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	07:05 (C2) 20:24	06:35 (C17) 21:26	05:00 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	07:06 (C2) 20:26	06:33 (C17) 21:27	04:59 22:09
18	08:38 16:16	07:38 17:23	06:26 18:24	07:15 (C2) 20:28	06:32 (C17) 21:29	04:57 22:09
19	08:36 16:18	07:35 17:25	06:24 18:26	06:02 20:30	06:32 (C17) 21:31	04:55 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	06:31 (C17) 21:33	04:53 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:32 (C17) 21:35	04:52 22:10
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:37	06:32 (C17) 21:37	04:50 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	06:32 (C17) 21:38	04:48 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	06:49 (C17) 21:40	04:47 22:10
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	06:48 (C17) 21:42	04:45 22:10
26	08:26 16:32	07:18 17:41	06:05 18:40	05:44 20:45	06:36 (C17) 21:44	04:44 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:43 (C17) 21:46	04:42 22:10
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	06:34 (C17) 21:48	04:41 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	06:33 (C17) 21:50	04:39 22:10
30	08:19 16:41		06:54 19:49	05:35 20:53	06:32 (C17) 21:52	04:38 22:10
31	08:17 16:43		06:51 19:51		06:31 (C17) 21:54	04:37 22:10
Potential sun hours	235	266	366	426	508	529
Total, worst case		397	123	218		
Sun reduction		0.20	0.41	0.50		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.62	0.63	0.65		
Total reduction		0.12	0.25	0.32		
Total, real		48	31	69		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kalnares - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (43)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:46 (C2)	07:23
	22:09	21:28	20:14	18:54	13 07:59 (C2)	16:36
2	04:31	05:17	06:19	07:19	07:48 (C2)	07:25
	22:09	21:26	20:11	18:51	11 07:59 (C2)	16:34
3	04:32	05:19	06:21	07:21	07:50 (C2)	07:27
	22:08	21:24	20:09	18:48	8 07:58 (C2)	16:31
4	04:32	05:21	06:23	07:23	07:52 (C2)	07:29
	22:07	21:22	20:06	18:46	4 07:56 (C2)	16:29
5	04:33	05:23	06:25	07:25		07:31
	22:07	21:20	20:03	18:43		16:27
6	04:35	05:25	06:27	07:27		07:33
	22:06	21:17	20:01	18:40		16:25
7	04:36	05:27	06:29	07:29		07:36
	22:05	21:15	19:58	18:38		16:23
8	04:37	05:29	06:31	07:32		07:38
	22:04	21:13	19:55	18:35		16:21
9	04:38	05:31	06:33	07:34		07:40
	22:03	21:11	19:53	18:32		16:19
10	04:39	05:33	06:35	07:36		07:42
	22:02	21:08	19:50	18:30		16:17
11	04:40	05:35	06:37	07:38	08:56 (C1)	07:44
	22:01	21:06	19:47	18:27	2 08:58 (C1)	16:15
12	04:42	05:37	06:39	07:40	08:50 (C1)	07:46
	22:00	21:04	19:45	18:25	13 09:03 (C1)	16:13
13	04:43	05:39	06:41	07:42	08:47 (C1)	07:49
	21:59	21:02	19:42	18:22	18 09:05 (C1)	16:11
14	04:45	05:41	06:43	07:44	08:45 (C1)	07:51
	21:58	20:59	19:39	18:19	21 09:06 (C1)	16:09
15	04:46	05:43	06:45	07:46	08:45 (C1)	07:53
	21:57	20:57	19:37	18:17	23 09:08 (C1)	16:07
16	04:48	05:45	06:47	07:48	08:44 (C1)	07:55
	21:55	20:54	19:34	18:14	24 09:08 (C1)	16:06
17	04:49	05:47	06:49	07:50	08:42 (C1)	07:57
	21:54	20:52	7 06:43 (C17)	18:12	27 09:09 (C1)	16:04
18	04:51	05:49	06:51	07:52	08:42 (C1)	07:59
	21:53	20:50	12 06:53 (C17)	18:09	27 09:09 (C1)	16:02
19	04:52	05:51	06:53	07:55	08:42 (C1)	08:01
	21:51	20:47	15 06:54 (C17)	18:07	28 09:10 (C1)	16:01
20	04:54	05:53	06:55	07:57	08:41 (C1)	08:03
	21:49	20:45	17 06:55 (C17)	18:04	28 09:09 (C1)	15:59
21	04:56	05:55	06:57	07:59	08:41 (C1)	08:05
	21:48	20:42	19 06:56 (C17)	18:02	28 09:09 (C1)	15:58
22	04:57	05:57	06:59	08:01	08:41 (C1)	08:07
	21:46	20:40	20 06:56 (C17)	17:59	27 09:08 (C1)	15:56
23	04:59	05:59	07:01	08:03	08:42 (C1)	08:09
	21:45	20:37	20 06:56 (C17)	17:57	26 09:08 (C1)	15:55
24	05:01	06:01	07:03	08:05	08:41 (C4)	08:11
	21:43	20:35	20 06:56 (C17)	17:55	26 09:07 (C1)	15:53
25	05:03	06:03	07:05	07:07	07:40 (C4)	08:13
	21:41	20:32	20 06:56 (C17)	16:52	26 08:06 (C1)	15:52
26	05:04	06:05	07:07	07:10	07:41 (C4)	08:15
	21:39	20:30	20 06:55 (C17)	6 07:56 (C2)	25 08:06 (C1)	15:51
27	05:06	06:07	07:09	07:12	07:43 (C4)	08:17
	21:38	20:27	17 06:54 (C17)	11 07:58 (C2)	21 08:04 (C1)	15:49
28	05:08	06:09	07:11	07:14	07:45 (C1)	08:19
	21:36	20:24	14 06:53 (C17)	13 07:59 (C2)	17 08:02 (C1)	15:48
29	05:10	06:11	07:13	07:16	07:48 (C1)	08:21
	21:34	20:22	11 06:52 (C17)	16 08:00 (C2)	13 08:01 (C1)	15:47
30	05:12	06:13	07:15	07:18	07:50 (C4)	08:22
	21:32	20:19	7 06:50 (C17)	16 08:00 (C2)	6 07:56 (C1)	15:46
31	05:14	06:15	07:17	07:20	07:53 (C4)	08:23
	21:30	20:17	2 06:47 (C17)	1 16:38	07:54 (C4)	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		221	62	463		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.65	0.63	0.62		
Total reduction		0.32	0.26	0.16		
Total, real		70	16	72		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kalvani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (207)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:47	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:35	08:24 15:44
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:50	07:24 16:33	08:26 15:43
3	08:50 15:50	08:11 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:50 15:51	08:09 16:51	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:42	07:31 16:27	08:31 15:41
6	08:49 15:54	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:18 21:07	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:22	08:34 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:09	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:20	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:11	04:28 22:02	04:37 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:06	06:24 20:11	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:14	08:39 15:38
12	08:44 16:04	07:51 17:09	06:42 18:11	06:19 20:16	05:08 21:17	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	04:25 22:06	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:16	07:53 16:07	08:43 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:44 15:37
17	08:39 16:13	07:40 17:21	06:28 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:03	08:45 15:37
18	08:37 16:15	07:38 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:24 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:25	06:01 20:30	04:54 21:31	04:24 22:09	04:52 21:51	05:51 20:47	06:53 19:25	07:54 18:06	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:20 18:28	05:59 20:32	04:53 21:33	04:24 22:10	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:29	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:58 18:01	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:55	08:49 15:39
23	08:30 16:25	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:56	08:09 15:54	08:49 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:20 17:38	06:07 18:38	05:46 20:43	04:45 21:41	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:40	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:50 15:41
27	08:24 16:34	07:15 17:43	06:02 18:42	05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:07 21:35	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:10	05:09 21:34	06:11 20:21	07:13 18:58	07:16 16:42	08:20 15:46	08:51 15:44
30	08:18 16:40		06:54 19:48	05:34 20:53	04:38 21:49	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:51		04:36 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kaupernieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (155)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:49 20:41	04:47 21:40	04:26 22:11	04:57 21:43	05:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 17:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	07:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 17:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kaupres - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (126)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:50 15:48	08:15 16:45	07:11 17:47	07:47 (C12) 19:53	07:26 (C11) 20:55	20:06 (C13) 21:52
2	08:50 15:49	08:13 16:47	07:08 17:50	07:46 (C12) 19:55	07:25 (C11) 20:57	20:05 (C13) 21:54
3	08:50 15:51	08:11 16:50	07:05 17:52	07:46 (C12) 19:57	07:24 (C11) 20:59	20:05 (C13) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:46 (C12) 19:59	07:24 (C11) 21:01	20:05 (C13) 21:56
5	08:49 15:53	08:07 16:54	07:00 17:56	07:45 (C12) 20:01	07:23 (C11) 21:03	20:05 (C13) 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	07:46 (C12) 20:03	07:23 (C11) 21:05	20:05 (C13) 21:59
7	08:48 15:56	08:02 16:59	06:55 18:00	07:46 (C12) 20:05	07:22 (C11) 21:08	20:06 (C13) 22:00
8	08:47 15:58	08:00 17:01	16:12 (C16) 18:03	07:47 (C12) 20:07	07:22 (C11) 21:10	20:06 (C13) 22:01
9	08:47 15:59	07:58 17:03	16:10 (C16) 18:05	07:48 (C12) 20:09	07:23 (C11) 21:12	05:52 (C10) 22:02
10	08:46 16:01	07:56 17:05	16:09 (C16) 18:07	07:49 (C12) 20:12	07:22 (C11) 21:14	05:49 (C10) 22:03
11	08:45 16:03	07:54 17:08	16:07 (C16) 18:09	07:51 (C12) 20:14	07:23 (C11) 21:16	05:47 (C10) 22:04
12	08:44 16:04	07:52 17:10	16:06 (C16) 18:11	17:12 (C15) 20:16	07:24 (C11) 21:18	05:45 (C10) 22:05
13	08:43 16:06	07:49 17:12	16:06 (C16) 18:13	17:12 (C15) 20:18	07:25 (C11) 21:19	05:44 (C10) 22:06
14	08:42 16:08	07:47 17:14	16:05 (C16) 18:15	17:12 (C15) 20:20	07:26 (C11) 21:21	05:44 (C10) 22:06
15	08:41 16:10	07:45 17:16	16:05 (C16) 18:17	17:12 (C15) 20:22	07:28 (C11) 21:23	05:43 (C10) 22:07
16	08:40 16:12	07:42 17:19	16:04 (C16) 18:19	17:13 (C15) 20:24	07:30 (C11) 21:25	05:42 (C10) 22:08
17	08:39 16:14	07:40 17:21	16:04 (C16) 18:22	17:14 (C15) 20:26	07:42 (C11) 21:27	05:42 (C10) 22:08
18	08:37 16:16	07:38 17:23	16:04 (C16) 18:24	17:15 (C15) 20:28	04:57 21:29	05:41 (C10) 22:09
19	08:36 16:18	07:35 17:25	16:04 (C16) 18:26	17:20 (C15) 20:30	04:55 21:31	05:40 (C10) 22:09
20	08:35 16:20	07:33 17:28	16:04 (C16) 18:28	17:55 (C14) 20:32	04:53 21:33	05:40 (C10) 22:09
21	08:33 16:22	07:30 17:30	16:05 (C16) 18:30	17:53 (C14) 20:34	04:52 21:35	05:39 (C10) 22:10
22	08:32 16:24	07:28 17:32	16:05 (C16) 18:32	17:52 (C14) 20:37	04:50 21:36	05:40 (C10) 22:10
23	08:30 16:26	07:26 17:34	16:31 (C16) 18:34	18:04 (C14) 20:39	21:36 21:38	06:13 (C10) 22:10
24	08:29 16:28	07:23 17:36	16:29 (C16) 18:36	17:51 (C14) 20:41	04:47 21:40	05:39 (C10) 22:10
25	08:27 16:30	07:21 17:39	16:27 (C16) 18:38	18:08 (C14) 20:43	04:45 21:41	05:40 (C10) 22:10
26	08:25 16:32	07:18 17:41	16:25 (C16) 18:40	17:52 (C14) 20:45	04:44 21:43	05:40 (C10) 22:10
27	08:24 16:34	07:16 17:43	16:25 (C16) 18:42	18:06 (C14) 20:47	21:43 21:45	06:14 (C10) 22:10
28	08:22 16:36	07:13 17:45	16:20 (C16) 18:45	18:04 (C14) 20:49	21:45 21:46	06:13 (C10) 22:10
29	08:20 16:39	07:11 17:47	16:18 (C16) 18:47	18:02 (C14) 20:51	21:46 21:48	06:13 (C10) 22:10
30	08:18 16:41	07:09 17:49	16:16 (C16) 18:49	18:00 (C14) 20:53	21:48 21:49	06:14 (C10) 22:10
31	08:16 16:43	07:07 17:51	16:14 (C16) 18:51	17:55 (C11) 20:55	21:51 21:51	05:41 (C10) 22:10
Potential sun hours	235	266	366	426	508	528
Total, worst case		566	733	491	850	879
Sun reduction		0.20	0.41	0.50	0.57	0.56
Oper. time red.		0.98	0.98	0.98	0.98	0.98
Wind dir. red.		0.66	0.64	0.65	0.66	0.67
Total reduction		0.13	0.26	0.32	0.37	0.37
Total, real		74	190	156	312	322

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kaupres - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (126)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December						
1	04:30	05:48 (C10)	05:16	05:56 (C10)	06:17	07:22 (C11)	07:17	17:52 (C15)	07:22	15:39 (C16)	08:24					
	22:09	29	06:17 (C10)	21:28	29	20:29 (C13)	20:14	29	07:51 (C11)	18:53	22	18:14 (C15)	16:36	19	15:58 (C16)	15:45
2	04:31	05:48 (C10)	05:17	05:58 (C10)	06:19	07:21 (C11)	07:19	08:31 (C12)	07:25	15:40 (C16)	08:26					
	22:08	30	06:18 (C10)	21:26	29	20:31 (C13)	20:11	31	07:52 (C11)	18:51	33	18:14 (C15)	16:34	15	15:55 (C16)	15:44
3	04:32	05:49 (C10)	05:19	06:00 (C10)	06:21	07:21 (C11)	07:21	08:28 (C12)	07:27	15:42 (C16)	08:27					
	22:08	30	06:19 (C10)	21:24	27	20:32 (C13)	20:09	31	07:52 (C11)	18:48	38	18:13 (C15)	16:31	10	15:52 (C16)	15:43
4	04:33	05:49 (C10)	05:21	06:05 (C10)	06:23	07:19 (C11)	07:23	08:26 (C12)	07:29		08:29					
	22:07	30	06:19 (C10)	21:21	19	20:33 (C13)	20:06	32	07:51 (C11)	18:45	40	18:12 (C15)	16:29		15:42	
5	04:34	05:49 (C10)	05:23	20:15 (C13)	06:25	07:18 (C11)	07:25	08:24 (C12)	07:31		08:31					
	22:06	31	06:20 (C10)	21:19	18	20:33 (C13)	20:03	33	07:51 (C11)	18:43	41	18:11 (C15)	16:27		15:42	
6	04:35	05:49 (C10)	05:25	20:15 (C13)	06:27	07:18 (C11)	07:27	08:23 (C12)	07:33		08:32					
	22:06	31	06:20 (C10)	21:17	18	20:33 (C13)	20:01	33	07:51 (C11)	18:40	41	18:09 (C15)	16:25		15:41	
7	04:36	05:49 (C10)	05:27	20:15 (C13)	06:29	07:18 (C11)	07:29	08:22 (C12)	07:35		08:34					
	22:05	31	06:20 (C10)	21:15	19	20:34 (C13)	19:58	33	07:51 (C11)	18:38	38	18:06 (C15)	16:23		15:40	
8	04:37	05:49 (C10)	05:29	20:14 (C13)	06:31	07:18 (C11)	07:31	08:21 (C12)	07:38		08:35					
	22:04	32	06:21 (C10)	21:13	20	20:34 (C13)	19:55	33	07:51 (C11)	18:35	35	18:04 (C15)	16:21		15:40	
9	04:38	05:49 (C10)	05:31	20:14 (C13)	06:33	07:18 (C11)	07:33	08:20 (C12)	07:40		08:36					
	22:03	32	06:21 (C10)	21:11	20	20:34 (C13)	19:53	32	07:50 (C11)	18:32	27	08:47 (C12)	16:19		15:39	
10	04:39	05:48 (C10)	05:33	20:14 (C13)	06:35	07:18 (C11)	07:36	08:20 (C12)	07:42		08:38					
	22:02	33	06:21 (C10)	21:08	19	20:33 (C13)	19:50	31	07:49 (C11)	18:30	28	08:48 (C12)	16:17		15:39	
11	04:41	05:48 (C10)	05:35	20:14 (C13)	06:37	07:18 (C11)	07:38	08:20 (C12)	07:44		08:39					
	22:01	33	06:21 (C10)	21:06	19	20:33 (C13)	19:47	30	07:48 (C11)	18:27	27	08:47 (C12)	16:15		15:38	
12	04:42	05:49 (C10)	05:37	20:14 (C13)	06:39	07:19 (C11)	07:40	08:20 (C12)	07:46		08:40					
	22:00	33	06:22 (C10)	21:04	17	20:31 (C13)	19:45	28	07:47 (C11)	18:25	27	08:47 (C12)	16:13		15:38	
13	04:43	05:49 (C10)	05:39	20:15 (C13)	06:41	07:20 (C11)	07:42	08:20 (C12)	07:48		08:41					
	21:59	33	06:22 (C10)	21:01	14	20:29 (C13)	19:42	26	07:46 (C11)	18:22	26	08:46 (C12)	16:11		15:38	
14	04:45	05:49 (C10)	05:41	20:16 (C13)	06:43	07:21 (C11)	07:44	08:20 (C12)	07:50		08:42					
	21:58	33	06:22 (C10)	20:59	11	20:27 (C13)	19:39	23	07:44 (C11)	18:19	25	08:45 (C12)	16:09		15:38	
15	04:46	05:48 (C10)	05:43	20:17 (C13)	06:45	07:22 (C11)	07:46	08:20 (C12)	07:53		08:43					
	21:56	34	06:22 (C10)	20:57	8	20:25 (C13)	19:37	26	18:51 (C14)	18:17	33	16:54 (C16)	16:07		15:38	
16	04:48	05:49 (C10)	05:45	20:19 (C13)	06:47	07:24 (C11)	07:48	08:22 (C12)	07:55		08:44					
	21:55	34	06:23 (C10)	20:54	4	20:23 (C13)	19:34	26	18:54 (C14)	18:14	37	16:58 (C16)	16:06		15:38	
17	04:49	05:49 (C10)	05:47		06:49	07:28 (C11)	07:50	08:23 (C12)	07:57		08:45					
	21:54	33	06:22 (C10)	20:52	19:31	21	18:55 (C14)	18:12	37	16:59 (C16)	16:04		15:38			
18	04:51	05:49 (C10)	05:49		06:51	18:40 (C14)	07:52	08:25 (C12)	07:59		08:46					
	21:52	34	06:23 (C10)	20:49	19:28	15	18:55 (C14)	18:09	36	17:00 (C16)	16:02		15:38			
19	04:52	05:49 (C10)	05:51		06:53	18:38 (C14)	07:54	08:28 (C12)	08:01		08:47					
	21:51	34	06:23 (C10)	20:47	19:26	16	18:54 (C14)	18:07	32	17:01 (C16)	16:01		15:38			
20	04:54	05:50 (C10)	05:53		06:55	18:38 (C14)	07:56	16:36 (C16)	08:03		08:48					
	21:49	33	06:23 (C10)	20:44	19:23	14	18:52 (C14)	18:04	26	17:02 (C16)	15:59		15:39			
21	04:56	05:49 (C10)	05:55		06:57	18:37 (C14)	07:59	16:35 (C16)	08:05		08:48					
	21:48	34	06:23 (C10)	20:42	19:20	13	18:50 (C14)	18:02	27	17:02 (C16)	15:58		15:39			
22	04:57	05:50 (C10)	05:57		06:59	18:38 (C14)	08:01	16:34 (C16)	08:07		08:49					
	21:46	33	06:23 (C10)	20:39	19:18	9	18:47 (C14)	17:59	28	17:02 (C16)	15:56		15:39			
23	04:59	05:50 (C10)	05:59		07:01	18:38 (C14)	08:03	16:35 (C16)	08:09		08:49					
	21:44	32	06:22 (C10)	20:37	19:15	6	18:44 (C14)	17:57	28	17:03 (C16)	15:55		15:40			
24	05:01	05:51 (C10)	06:01		07:03	18:39 (C14)	08:05	16:34 (C16)	08:11		08:50					
	21:43	31	06:22 (C10)	20:34	19:12	3	18:42 (C14)	17:54	29	17:03 (C16)	15:53		15:40			
25	05:03	05:50 (C10)	06:03		07:05	17:59 (C15)	07:07	15:34 (C16)	08:13		08:51					
	21:41	31	06:21 (C10)	20:32	19:10	11	18:10 (C15)	16:52	28	16:02 (C16)	15:52		15:41			
26	05:04	05:51 (C10)	06:05		07:07	17:56 (C15)	07:09	15:33 (C16)	08:15		08:50					
	21:39	30	06:21 (C10)	20:29	19:07	16	18:12 (C15)	16:50	29	16:02 (C16)	15:51		15:42			
27	05:06	05:52 (C10)	06:07	07:31 (C11)	07:09	17:55 (C15)	07:12	15:34 (C16)	08:17		08:51					
	21:37	29	06:21 (C10)	20:27	13	07:44 (C11)	19:04	18	18:13 (C15)	16:47	28	16:02 (C16)	15:49		15:43	
28	05:08	05:52 (C10)	06:09	07:28 (C11)	07:11	17:53 (C15)	07:14	15:34 (C16)	08:19		08:51					
	21:35	28	06:20 (C10)	20:24	19	07:47 (C11)	19:01	20	18:13 (C15)	16:45	27	16:01 (C16)	15:48		15:44	
29	05:10	05:53 (C10)	06:11	07:26 (C11)	07:13	17:52 (C15)	07:16	15:36 (C16)	08:20		08:51					
	21:34	27	06:20 (C10)	20:22	22	07:48 (C11)	18:59	22	18:14 (C15)	16:43	25	16:01 (C16)	15:47		15:45	
30	05:12	05:54 (C10)	06:13	07:25 (C11)	07:15	17:52 (C15)	07:18	15:36 (C16)	08:22		08:51					
	21:32	25	06:19 (C10)	20:19	25	07:50 (C11)	18:56	23	18:15 (C15)	16:40	24	16:00 (C16)	15:46		15:46	
31	05:14	05:56 (C10)	06:15	07:23 (C11)			07:20	15:37 (C16)			08:51					
	21:30	22	06:18 (C10)	20:16	28	07:51 (C11)		16:38	21	15:58 (C16)		15:47				
Potential sun hours	529		469		385		324		247		216					
Total, worst case	965		398		684		943		44							
Sun reduction	0.49		0.50		0.43		0.26		0.08							
Oper. time red.	0.98		0.98		0.98		0.98		0.98							
Wind dir. red.	0.67		0.64		0.65		0.65		0.67							
Total reduction	0.32		0.31		0.27		0.16		0.05							
Total, real	312		124		187		155		2							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kaupres 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (127)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:50 15:48	08:15 16:45	07:11 17:47	07:48 (C12) 19:53	07:27 (C11) 20:55	20:04 (C13) 21:52
2	08:50 15:49	08:13 16:47	07:08 17:50	07:47 (C12) 19:55	07:26 (C11) 20:57	20:04 (C13) 21:54
3	08:50 15:51	08:11 16:50	07:05 17:52	07:48 (C12) 19:57	07:24 (C11) 20:59	20:04 (C13) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:47 (C12) 19:59	07:24 (C11) 21:01	20:04 (C13) 21:56
5	08:49 15:53	08:07 16:54	07:00 17:56	07:47 (C12) 20:01	07:24 (C11) 21:03	20:04 (C13) 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	07:48 (C12) 20:03	07:24 (C11) 21:05	20:05 (C13) 21:59
7	08:48 15:56	08:02 16:59	06:55 18:00	07:48 (C12) 20:05	07:23 (C11) 21:08	20:05 (C13) 22:00
8	08:47 15:58	08:00 17:01	16:13 (C16) 18:03	07:49 (C12) 20:07	07:23 (C11) 21:10	20:06 (C13) 22:01
9	08:47 15:59	07:58 17:03	16:11 (C16) 18:05	07:50 (C12) 20:09	07:24 (C11) 21:12	05:54 (C10) 22:02
10	08:46 16:01	07:56 17:05	16:10 (C16) 18:07	07:52 (C12) 20:12	07:23 (C11) 21:14	05:50 (C10) 22:03
11	08:45 16:03	07:54 17:08	16:08 (C16) 18:09	07:54 (C12) 20:14	07:24 (C11) 21:16	05:47 (C10) 22:04
12	08:44 16:04	07:52 17:10	16:07 (C16) 18:11	17:12 (C15) 20:16	07:25 (C11) 21:18	05:45 (C10) 22:05
13	08:43 16:06	07:49 17:12	16:07 (C16) 18:13	17:12 (C15) 20:18	07:26 (C11) 21:19	05:44 (C10) 22:06
14	08:42 16:08	07:47 17:14	16:06 (C16) 18:15	17:12 (C15) 20:20	07:27 (C11) 21:21	05:44 (C10) 22:06
15	08:41 16:10	07:45 17:16	16:06 (C16) 18:17	17:12 (C15) 20:22	07:29 (C11) 21:23	05:42 (C10) 22:07
16	08:40 16:12	07:42 17:19	16:05 (C16) 18:19	17:14 (C15) 20:24	07:31 (C11) 21:25	06:09 (C10) 22:08
17	08:39 16:14	07:40 17:21	16:05 (C16) 18:22	17:15 (C15) 20:26	04:59 21:27	05:41 (C10) 22:08
18	08:37 16:16	07:38 17:23	16:05 (C16) 18:24	17:16 (C15) 20:28	04:57 21:29	05:41 (C10) 22:09
19	08:36 16:18	07:35 17:25	16:05 (C16) 18:26	17:57 (C14) 20:30	04:55 21:31	05:40 (C10) 22:09
20	08:35 16:20	07:33 17:28	16:05 (C16) 18:28	17:54 (C14) 20:32	05:02 21:33	05:40 (C10) 22:09
21	08:33 16:22	07:30 17:30	16:06 (C16) 18:30	17:53 (C14) 20:34	04:52 21:35	05:39 (C10) 22:10
22	08:32 16:24	07:28 17:32	07:59 (C12) 18:32	17:52 (C14) 20:37	04:50 21:36	05:39 (C10) 22:10
23	08:30 16:26	07:26 17:34	07:55 (C12) 18:34	17:52 (C14) 20:39	04:48 21:38	05:39 (C10) 22:10
24	08:29 16:28	07:23 17:36	07:53 (C12) 18:36	17:51 (C14) 20:41	04:47 21:40	05:39 (C10) 22:10
25	08:27 16:30	07:21 17:39	07:51 (C12) 18:38	17:51 (C14) 20:43	04:45 21:41	05:39 (C10) 22:10
26	08:25 16:32	07:18 17:41	07:51 (C12) 18:40	06:40 (C11) 20:45	20:11 (C13) 21:43	05:40 (C10) 22:10
27	08:24 16:34	07:16 17:43	07:49 (C12) 18:42	06:36 (C11) 20:47	20:09 (C13) 21:45	05:39 (C10) 22:10
28	08:22 16:36	07:13 17:45	07:48 (C12) 18:45	06:32 (C11) 20:49	20:16 (C13) 21:46	06:13 (C10) 22:10
29	08:20 16:39		08:14 (C12) 19:47	07:31 (C14) 20:51	20:18 (C13) 21:48	06:13 (C10) 22:09
30	08:18 16:41			07:29 (C11) 20:53	20:20 (C13) 21:48	05:40 (C10) 22:09
31	08:16 16:43			07:27 (C11) 20:56	20:21 (C13) 21:49	05:40 (C10) 22:09
Potential sun hours	235	266	366	426	508	528
Total, worst case		575	731	510	837	915
Sun reduction		0.20	0.41	0.50	0.57	0.56
Oper. time red.		0.98	0.98	0.98	0.98	0.98
Wind dir. red.		0.66	0.64	0.65	0.66	0.67
Total reduction		0.13	0.26	0.32	0.37	0.37
Total, real		75	189	162	307	335

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kaupres 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (127)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July			August			September			October			November			December		
1	04:30			05:47 (C10)	05:16		05:56 (C10)	06:17		07:23 (C11)	07:17		17:52 (C15)	07:22		15:40 (C16)	08:24	
	22:09	31	06:18 (C10)	21:28	23	20:25 (C13)	20:14	30	07:53 (C11)	18:53	22	18:14 (C15)	16:36	18	15:58 (C16)	15:45		
2	04:31			05:48 (C10)	05:17		05:58 (C10)	06:19		07:22 (C11)	07:19		08:35 (C12)	07:25		15:41 (C16)	08:26	
	22:08	30	06:18 (C10)	21:26	25	20:28 (C13)	20:11	31	07:53 (C11)	18:51	29	18:14 (C15)	16:34	15	15:56 (C16)	15:44		
3	04:32			05:48 (C10)	05:19		06:01 (C10)	06:21		07:22 (C11)	07:21		08:31 (C12)	07:27		15:43 (C16)	08:27	
	22:08	31	06:19 (C10)	21:24	22	20:30 (C13)	20:09	32	07:54 (C11)	18:48	35	18:13 (C15)	16:31	10	15:53 (C16)	15:43		
4	04:33			05:48 (C10)	05:21		20:17 (C13)	06:23		07:20 (C11)	07:23		08:28 (C12)	07:29			08:29	
	22:07	31	06:19 (C10)	21:21	14	20:31 (C13)	20:06	33	07:53 (C11)	18:45	39	18:12 (C15)	16:29			15:42		
5	04:34			05:48 (C10)	05:23		20:15 (C13)	06:25		07:19 (C11)	07:25		08:26 (C12)	07:31			08:31	
	22:06	32	06:20 (C10)	21:19	16	20:31 (C13)	20:03	34	07:53 (C11)	18:43	41	18:11 (C15)	16:27			15:42		
6	04:35			05:48 (C10)	05:25		20:14 (C13)	06:27		07:19 (C11)	07:27		08:25 (C12)	07:33			08:32	
	22:06	32	06:20 (C10)	21:17	18	20:32 (C13)	20:01	34	07:53 (C11)	18:40	40	18:09 (C15)	16:25			15:41		
7	04:36			05:48 (C10)	05:27		20:14 (C13)	06:29		07:19 (C11)	07:29		08:24 (C12)	07:35			08:34	
	22:05	33	06:21 (C10)	21:15	19	20:33 (C13)	19:58	33	07:52 (C11)	18:38	38	18:06 (C15)	16:23			15:40		
8	04:37			05:48 (C10)	05:29		20:14 (C13)	06:31		07:19 (C11)	07:31		08:23 (C12)	07:38			08:35	
	22:04	33	06:21 (C10)	21:13	19	20:33 (C13)	19:55	33	07:52 (C11)	18:35	35	18:04 (C15)	16:21			15:40		
9	04:38			05:48 (C10)	05:31		20:14 (C13)	06:33		07:19 (C11)	07:33		08:22 (C12)	07:40			08:36	
	22:03	33	06:21 (C10)	21:11	19	20:33 (C13)	19:53	33	07:52 (C11)	18:32	27	08:49 (C12)	16:19			15:39		
10	04:39			05:48 (C10)	05:33		20:13 (C13)	06:35		07:19 (C11)	07:36		08:22 (C12)	07:42			08:38	
	22:02	33	06:21 (C10)	21:08	19	20:32 (C13)	19:50	32	07:51 (C11)	18:30	28	08:50 (C12)	16:17			15:39		
11	04:41			05:48 (C10)	05:35		20:13 (C13)	06:37		07:19 (C11)	07:38		08:22 (C12)	07:44			08:39	
	22:01	33	06:21 (C10)	21:06	19	20:32 (C13)	19:47	31	07:50 (C11)	18:27	27	08:49 (C12)	16:15			15:38		
12	04:42			05:49 (C10)	05:37		20:13 (C13)	06:39		07:20 (C11)	07:40		08:21 (C12)	07:46			08:40	
	22:00	33	06:22 (C10)	21:04	18	20:31 (C13)	19:45	29	07:49 (C11)	18:25	28	08:49 (C12)	16:13			15:38		
13	04:43			05:48 (C10)	05:39		20:14 (C13)	06:41		07:20 (C11)	07:42		08:21 (C12)	07:48			08:41	
	21:59	34	06:22 (C10)	21:01	15	20:29 (C13)	19:42	28	07:48 (C11)	18:22	27	08:48 (C12)	16:11			15:38		
14	04:45			05:48 (C10)	05:41		20:14 (C13)	06:43		07:21 (C11)	07:44		08:21 (C12)	07:50			08:42	
	21:58	34	06:22 (C10)	20:59	13	20:27 (C13)	19:39	25	07:46 (C11)	18:19	26	08:47 (C12)	16:09			15:38		
15	04:46			05:48 (C10)	05:43		20:15 (C13)	06:45		07:23 (C11)	07:46		08:22 (C12)	07:53			08:43	
	21:56	34	06:22 (C10)	20:57	10	20:25 (C13)	19:37	25	18:50 (C14)	18:17	33	16:55 (C16)	16:07			15:38		
16	04:48			05:49 (C10)	05:45		20:17 (C13)	06:47		07:24 (C11)	07:48		08:23 (C12)	07:55			08:44	
	21:55	34	06:23 (C10)	20:54	6	20:23 (C13)	19:34	28	18:53 (C14)	18:14	38	16:59 (C16)	16:06			15:38		
17	04:49			05:48 (C10)	05:47		20:18 (C13)	06:49		07:28 (C11)	07:50		08:24 (C12)	07:57			08:45	
	21:54	35	06:23 (C10)	20:52	1	20:19 (C13)	19:31	23	18:54 (C14)	18:12	39	17:00 (C16)	16:04			15:38		
18	04:51			05:49 (C10)	05:49			06:51		18:40 (C14)	07:52		08:25 (C12)	07:59			08:46	
	21:52	34	06:23 (C10)	20:49			19:28	15	18:55 (C14)	18:09	39	17:01 (C16)	16:02			15:38		
19	04:52			05:49 (C10)	05:51		06:53			18:38 (C14)	07:54		08:27 (C12)	08:01			08:47	
	21:51	34	06:23 (C10)	20:47			19:26	16	18:54 (C14)	18:07	37	17:02 (C16)	16:01			15:38		
20	04:54			05:49 (C10)	05:53		06:55			18:37 (C14)	07:56		16:37 (C16)	08:03			08:48	
	21:49	34	06:23 (C10)	20:44			19:23	15	18:52 (C14)	18:04	26	17:03 (C16)	15:59			15:39		
21	04:56			05:49 (C10)	05:55		06:57			18:37 (C14)	07:59		16:36 (C16)	08:05			08:48	
	21:48	34	06:23 (C10)	20:42			19:20	13	18:50 (C14)	18:02	27	17:03 (C16)	15:58			15:39		
22	04:57			05:50 (C10)	05:57		06:59			18:37 (C14)	08:01		16:35 (C16)	08:07			08:49	
	21:46	33	06:23 (C10)	20:39			19:18	10	18:47 (C14)	17:59	28	17:03 (C16)	15:56			15:39		
23	04:59			05:50 (C10)	05:59		07:01			18:38 (C14)	08:03		16:36 (C16)	08:09			08:49	
	21:44	32	06:22 (C10)	20:37			19:15	6	18:44 (C14)	17:57	28	17:04 (C16)	15:55			15:40		
24	05:01			05:50 (C10)	06:01		07:03			18:39 (C14)	08:05		16:35 (C16)	08:11			08:50	
	21:43	32	06:22 (C10)	20:34			19:12	3	18:42 (C14)	17:54	28	17:03 (C16)	15:53			15:40		
25	05:03			05:50 (C10)	06:03		07:05			18:00 (C15)	07:07		15:35 (C16)	08:13			15:41	
	21:41	31	06:21 (C10)	20:32			19:10	9	18:09 (C15)	16:52	28	16:03 (C16)	15:52			15:41		
26	05:04			05:51 (C10)	06:05		07:07			17:57 (C15)	07:09		15:34 (C16)	08:15			08:50	
	21:39	30	06:21 (C10)	20:29			19:07	14	18:11 (C15)	16:50	28	16:02 (C16)	15:51			15:42		
27	05:06			05:52 (C10)	06:07		07:32 (C11)	07:09		17:55 (C15)	07:12		15:35 (C16)	08:17			08:51	
	21:37	29	06:21 (C10)	20:27	13	07:45 (C11)	19:04	17	18:12 (C15)	16:47	28	16:03 (C16)	15:49			15:43		
28	05:08			05:52 (C10)	06:09		07:29 (C11)	07:11		17:53 (C15)	07:14		15:35 (C16)	08:19			08:51	
	21:35	28	06:20 (C10)	20:24	19	07:48 (C11)	19:01	20	18:13 (C15)	16:45	27	16:02 (C16)	15:48			15:44		
29	05:10			05:53 (C10)	06:11		07:27 (C11)	07:13		17:52 (C15)	07:16		15:37 (C16)	08:20			08:51	
	21:34	26	06:19 (C10)	20:22	23	07:50 (C11)	18:59	21	18:13 (C15)	16:43	25	16:02 (C16)	15:47			15:45		
30	05:12			05:54 (C10)	06:13		07:26 (C11)	07:15		17:52 (C15)	07:18		15:37 (C16)	08:22			08:51	
	21:32	25	06:19 (C10)	20:19	25	07:51 (C11)	18:56	22	18:14 (C15)	16:40	23	16:00 (C16)	15:46			15:46		
31	05:14			05:56 (C10)	06:15		07:24 (C11)				07:20		15:38 (C16)			08:51		
	21:30	22	06:18 (C10)	20:16	28	07:52 (C11)					16:38	21	15:59 (C16)			15:47		
Potential sun hours	529			469			385			324		247				216		
Total, worst case	980			384			695			945		43						
Sun reduction	0.49			0.50			0.43			0.26		0.08						
Oper. time red.	0.98			0.98			0.98			0.98		0.98						
Wind dir. red.	0.67			0.64			0.65			0.65		0.67						
Total reduction	0.32			0.31			0.27			0.16		0.05						
Total, real	317			119			190			155		2						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Krasta Ozoli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (9)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:32	06:29 (C1)
	15:48	16:45	17:47	19:53	20:55	31 07:00 (C1)
2	08:50	08:13	07:08	06:46	05:30	06:29 (C1)
	15:49	16:47	17:50	19:55	20:57	31 07:00 (C1)
3	08:50	08:11	07:06	06:43	05:28	06:30 (C1)
	15:51	16:50	17:52	19:57	21:00	30 07:00 (C1)
4	08:50	08:09	07:03	06:41	05:26	06:30 (C1)
	15:52	16:52	17:54	19:59	21:02	29 06:59 (C1)
5	08:49	08:07	07:00	06:38	05:23	06:31 (C1)
	15:53	16:54	17:56	20:01	21:04	27 06:58 (C1)
6	08:49	08:05	06:58	06:35	05:21	06:32 (C1)
	15:55	16:56	17:58	20:03	21:06	25 06:57 (C1)
7	08:48	08:03	06:55	06:33	05:19	06:33 (C1)
	15:56	16:59	18:00	20:05	21:08	23 06:56 (C1)
8	08:48	08:00	06:53	06:30	05:17	06:34 (C1)
	15:58	17:01	18:03	20:08	21:10	20 06:54 (C1)
9	08:47	07:58	06:50	06:27	05:15	06:36 (C1)
	15:59	17:03	18:05	20:10	21:12	16 06:52 (C1)
10	08:46	07:56	06:47	06:25	05:13	06:38 (C1)
	16:01	17:05	18:07	20:12	21:14	12 06:50 (C1)
11	08:45	07:54	06:45	06:22	05:10	06:42 (C1)
	16:03	17:08	18:09	20:14	21:16	4 06:46 (C1)
12	08:44	07:52	06:42	06:20	06:45 (C2)	05:08
	16:04	17:10	18:11	20:16	4 06:49 (C2)	21:18
13	08:43	07:49	06:39	06:17	06:43 (C2)	05:06
	16:06	17:12	18:13	20:18	7 06:50 (C2)	21:20
14	08:42	07:47	06:37	06:14	06:40 (C2)	05:04
	16:08	17:14	18:15	20:20	11 06:51 (C2)	21:22
15	08:41	07:45	06:34	06:12	06:38 (C2)	05:02
	16:10	17:17	18:17	20:22	13 06:51 (C2)	21:24
16	08:40	07:43	06:32	06:09	06:35 (C2)	05:01
	16:12	17:19	18:20	20:24	17 06:52 (C1)	21:25
17	08:39	07:40	06:29	06:07	06:34 (C2)	04:59
	16:14	17:21	18:22	5 06:59 (C4)	20:26	22 06:56 (C1)
18	08:37	07:38	06:26	06:04	06:34 (C2)	04:57
	16:16	17:23	18:24	9 07:00 (C4)	20:28	23 06:57 (C1)
19	08:36	07:35	06:24	06:02	06:35 (C2)	04:55
	16:18	17:25	18:26	13 07:02 (C4)	20:30	24 06:59 (C1)
20	08:35	07:33	06:21	06:00	06:34 (C1)	04:53
	16:20	17:28	18:28	16 07:02 (C4)	20:33	26 07:00 (C1)
21	08:33	07:31	06:18	06:03	06:33 (C1)	04:52
	16:22	17:30	18:30	19 07:02 (C4)	20:35	28 07:01 (C1)
22	08:32	07:28	06:15	06:04	06:32 (C1)	04:50
	16:24	17:32	18:32	18 07:02 (C4)	20:37	30 07:02 (C1)
23	08:30	07:26	06:13	06:03	06:31 (C1)	04:48
	16:26	17:34	18:34	19 07:02 (C4)	20:39	30 07:01 (C1)
24	08:29	07:23	06:10	06:03	06:30 (C1)	04:47
	16:28	17:37	18:36	18 07:01 (C4)	20:41	32 07:02 (C1)
25	08:27	07:21	06:07	06:03	06:30 (C1)	04:45
	16:30	17:39	18:38	16 06:59 (C4)	20:43	32 07:02 (C1)
26	08:26	07:18	06:05	06:04	06:29 (C1)	04:44
	16:32	17:41	18:40	13 06:58 (C4)	20:45	33 07:02 (C1)
27	08:24	07:16	06:02	06:04	06:29 (C1)	04:42
	16:34	17:43	18:43	10 06:56 (C4)	20:47	33 07:02 (C1)
28	08:22	07:13	05:59	05:40	06:29 (C1)	04:41
	16:36	17:45	18:45	20:49	33 07:02 (C1)	21:47
29	08:20		06:57	05:37	06:29 (C1)	04:39
	16:39		19:47	20:51	33 07:02 (C1)	21:48
30	08:18		06:54	05:35	06:29 (C1)	04:38
	16:41		19:49	20:53	32 07:01 (C1)	21:50
31	08:17		06:51			04:37
	16:43		19:51			21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case			156	463	255	485
Sun reduction			0.41	0.50	0.57	0.56
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.64	0.65	0.65	0.67
Total reduction			0.26	0.32	0.36	0.36
Total, real			40	148	92	176

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Krasta Ozoli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (9)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:07 (C17)	05:16		06:17	
	22:09	17	05:24 (C17)		20:14	
2	04:31	05:08 (C17)	05:17	06:50 (C1)	06:19	
	22:09	17	05:25 (C17)	06:58 (C1)	20:11	
3	04:32	05:09 (C17)	05:19	06:47 (C1)	06:21	
	22:08	16	05:25 (C17)	07:01 (C1)	20:09	
4	04:33	05:10 (C17)	05:21	06:45 (C1)	06:23	
	22:07	15	05:25 (C17)	07:03 (C1)	20:06	
5	04:34	05:11 (C17)	05:23	06:43 (C1)	06:25	
	22:07	14	05:25 (C17)	07:04 (C1)	20:03	
6	04:35	05:12 (C17)	05:25	06:42 (C1)	06:27	
	22:06	13	05:25 (C17)	07:06 (C1)	20:01	
7	04:36	05:13 (C17)	05:27	06:41 (C1)	06:29	
	22:05	12	05:25 (C17)	07:07 (C1)	19:58	
8	04:37	05:14 (C17)	05:29	06:40 (C1)	06:31	
	22:04	11	05:25 (C17)	07:08 (C1)	19:55	
9	04:38	05:15 (C17)	05:31	06:40 (C1)	06:33	
	22:03	10	05:25 (C17)	07:08 (C1)	19:53	
10	04:39	05:16 (C17)	05:33	06:38 (C1)	06:35	
	22:02	8	05:24 (C17)	07:08 (C1)	19:50	
11	04:41	05:17 (C17)	05:35	06:38 (C1)	06:37	
	22:01	7	05:24 (C17)	07:09 (C1)	19:47	
12	04:42	05:19 (C17)	05:37	06:37 (C1)	06:39	
	22:00	5	05:24 (C17)	07:09 (C1)	19:45	
13	04:43	05:20 (C17)	05:39	06:37 (C1)	06:41	
	21:59	3	05:23 (C17)	07:09 (C1)	19:42	
14	04:45	05:21 (C17)	05:41	06:37 (C1)	06:43	
	21:58	1	05:22 (C17)	07:10 (C1)	19:39	
15	04:46		05:43	06:37 (C1)	06:45	
	21:57		20:57	07:10 (C1)	19:37	
16	04:48		05:45	06:37 (C1)	06:47	
	21:55		20:54	07:09 (C1)	19:34	9
17	04:49		05:47	06:36 (C1)	06:49	
	21:54		20:52	07:08 (C1)	19:31	14
18	04:51		05:49	06:36 (C1)	06:51	
	21:52		20:50	07:08 (C1)	19:29	16
19	04:52		05:51	06:36 (C1)	06:53	
	21:51		20:47	07:08 (C1)	19:26	17
20	04:54		05:53	06:36 (C1)	06:55	
	21:49		20:45	07:07 (C1)	19:23	18
21	04:56		05:55	06:37 (C1)	06:57	
	21:48		20:42	07:06 (C1)	19:20	19
22	04:57		05:57	06:38 (C1)	06:59	
	21:46		20:40	07:05 (C1)	19:18	19
23	04:59		05:59	06:39 (C1)	07:01	
	21:45		20:37	07:04 (C1)	19:15	17
24	05:01		06:01	06:38 (C2)	07:03	
	21:43		20:35	07:03 (C1)	19:12	14
25	05:03		06:03	07:37 (C2)	07:05	
	21:41		20:32	07:01 (C1)	19:10	11
26	05:04		06:05	06:36 (C2)	07:07	
	21:39		20:29	06:58 (C1)	19:07	7
27	05:06		06:07	06:37 (C2)	07:09	
	21:38		20:27	06:54 (C1)	19:04	2
28	05:08		06:09	06:39 (C2)	07:11	
	21:36		20:24	06:52 (C2)	19:02	
29	05:10		06:11	06:41 (C2)	07:13	
	21:34		20:22	06:51 (C2)	18:59	
30	05:12		06:13	06:43 (C2)	07:15	
	21:32		20:19	06:50 (C2)	18:56	
31	05:14		06:15	06:45 (C2)		
	21:30		20:17	06:49 (C2)		
Potential sun hours	529		469		385	
Total, worst case		149			163	
Sun reduction		0.49			0.43	
Oper. time red.		0.98			0.98	
Wind dir. red.		0.67			0.64	
Total reduction		0.32			0.27	
Total, real		48			44	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Krastini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (116)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		14:26 (C14)	08:15		14:33 (C13)	07:11			06:49		07:14 (C6)	05:32					04:36
	15:48	20	14:46 (C14)	16:45	38	15:11 (C13)	17:47			19:53	10	07:24 (C6)	20:55					21:52
2	08:50		14:27 (C14)	08:13		14:33 (C13)	07:08			06:46		07:11 (C6)	05:30					04:35
	15:49	19	14:46 (C14)	16:47	38	15:11 (C13)	17:50			19:55	13	07:24 (C6)	20:57					21:54
3	08:50		14:27 (C14)	08:11		14:34 (C13)	07:06			06:43		07:08 (C6)	05:28					04:34
	15:51	19	14:46 (C14)	16:50	37	15:11 (C13)	17:52			19:57	16	07:24 (C6)	20:59					21:55
4	08:50		14:28 (C14)	08:09		14:35 (C13)	07:03			06:41		07:07 (C6)	05:26					04:33
	15:52	19	14:47 (C13)	16:52	36	15:11 (C13)	17:54			19:59	17	07:24 (C6)	21:02					21:57
5	08:49		14:29 (C14)	08:07		14:36 (C13)	07:00			06:38		07:07 (C6)	05:23					04:32
	15:53	21	14:50 (C13)	16:54	34	15:10 (C13)	17:56			20:01	16	07:23 (C6)	21:04					21:58
6	08:49		14:29 (C14)	08:05		14:36 (C13)	06:58			06:35		07:08 (C6)	05:21					04:31
	15:55	23	14:52 (C13)	16:56	33	15:09 (C13)	17:58			20:03	15	07:23 (C6)	21:06					21:59
7	08:48		14:30 (C14)	08:03		14:38 (C13)	06:55			06:33		07:08 (C6)	05:19					04:30
	15:56	23	14:53 (C13)	16:59	30	15:08 (C13)	18:00			20:05	13	07:21 (C6)	21:08					22:00
8	08:47		14:31 (C14)	08:00		14:39 (C13)	06:53			06:30		07:09 (C6)	05:17					04:29
	15:58	24	14:55 (C13)	17:01	29	15:08 (C13)	18:03			20:07	9	07:18 (C6)	21:10					22:01
9	08:47		14:32 (C14)	07:58		14:40 (C13)	06:50			06:27			05:15					04:28
	15:59	24	14:56 (C13)	17:03	26	15:06 (C13)	18:05			20:10			21:12					22:02
10	08:46		14:33 (C14)	07:56		14:43 (C13)	06:47			06:25			05:13			05:42 (C2)		04:28
	16:01	24	14:57 (C13)	17:05	21	15:04 (C13)	18:07			20:12			21:14	4		05:46 (C2)		22:03
11	08:45		14:34 (C14)	07:54		14:46 (C13)	06:45			06:22			05:10			05:40 (C2)		04:27
	16:03	25	14:59 (C13)	17:08	16	15:02 (C13)	18:09	4	07:14 (C8)	20:14			21:16	7		05:47 (C2)		22:04
12	08:44		14:33 (C13)	07:52		14:50 (C13)	06:42			07:08 (C8)	06:20		05:08			05:38 (C2)		04:27
	16:04	26	14:59 (C13)	17:10	8	14:58 (C13)	18:11	8	07:16 (C8)	20:16			21:18	10		05:48 (C2)		22:05
13	08:43		14:32 (C13)	07:49			06:39			07:05 (C8)	06:17		06:43 (C4)	05:06		05:36 (C2)		04:26
	16:06	29	15:01 (C13)	17:12			18:13	11	07:16 (C8)	20:18	8	06:51 (C4)	21:20	12		05:48 (C2)		22:06
14	08:42		14:33 (C13)	07:47			06:37			07:02 (C8)	06:14		06:40 (C4)	05:04		05:35 (C2)		04:26
	16:08	29	15:02 (C13)	17:14			18:15	14	07:16 (C8)	20:20	12	06:52 (C4)	21:22	14		05:49 (C2)		22:07
15	08:41		14:32 (C13)	07:45			06:34			06:59 (C8)	06:12		06:38 (C4)	05:02		05:33 (C2)		04:26
	16:10	31	15:03 (C13)	17:17			18:17	16	07:15 (C8)	20:22	16	06:54 (C4)	21:24	16		05:49 (C2)		22:07
16	08:40		14:32 (C13)	07:43			06:31			07:00 (C8)	06:09		06:35 (C4)	05:01		05:31 (C2)		04:25
	16:12	32	15:04 (C13)	17:19			18:20	16	07:16 (C8)	20:24	19	06:54 (C4)	21:25	18		05:49 (C2)		22:08
17	08:39		14:31 (C13)	07:40			06:29			07:00 (C8)	06:07		06:34 (C4)	04:59		05:32 (C2)		04:25
	16:14	33	15:04 (C13)	17:21			18:22	14	07:14 (C8)	20:26	21	06:55 (C4)	21:27	18		05:50 (C2)		22:08
18	08:37		14:32 (C13)	07:38			06:26			07:01 (C8)	06:04		06:33 (C4)	04:57		05:31 (C2)		04:25
	16:16	34	15:06 (C13)	17:23			18:24	11	07:12 (C8)	20:28	22	06:55 (C4)	21:29	18		05:49 (C2)		22:09
19	08:36		14:31 (C13)	07:35			06:23			07:03 (C8)	06:02		06:33 (C4)	04:55		05:31 (C2)		04:25
	16:18	35	15:06 (C13)	17:25			18:26	8	07:11 (C8)	20:30	22	06:55 (C4)	21:31	18		05:49 (C2)		22:09
20	08:35		14:32 (C13)	07:33			06:21			06:59 (C8)	04:53		06:32 (C4)	04:53		05:32 (C2)		04:25
	16:20	36	15:08 (C13)	17:28			18:28			20:32	22	06:54 (C4)	21:33	17		05:49 (C2)		22:10
21	08:33		14:31 (C13)	07:31			06:18			05:57			06:32 (C4)	04:52		05:32 (C2)		04:25
	16:22	37	15:08 (C13)	17:30			18:30			20:35	22	06:54 (C4)	21:35	16		05:48 (C2)		22:10
22	08:32		14:31 (C13)	07:28			06:15			05:54			06:33 (C4)	04:50		05:33 (C2)		04:25
	16:24	37	15:08 (C13)	17:32			18:32			20:37	21	06:54 (C4)	21:36	15		05:48 (C2)		22:10
23	08:30		14:31 (C13)	07:26			06:13			05:52			06:32 (C4)	04:48		05:33 (C2)		04:26
	16:26	38	15:09 (C13)	17:34			18:34			20:39	21	06:53 (C4)	21:38	14		05:47 (C2)		22:10
24	08:29		14:31 (C13)	07:23			06:10			05:49			06:33 (C4)	04:47		05:34 (C2)		04:26
	16:28	38	15:09 (C13)	17:37			18:36			20:41	19	06:52 (C4)	21:40	13		05:47 (C2)		22:10
25	08:27		14:32 (C13)	07:21			06:07			05:47			06:34 (C4)	04:45		05:35 (C2)		04:26
	16:30	38	15:10 (C13)	17:39			18:38			20:43	18	06:52 (C4)	21:42	12		05:47 (C2)		22:10
26	08:25		14:32 (C13)	07:18			06:05			05:44			06:34 (C4)	04:44		05:37 (C2)		04:27
	16:32	39	15:11 (C13)	17:41			18:40			20:45	16	06:50 (C4)	21:43	9		05:46 (C2)		22:10
27	08:24		14:32 (C13)	07:16			06:02			05:42			06:36 (C4)	04:42		05:38 (C2)		04:27
	16:34	39	15:11 (C13)	17:43			18:43			20:47	12	06:48 (C4)	21:45	6		05:44 (C2)		22:10
28	08:22		14:32 (C13)	07:13			05:59			05:40			06:39 (C4)	04:41				04:28
	16:36	39	15:11 (C13)	17:45			18:45			20:49	6	06:45 (C4)	21:47					22:10
29	08:20		14:32 (C13)				06:57			05:37			04:39					04:28
	16:39	40	15:12 (C13)				19:47			20:51			21:48					22:10
30	08:18		14:33 (C13)				06:54			05:35			04:38					04:29
	16:41	39	15:12 (C13)				19:49	3	07:22 (C6)	20:53			21:50					22:09
31	08:17		14:32 (C13)				06:51			07:16 (C6)			04:37					
	16:43	39	15:11 (C13)				19:51	7	07:23 (C6)				21:51					
Potential sun hours	235			266			366			426			508					529
Total, worst case	949			346			112			386			237					
Sun reduction	0.13			0.20			0.41			0.50			0.57					
Oper. time red.	0.98			0.98			0.98			0.98			0.98					
Wind dir. red.	0.66			0.66			0.63			0.66			0.67					
Total reduction	0.09			0.13			0.26			0.32			0.37					
Total, real	82			45			29			124			89					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Krastini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (116)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	05:49 (C2) 20:14	07:17 18:54	07:46 (C8) 16:36	14:12 (C13) 15:45
2	04:31 22:08	05:17 21:26	05:51 (C2) 20:11	07:19 18:51	07:48 (C8) 16:34	14:10 (C13) 15:44
3	04:32 22:08	05:19 21:24	05:53 (C2) 20:09	07:21 18:48	07:50 (C8) 16:31	14:09 (C13) 15:43
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:52 (C8) 16:29	14:07 (C13) 15:42
5	04:34 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:54 (C8) 16:27	14:06 (C13) 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:56 (C8) 16:25	14:06 (C13) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:58 (C8) 16:23	14:05 (C13) 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	07:59 (C8) 16:21	14:05 (C13) 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	08:00 (C8) 16:19	14:04 (C13) 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:01 (C8) 16:17	14:03 (C13) 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	08:02 (C8) 16:15	14:03 (C13) 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:03 (C8) 16:13	14:03 (C13) 15:38
13	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	08:04 (C8) 16:11	14:03 (C13) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:19	08:05 (C8) 16:09	14:03 (C13) 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:06 (C8) 16:08	14:03 (C13) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	08:07 (C8) 16:06	14:03 (C13) 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:08 (C8) 16:04	14:03 (C13) 15:38
18	04:51 21:52	05:49 20:49	06:51 19:29	07:52 18:09	08:09 (C8) 16:02	14:03 (C13) 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:10 (C8) 16:01	14:03 (C13) 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:56 18:04	08:11 (C8) 16:00	14:03 (C13) 15:38
21	04:56 21:48	05:55 20:42	06:57 19:20	07:58 18:02	08:12 (C8) 16:00	14:03 (C13) 15:38
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:13 (C8) 16:00	14:03 (C13) 15:38
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:14 (C8) 16:00	14:03 (C13) 15:38
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:15 (C8) 16:00	14:03 (C13) 15:38
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:53	08:16 (C8) 16:00	14:03 (C13) 15:38
26	05:04 21:39	06:05 20:29	07:07 19:07	08:09 17:51	08:17 (C8) 16:00	14:03 (C13) 15:38
27	05:06 21:37	06:07 20:27	07:09 19:04	08:11 17:49	08:18 (C8) 16:00	14:03 (C13) 15:38
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 17:47	08:19 (C8) 16:00	14:03 (C13) 15:38
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:45	08:20 (C8) 16:00	14:03 (C13) 15:38
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:43	08:21 (C8) 16:00	14:03 (C13) 15:38
31	05:14 21:30	06:15 20:17	07:17 18:54	08:19 17:41	08:22 (C8) 16:00	14:03 (C13) 15:38
Potential sun hours	529	469	385	324	247	216
Total, worst case	225	295	207	44	1031	646
Sun reduction	0.49	0.50	0.43	0.26	0.08	0.07
Oper. time red.	0.98	0.98	0.98	0.98	0.98	0.98
Wind dir. red.	0.67	0.66	0.65	0.65	0.66	0.66
Total reduction	0.32	0.32	0.27	0.17	0.05	0.05
Total, real	73	94	56	7	55	30

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kropini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (172)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:35	08:24 15:44
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:43
3	08:50 15:50	08:11 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:50 15:51	08:09 16:51	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:57	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:18 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:34 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:20	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:12	04:28 22:02	04:37 22:03	05:31 21:11	06:33 19:52	07:33 18:32	07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:07	06:24 20:11	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:09	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:04	08:45 15:37
18	08:37 16:15	07:38 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:24 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:06	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:01	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:12 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:10	05:09 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:46	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:51		04:36 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kvieši - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (101)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:49 19:53	05:32 20:55	04:35 21:53	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:06 17:52	06:43 19:57	05:28 21:00	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:25 21:02	04:32 21:57	04:32 22:07	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:36 16:23	08:34 15:40
8	08:48 15:57	08:00 17:01	06:53 18:02	06:30 20:07	05:17 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:10	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:26 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:43 17:19	06:31 18:19	06:09 20:24	05:00 21:26	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:07 20:26	04:58 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:37
18	08:38 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:50 21:53	05:49 20:50	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 17:30	06:18 18:30	05:56 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:39
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:40
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:11	04:56 21:43	05:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:42	04:26 22:11	05:02 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:40 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:44
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:17		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Klavas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (81)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

January		February		March		April		May		June	
1	08:51	09:30 (C12)	08:15	08:59 (C11)	07:11	06:49	07:14 (C9)	05:32	06:07 (C7)	04:36	06:18 (C8)
15	15:48	15:05 (C16)	16:45	09:27 (C11)	17:47	19:53	07:20 (C9)	20:55	06:50 (C8)	21:52	06:50 (C8)
2	08:50	09:29 (C12)	08:13	08:59 (C11)	07:08	07:50 (C10)	07:11 (C9)	05:30	06:08 (C7)	04:35	06:19 (C8)
15	15:49	15:06 (C16)	16:47	09:28 (C11)	17:50	19:55	07:21 (C9)	20:57	06:52 (C8)	21:54	06:50 (C8)
3	08:50	09:29 (C12)	08:11	08:59 (C11)	07:05	07:47 (C10)	07:08 (C9)	05:28	06:09 (C7)	04:34	06:19 (C8)
15	15:51	15:08 (C16)	16:50	09:29 (C11)	17:52	19:57	07:21 (C9)	20:59	06:52 (C8)	21:55	06:49 (C8)
4	08:50	09:28 (C12)	08:09	08:59 (C11)	07:03	07:44 (C10)	07:06 (C9)	05:26	06:11 (C7)	04:33	06:20 (C8)
15	15:52	15:09 (C16)	16:52	09:28 (C11)	17:54	19:59	07:22 (C9)	21:01	06:53 (C8)	21:56	06:49 (C8)
5	08:49	09:27 (C12)	08:07	08:58 (C11)	07:00	07:42 (C10)	07:04 (C9)	05:23	06:14 (C7)	04:32	06:21 (C8)
15	15:53	15:11 (C16)	16:54	09:27 (C11)	17:56	20:01	07:21 (C9)	21:03	06:54 (C8)	21:58	06:49 (C8)
6	08:49	09:28 (C12)	08:05	08:59 (C11)	06:58	07:41 (C10)	07:04 (C9)	05:21	06:14 (C8)	04:31	06:22 (C8)
15	15:55	15:13 (C16)	16:56	09:28 (C11)	17:58	20:03	07:21 (C9)	21:05	06:54 (C8)	21:59	06:48 (C8)
7	08:48	09:28 (C12)	08:02	08:59 (C11)	06:55	07:39 (C10)	07:04 (C9)	05:19	06:13 (C8)	04:30	06:22 (C8)
15	15:56	15:15 (C16)	16:58	09:28 (C11)	18:00	20:05	07:20 (C9)	21:08	06:55 (C8)	22:00	06:47 (C8)
8	08:47	09:28 (C12)	08:00	09:00 (C11)	06:53	07:38 (C10)	07:04 (C9)	05:17	06:13 (C8)	04:29	06:23 (C8)
15	15:58	15:16 (C16)	17:01	09:00 (C11)	18:02	20:07	07:19 (C9)	21:10	06:55 (C8)	22:01	06:48 (C8)
9	08:47	09:28 (C12)	07:58	09:00 (C11)	06:50	07:37 (C10)	07:05 (C9)	05:15	06:12 (C8)	04:28	06:24 (C8)
15	15:59	15:18 (C16)	17:03	09:00 (C11)	18:05	20:09	07:18 (C9)	21:12	06:55 (C8)	22:02	06:47 (C8)
10	08:46	09:29 (C12)	07:56	09:00 (C11)	06:47	07:36 (C10)	07:06 (C9)	05:12	06:12 (C8)	04:28	06:25 (C8)
16	16:01	15:20 (C16)	17:05	09:00 (C11)	18:07	20:12	07:15 (C9)	21:14	06:55 (C8)	22:03	06:47 (C8)
11	08:45	09:29 (C12)	07:54	09:00 (C11)	06:45	07:35 (C10)		05:10	06:12 (C8)	04:27	06:25 (C8)
16	16:03	15:22 (C16)	17:07	09:00 (C11)	18:09	20:14		21:16	06:55 (C8)	22:04	06:46 (C8)
12	08:44	09:28 (C12)	07:52	09:02 (C11)	06:42	07:34 (C10)		05:08	06:11 (C8)	04:27	06:26 (C8)
16	16:04	15:22 (C16)	17:10	09:02 (C11)	18:11	20:16		21:18	06:55 (C8)	22:05	06:46 (C8)
13	08:43	09:29 (C12)	07:49	09:03 (C11)	06:39	07:34 (C10)		05:06	06:11 (C8)	04:26	06:27 (C8)
16	16:06	15:23 (C16)	17:12	09:03 (C11)	18:13	20:18		21:19	06:55 (C8)	22:06	06:46 (C8)
14	08:42	09:29 (C12)	07:47	09:04 (C11)	06:37	07:34 (C10)		05:04	06:12 (C8)	04:26	06:27 (C8)
16	16:08	15:23 (C16)	17:14	09:04 (C11)	18:15	20:20		21:21	06:56 (C8)	22:06	06:45 (C8)
15	08:41	09:29 (C12)	07:45	09:06 (C11)	06:34	07:33 (C10)		05:02	06:11 (C8)	04:26	06:28 (C8)
16	16:10	15:23 (C16)	17:16	09:06 (C11)	18:17	20:22		21:23	06:55 (C8)	22:07	06:45 (C8)
16	08:40	09:30 (C12)	07:42	09:08 (C11)	06:31	07:34 (C10)		05:00	06:11 (C8)	04:25	06:29 (C8)
16	16:12	15:24 (C16)	17:19	09:08 (C11)	18:19	20:24		21:25	06:55 (C8)	22:08	06:44 (C8)
17	08:39	09:30 (C12)	07:40	09:20 (C11)	06:29	07:33 (C10)		04:59	06:11 (C8)	04:25	06:29 (C8)
16	16:14	15:24 (C16)	17:21		18:22	20:26		21:27	06:55 (C8)	22:08	06:44 (C8)
18	08:37	09:31 (C12)	07:38		06:26	07:33 (C10)		04:57	06:12 (C8)	04:25	06:30 (C8)
16	16:16	15:24 (C16)	17:23		18:24	20:28		21:29	06:55 (C8)	22:09	06:44 (C8)
19	08:36	09:31 (C12)	07:35		06:23	07:34 (C10)		04:55	06:12 (C8)	04:25	06:30 (C8)
16	16:18	15:24 (C16)	17:25		18:26	20:30		21:31	06:54 (C8)	22:09	06:44 (C8)
20	08:35	09:31 (C12)	07:33		06:21	07:34 (C10)		04:53	06:12 (C8)	04:25	06:30 (C8)
16	16:20	15:24 (C16)	17:28		18:28	20:32		21:33	06:55 (C8)	22:10	06:44 (C8)
21	08:33	09:33 (C12)	07:31		06:18	07:34 (C10)		04:52	06:12 (C8)	04:25	06:30 (C8)
16	16:22	15:24 (C16)	17:30		18:30	20:34		21:35	06:54 (C8)	22:10	06:44 (C8)
22	08:32	09:33 (C12)	07:28		06:15	07:35 (C10)		04:50	06:13 (C8)	04:25	06:31 (C8)
16	16:24	15:24 (C16)	17:32		18:32	20:37		21:36	06:54 (C8)	22:10	06:45 (C8)
23	08:30	09:34 (C12)	07:26		06:13	07:37 (C10)	06:18 (C7)	04:48	06:13 (C8)	04:26	06:31 (C8)
16	16:26	15:23 (C16)	17:34		18:34	20:39	06:22 (C7)	21:38	06:53 (C8)	22:10	06:45 (C8)
24	08:29	09:08 (C11)	07:23		06:10	07:38 (C10)	06:16 (C7)	04:47	06:13 (C8)	04:26	06:31 (C8)
16	16:28	15:22 (C16)	17:36		18:36	20:41	06:24 (C7)	21:40	06:53 (C8)	22:10	06:45 (C8)
25	08:27	09:05 (C11)	07:21		06:07	07:39 (C10)	06:14 (C7)	04:45	06:14 (C8)	04:26	06:31 (C8)
16	16:30	15:19 (C16)	17:39		18:38	20:43	06:25 (C7)	21:41	06:53 (C8)	22:10	06:46 (C8)
26	08:25	09:04 (C11)	07:18		06:05	07:42 (C10)	06:11 (C7)	04:44	06:14 (C8)	04:27	06:31 (C8)
16	16:32	09:50 (C12)	17:41		18:40	20:45	06:41 (C8)	21:43	06:52 (C8)	22:10	06:46 (C8)
27	08:24	09:03 (C11)	07:16		06:02	17:50 (C13)	06:09 (C7)	04:42	06:15 (C8)	04:27	06:31 (C8)
16	16:34	09:48 (C12)	17:43		18:42	20:47	06:44 (C8)	21:45	06:52 (C8)	22:10	06:48 (C8)
28	08:22	09:02 (C11)	07:13		05:59	17:50 (C13)	06:07 (C7)	04:41	06:15 (C8)	04:28	06:30 (C8)
16	16:36	09:24 (C11)	17:45		18:45	20:49	06:47 (C8)	21:46	06:52 (C8)	22:10	06:48 (C8)
29	08:20	09:01 (C11)			06:57	18:52 (C13)	06:07 (C7)	04:39	06:16 (C8)	04:28	06:30 (C8)
16	16:38	09:25 (C11)			19:47	20:51	06:48 (C8)	21:48	06:52 (C8)	22:10	06:49 (C8)
30	08:18	09:00 (C11)			06:54	18:53 (C13)	06:07 (C7)	04:38	06:17 (C8)	04:29	06:30 (C8)
16	16:41	09:25 (C11)			19:49	20:53	06:49 (C8)	21:49	06:51 (C8)	22:09	06:50 (C8)
31	08:16	08:59 (C11)			06:51	07:16 (C9)		04:37	06:17 (C8)		
16	16:43	09:26 (C11)			19:51	20:53		21:51	06:51 (C8)		
Potential sun hours	235		266		366		426		508		529
Total, worst case	1012		576		967		337		1275		598
Sun reduction	0.13		0.20		0.41		0.50		0.57		0.56
Oper. time red.	0.98		0.98		0.98		0.98		0.98		0.98
Wind dir. red.	0.62		0.61		0.63		0.66		0.66		0.66
Total reduction	0.08		0.12		0.25		0.32		0.36		0.35
Total, real	81		68		242		107		459		211

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Klavas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (81)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December								
1	04:30	06:29 (C8)	05:16	06:22 (C8)	06:17	07:17	08:14 (C10)	07:22	08:30 (C11)	08:24	09:10 (C12)							
2	22:09	21	06:50 (C8)	21:28	43	07:05 (C8)	20:14	18:53	40	08:54 (C10)	16:36	46	15:57 (C15)	15:45	41	15:03 (C16)		
3	04:31	06:29 (C8)	05:17	06:22 (C8)	06:19	07:05 (C9)	07:19	08:14 (C10)	07:25	08:29 (C11)	08:26	09:11 (C12)						
4	22:08	22	06:51 (C8)	21:26	44	07:06 (C8)	20:11	9	07:14 (C9)	18:51	39	08:53 (C10)	16:34	47	15:56 (C15)	15:44	39	15:03 (C16)
5	04:32	06:29 (C8)	05:19	06:22 (C8)	06:21	07:03 (C9)	07:21	08:14 (C10)	07:27	08:28 (C11)	08:27	09:11 (C12)						
6	22:08	23	06:52 (C8)	21:24	43	07:05 (C8)	20:09	13	07:16 (C9)	18:48	39	08:53 (C10)	16:31	48	15:56 (C15)	15:43	37	15:02 (C16)
7	04:32	06:29 (C8)	05:21	06:23 (C8)	06:23	07:01 (C9)	07:23	08:14 (C10)	07:29	08:29 (C11)	08:29	09:12 (C12)						
8	22:07	24	06:53 (C8)	21:21	42	07:05 (C8)	20:06	15	07:16 (C9)	18:45	38	08:52 (C10)	16:29	46	15:55 (C15)	15:42	35	15:01 (C16)
9	04:33	06:29 (C8)	05:23	06:22 (C8)	06:25	07:00 (C9)	07:25	08:14 (C10)	07:31	08:28 (C11)	08:31	09:13 (C12)						
10	22:06	25	06:54 (C8)	21:19	42	07:04 (C8)	20:03	16	07:16 (C9)	18:43	37	08:51 (C10)	16:27	44	15:52 (C15)	15:41	32	15:00 (C16)
11	04:35	06:28 (C8)	05:25	06:23 (C8)	06:27	06:59 (C9)	07:27	08:15 (C10)	07:33	08:29 (C11)	08:32	09:14 (C12)						
12	22:06	26	06:54 (C8)	21:17	41	07:04 (C8)	20:01	17	07:16 (C9)	18:40	34	08:49 (C10)	16:25	40	15:50 (C15)	15:41	29	14:59 (C16)
13	04:36	06:28 (C8)	05:27	06:23 (C8)	06:29	06:59 (C9)	07:29	08:15 (C10)	07:35	08:29 (C11)	08:34	09:14 (C12)						
14	22:05	27	06:55 (C8)	21:15	41	07:04 (C8)	19:58	17	07:16 (C9)	18:38	33	08:48 (C10)	16:23	37	15:48 (C15)	15:40	28	14:58 (C16)
15	04:37	06:27 (C8)	05:29	06:22 (C7)	06:31	07:00 (C9)	07:31	08:16 (C10)	07:38	08:29 (C11)	08:35	09:16 (C12)						
16	22:04	29	06:56 (C8)	21:13	41	07:03 (C8)	19:55	16	07:16 (C9)	18:35	30	08:46 (C10)	16:21	32	15:45 (C15)	15:40	25	14:58 (C16)
17	04:38	06:27 (C8)	05:31	06:20 (C7)	06:33	07:02 (C9)	07:33	08:17 (C10)	07:40	08:30 (C11)	08:36	09:17 (C12)						
18	22:03	29	06:56 (C8)	21:11	42	07:02 (C8)	19:53	13	07:15 (C9)	18:32	27	08:44 (C10)	16:19	29	08:59 (C11)	15:39	21	14:56 (C16)
19	04:39	06:26 (C8)	05:33	06:17 (C7)	06:35	07:04 (C9)	07:36	08:20 (C10)	07:42	08:30 (C11)	08:38	09:19 (C12)						
20	22:02	31	06:57 (C8)	21:08	44	07:01 (C8)	19:50	10	07:14 (C9)	18:30	23	08:43 (C10)	16:17	28	08:58 (C11)	15:39	18	14:56 (C16)
21	04:41	06:26 (C8)	05:35	06:16 (C7)	06:37	07:06 (C9)	07:38	08:22 (C10)	07:44	08:31 (C11)	08:39	09:20 (C12)						
22	22:01	32	06:58 (C8)	21:06	44	07:00 (C8)	19:47	7	07:13 (C9)	18:27	18	08:40 (C10)	16:15	27	08:58 (C11)	15:38	16	14:51 (C16)
23	04:42	06:25 (C8)	05:37	06:16 (C7)	06:39	07:08 (C9)	07:40	08:26 (C10)	07:46	08:32 (C11)	08:40	09:21 (C12)						
24	22:00	33	06:58 (C8)	21:04	43	06:59 (C8)	19:45	7	18:52 (C13)	18:24	9	08:35 (C10)	16:13	25	08:57 (C11)	15:38	14	14:55 (C16)
25	04:43	06:26 (C8)	05:39	06:15 (C7)	06:41	18:44 (C13)	07:42	07:48	08:33 (C11)	08:41	09:23 (C12)							
26	21:59	34	07:00 (C8)	21:01	42	06:57 (C8)	19:42	11	18:55 (C13)	18:22	16:11	24	08:57 (C11)	15:38	11	09:34 (C12)		
27	04:45	06:25 (C8)	05:41	06:15 (C7)	06:43	18:42 (C13)	07:44	07:51	08:34 (C11)	08:42	09:24 (C12)							
28	21:58	35	07:00 (C8)	20:59	41	06:56 (C8)	19:39	14	18:56 (C13)	18:19	16:09	22	08:56 (C11)	15:38	10	09:34 (C12)		
29	04:46	06:24 (C8)	05:43	06:15 (C7)	06:45	18:41 (C13)	07:46	07:53	08:35 (C11)	08:43	09:25 (C12)							
30	21:56	36	07:00 (C8)	20:57	39	06:54 (C8)	19:37	16	18:57 (C13)	18:17	16:07	27	09:20 (C12)	15:38	9	09:34 (C12)		
31	04:48	06:25 (C8)	05:45	06:17 (C7)	06:47	18:40 (C13)	07:48	07:55	08:37 (C11)	08:44	09:26 (C12)							
32	21:55	36	07:01 (C8)	20:54	32	06:51 (C8)	19:34	17	18:57 (C13)	18:14	16:06	28	09:23 (C12)	15:38	8	09:34 (C12)		
33	04:49	06:24 (C8)	05:47	06:18 (C7)	06:49	08:32 (C10)	07:50	07:57	08:39 (C11)	08:45	09:27 (C12)							
34	21:54	38	07:02 (C8)	20:52	22	06:46 (C8)	19:31	31	18:57 (C13)	18:12	16:04	34	14:53 (C16)	15:38	7	09:34 (C12)		
35	04:51	06:24 (C8)	05:49	06:20 (C7)	06:51	08:27 (C10)	07:52	07:59	08:42 (C11)	08:46	09:28 (C12)							
36	21:52	39	07:03 (C8)	20:49	10	06:30 (C7)	19:28	38	18:56 (C13)	18:09	16:02	34	14:55 (C16)	15:38	6	09:34 (C12)		
37	04:52	06:23 (C8)	05:51	06:22 (C7)	06:53	08:25 (C10)	07:54	08:01	09:09 (C12)	08:47	09:28 (C12)							
38	21:51	40	07:03 (C8)	20:47	7	06:29 (C7)	19:26	42	18:55 (C13)	18:07	16:01	31	14:58 (C16)	15:38	6	09:34 (C12)		
39	04:54	06:24 (C8)	05:53	06:24 (C7)	06:55	08:22 (C10)	07:56	08:03	09:08 (C12)	08:48	09:29 (C12)							
40	21:49	40	07:04 (C8)	20:44	4	06:28 (C7)	19:23	43	18:52 (C13)	18:04	15:59	35	14:59 (C16)	15:38	5	09:34 (C12)		
41	04:56	06:23 (C8)	05:55	06:57	08:21 (C10)	07:59	08:05	09:08 (C12)	08:48	09:29 (C12)								
42	21:48	41	07:04 (C8)	20:42	19:20	43	18:50 (C13)	18:02	15:57	36	14:59 (C16)	15:39	5	09:34 (C12)				
43	04:57	06:23 (C8)	05:57	06:59	08:19 (C10)	08:01	08:07	09:07 (C12)	08:49	09:30 (C12)								
44	21:46	42	07:05 (C8)	20:39	19:18	42	18:47 (C13)	17:59	15:56	40	15:00 (C16)	15:39	5	09:35 (C12)				
45	04:59	06:22 (C8)	05:59	07:01	08:18 (C10)	08:03	08:09	09:08 (C12)	08:49	09:30 (C12)								
46	21:44	42	07:04 (C8)	20:37	19:15	40	18:44 (C13)	17:57	15:55	40	15:01 (C16)	15:40	5	09:35 (C12)				
47	05:01	06:23 (C8)	06:01	07:03	08:17 (C10)	08:05	08:11	09:08 (C12)	08:50	09:31 (C12)								
48	21:43	42	07:05 (C8)	20:34	19:12	37	08:54 (C10)	17:54	15:53	41	15:02 (C16)	15:40	6	09:37 (C12)				
49	05:03	06:22 (C8)	06:03	07:05	08:16 (C10)	07:07	08:13	09:08 (C12)	08:50	09:31 (C12)								
50	21:41	43	07:05 (C8)	20:32	19:10	38	08:54 (C10)	16:52	6	08:47 (C11)	15:52	42	15:02 (C16)	15:41	6	09:37 (C12)		
51	05:04	06:22 (C8)	06:05	07:07	08:15 (C10)	07:09	08:37 (C11)	08:15	09:08 (C12)	08:50	09:31 (C12)							
52	21:39	43	07:05 (C8)	20:29	19:07	39	08:54 (C10)	16:50	15	08:52 (C11)	15:51	42	15:02 (C16)	15:42	7	09:38 (C12)		
53	05:06	06:22 (C8)	06:07	07:09	08:15 (C10)	07:12	08:35 (C11)	08:17	09:08 (C12)	08:51	09:31 (C12)							
54	21:37	44	07:06 (C8)	20:27	19:04	39	08:54 (C10)	16:47	20	15:49 (C15)	15:49	42	15:02 (C16)	15:43	7	09:38 (C12)		
55	05:08	06:21 (C8)	06:09	07:11	08:14 (C10)	07:14	08:33 (C11)	08:19	09:08 (C12)	08:51	09:31 (C12)							
56	21:35	44	07:05 (C8)	20:24	19:01	40	08:54 (C10)	16:45	32	15:53 (C15)	15:48	43	15:03 (C16)	15:44	8	09:39 (C12)		
57	05:10	06:22 (C8)	06:11	07:13	08:13 (C10)	07:16	08:32 (C11)	08:20	09:10 (C12)	08:51	09:31 (C12)							
58	21:34	44	07:06 (C8)	20:22	18:59	41	08:54 (C10)	16:43	37	15:55 (C15)	15:47	42	15:04 (C16)	15:44	9	09:40 (C12)		
59	05:12	06:22 (C8)	06:13	07:15	08:14 (C10)	07:18	08:31 (C11)	08:22	09:10 (C12)	08:51	09:31 (C12)							
60	21:32	44	07:06 (C8)	20:19	18:56	41	08:55 (C10)	16:40	41	15:55 (C15)	15:46	42	15:04 (C16)	15:45	10	09:41 (C12)		
61	05:14	06:21 (C8)	06:15	07:16	08:15 (C10)	07:19	08:32 (C11)	08:23	09:11 (C12)	08:52	09:32 (C12)							
62	21:30	44	07:05 (C8)	20:16	18:54	41	15:56 (C15)	15:47	42	15:04 (C16)	15:45	10	09:41 (C12)					
63	Potential sun hours	529	469	385	324	247	216											
64	Total, worst case	1093	707	752	562	1094	477											
65	Sun reduction	0.49	0.50	0.43	0.26	0.08	0.07											
66	Oper. time red.	0.98	0.98	0.98	0.98	0.98	0.98											
67	Wind dir. red.	0.66	0.66	0.64	0.62	0.62	0.62											
68	Total reduction	0.31	0.32	0.26	0.15	0.05	0.04											
69	Total, real	341	223	198	87	54	20											

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Klavini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (149)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:22 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:58	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:34 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:10	04:29 22:04	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:21	04:26 22:06	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:32 18:20	06:09 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:51 19:29	07:52 18:09	07:59 16:03	08:46 15:38
19	08:36 16:18	07:35 17:26	06:24 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:51 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	08:09 17:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kukas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (217)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:49 19:53	05:32 20:55	04:36 21:52	04:30 22:09	05:16 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:18 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:05	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:13 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:20 20:16	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:01 21:25	04:26 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:57 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:52 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:01	07:14 16:45	08:18 15:48	08:50 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Laides - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (135)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		09:48 (C14)	08:15		08:45 (C16)	07:11		06:49				05:33			04:36		
	15:48	19	10:07 (C14)	16:45	64	10:26 (C14)	17:48		19:53				20:55			21:53		
2	08:50		09:48 (C14)	08:13		08:43 (C16)	07:08		06:46				05:30			04:35		
	15:49	21	10:09 (C14)	16:48	66	10:26 (C14)	17:50		19:55				20:57			21:54		
3	08:50		09:47 (C14)	08:11		08:42 (C16)	07:06		06:43		07:19 (C13)		05:28			04:34		
	15:51	23	10:10 (C14)	16:50	65	10:25 (C14)	17:52		19:57	13	07:32 (C13)		21:00			21:55		
4	08:50		09:47 (C14)	08:09		08:43 (C16)	07:03		06:41		07:15 (C13)		05:26			04:33		
	15:52	23	10:10 (C14)	16:52	64	10:25 (C14)	17:54		19:59	19	07:34 (C13)		21:02			21:57		
5	08:49		09:47 (C14)	08:07		08:44 (C16)	07:01		06:38		07:12 (C13)		05:23			04:32		
	15:53	25	10:12 (C14)	16:54	61	10:24 (C14)	17:56		20:01	24	07:36 (C13)		21:04			21:58		
6	08:49		09:47 (C14)	08:05		08:44 (C16)	06:58		06:35		07:11 (C13)		05:21			04:31		
	15:55	26	10:13 (C14)	16:56	57	10:22 (C14)	17:58		20:03	27	07:38 (C13)		21:06			21:59		
7	08:48		09:47 (C14)	08:03		08:45 (C16)	06:55		06:33		07:09 (C13)		05:19			04:30		
	15:56	27	10:14 (C14)	16:59	53	10:21 (C14)	18:01		20:05	29	07:38 (C13)		21:08			22:00		
8	08:48		09:47 (C14)	08:01		08:47 (C16)	06:53		06:30		07:08 (C13)		05:17			04:29		
	15:58	28	10:15 (C14)	17:01	48	10:20 (C14)	18:03		20:08	31	07:39 (C13)		21:10			22:01		
9	08:47		09:46 (C14)	07:58		08:48 (C16)	06:50		06:28		07:06 (C13)		05:15			04:29		
	16:00	30	10:16 (C14)	17:03	42	10:17 (C14)	18:05		20:10	34	07:40 (C13)		21:12			22:02		
10	08:46		09:46 (C14)	07:56		08:54 (C15)	06:47		06:25		07:05 (C13)		05:13			04:28		
	16:01	31	10:17 (C14)	17:05	26	10:13 (C14)	18:07		20:12	34	07:39 (C13)		21:14			22:03		
11	08:45		09:46 (C14)	07:54		08:55 (C15)	06:45		06:22		07:05 (C13)		05:11			04:27		
	16:03	32	10:18 (C14)	17:08	15	09:10 (C15)	18:09		20:14	35	07:40 (C13)		21:16			22:04		
12	08:44		09:45 (C14)	07:52		08:57 (C15)	06:42		06:20		07:04 (C13)		05:09			04:27		
	16:05	33	10:18 (C14)	17:10	10	09:07 (C15)	18:11		20:16	36	07:40 (C13)		21:18			22:05		
13	08:43		09:46 (C14)	07:50			06:40		06:17		07:04 (C13)		05:07			04:26		
	16:06	33	10:19 (C14)	17:12			18:13		20:18	36	07:40 (C13)		21:20			22:06		
14	08:42		09:46 (C14)	07:47			06:37		06:15		07:03 (C13)		05:05			04:26		
	16:08	34	10:20 (C14)	17:14			18:15		20:20	37	07:40 (C13)		21:22			22:07		
15	08:41		09:45 (C14)	07:45			06:34		06:12		07:03 (C13)		05:03			04:26		
	16:10	36	10:21 (C14)	17:17			18:18		20:22	37	07:40 (C13)		21:24			22:07		
16	08:40		09:46 (C14)	07:43			06:32		06:09		07:02 (C13)		05:01			04:26		
	16:12	36	10:22 (C14)	17:19			18:20		20:24	37	07:39 (C13)		21:25			22:08		
17	08:39		09:45 (C14)	07:40			06:29		06:07		07:03 (C13)		04:59			04:25		
	16:14	37	10:22 (C14)	17:21			18:22		20:26	36	07:39 (C13)		21:27			22:08		
18	08:37		09:46 (C14)	07:38			06:26		06:04		07:02 (C13)		04:57			04:25		
	16:16	37	10:23 (C14)	17:23			18:24		20:28	36	07:38 (C13)		21:29			22:09		
19	08:36		09:45 (C14)	07:36			06:24		06:02		07:03 (C13)		04:55			04:25		
	16:18	39	10:24 (C14)	17:26			18:26		20:30	34	07:37 (C13)		21:31			22:09		
20	08:35		09:46 (C14)	07:33			06:21		05:59		07:03 (C13)		04:53			04:25		
	16:20	39	10:25 (C14)	17:28			18:28		20:33	33	07:36 (C13)		21:33			22:10		
21	08:33		09:46 (C14)	07:31			06:18		05:57		07:04 (C13)		04:52			04:25		
	16:22	39	10:25 (C14)	17:30			18:30		20:35	31	07:35 (C13)		21:35			22:10		
22	08:32		09:46 (C14)	07:28			06:16		05:54		07:05 (C13)		04:50			04:26		
	16:24	39	10:25 (C14)	17:32			18:32		20:37	29	07:34 (C13)		21:37			22:10		
23	08:30		09:46 (C14)	07:26			06:13		05:52		07:05 (C13)		04:48			04:26		
	16:26	39	10:25 (C14)	17:34			18:34		20:39	27	07:32 (C13)		21:38			22:10		
24	08:29		09:47 (C14)	07:23			06:10		05:49		07:06 (C13)		04:47			04:26		
	16:28	40	10:27 (C14)	17:37			18:36		20:41	25	07:31 (C13)		21:40			22:10		
25	08:27		09:00 (C15)	07:21			06:08		05:47		07:08 (C13)		04:45			04:26		
	16:30	44	10:27 (C14)	17:39			18:38		20:43	22	07:30 (C13)		21:42			22:10		
26	08:26		08:58 (C15)	07:18			06:05		05:44		07:09 (C13)		04:44			04:27		
	16:32	48	10:27 (C14)	17:41			18:41		20:45	18	07:27 (C13)		21:43			22:10		
27	08:24		08:56 (C15)	07:16			06:02		05:42		07:12 (C13)		04:42			04:27		
	16:34	52	10:27 (C14)	17:43			18:43		20:47	11	07:23 (C13)		21:45			22:10		
28	08:22		08:54 (C15)	07:13			05:59		05:40				04:41			04:28		
	16:37	54	10:27 (C14)	17:45			18:45		20:49				21:47			22:10		
29	08:20		08:52 (C15)				06:57		05:37				04:40			04:29		
	16:39	58	10:27 (C14)				19:47		20:51				21:48			22:10		
30	08:18		08:50 (C16)				06:54		05:35				04:38			04:29		
	16:41	60	10:27 (C14)				19:49		20:53				21:50			22:09		
31	08:17		08:48 (C16)				06:51						04:37					
	16:43	62	10:27 (C14)				19:51						21:51					
Potential sun hours	235			266			366		426				508			529		
Total, worst case	1144			571					731									
Sun reduction	0.13			0.20					0.50									
Oper. time red.	0.98			0.98					0.98									
Wind dir. red.	0.61			0.60					0.66									
Total reduction	0.08			0.12					0.31									
Total, real	88			66					229									

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Laides - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (135)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December	
1	04:30 22:09	05:16 21:28	06:17 20:14	07:04 (C13) 18:54	07:17 16:36	08:23 (C15) 15:45	09:28 (C14) 10:00 (C14)
2	04:31 22:08	05:18 21:26	06:19 20:11	07:04 (C13) 18:51	07:19 16:34	08:17 (C16) 15:44	09:29 (C14) 10:00 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:04 (C13) 18:48	07:21 16:32	08:16 (C16) 15:43	09:29 (C14) 09:59 (C14)
4	04:33 22:07	05:21 21:22	06:23 20:06	07:05 (C13) 18:46	07:23 16:29	08:14 (C16) 15:42	09:31 (C14) 09:59 (C14)
5	04:34 22:07	05:23 21:20	06:25 20:03	07:06 (C13) 18:43	07:25 16:27	08:13 (C16) 15:42	09:32 (C14) 09:59 (C14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:06 (C13) 18:40	07:27 16:25	08:13 (C16) 15:41	09:33 (C14) 09:59 (C14)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:07 (C13) 18:38	07:30 16:23	08:13 (C16) 15:40	09:33 (C14) 09:58 (C14)
8	04:37 22:04	05:29 21:13	06:31 19:55	07:09 (C13) 18:35	07:32 16:21	08:13 (C16) 15:40	09:35 (C14) 09:59 (C14)
9	04:38 22:03	05:31 21:11	06:33 19:53	07:11 (C13) 18:32	07:34 16:19	08:14 (C16) 15:39	09:36 (C14) 09:58 (C14)
10	04:39 22:02	05:33 21:08	06:35 19:50	07:12 (C13) 18:30	07:36 16:17	08:16 (C16) 15:39	09:37 (C14) 09:58 (C14)
11	04:41 22:01	05:35 21:06	06:37 19:47	07:13 (C13) 18:27	07:38 16:15	08:19 (C16) 15:39	09:38 (C14) 09:58 (C14)
12	04:42 22:00	05:37 21:04	06:39 19:45	07:14 (C13) 18:25	07:40 16:13	08:21 (C16) 15:38	09:40 (C14) 09:58 (C14)
13	04:43 21:59	05:39 21:02	06:41 19:42	07:15 (C13) 18:22	07:42 16:11	08:24 (C15) 15:38	09:40 (C14) 09:58 (C14)
14	04:45 21:58	05:41 20:59	06:43 19:39	07:16 (C13) 18:20	07:44 16:09	08:26 (C15) 15:38	09:41 (C14) 09:57 (C14)
15	04:46 21:57	05:43 20:57	06:45 19:37	07:17 (C13) 18:17	07:46 16:08	08:28 (C15) 15:38	09:42 (C14) 09:57 (C14)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:19 (C13) 18:14	07:48 16:06	08:31 (C15) 15:38	09:43 (C14) 09:57 (C14)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:20 (C13) 18:12	07:50 16:04	08:33 (C15) 15:38	09:44 (C14) 09:57 (C14)
18	04:51 21:52	05:49 20:50	06:51 19:29	07:22 (C13) 18:09	07:52 16:02	08:35 (C15) 15:38	09:45 (C14) 09:57 (C14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:24 (C13) 18:07	07:54 16:01	08:37 (C15) 15:38	09:46 (C14) 09:57 (C14)
20	04:54 21:49	05:53 20:45	06:55 19:23	07:26 (C13) 18:04	07:56 15:59	08:39 (C15) 15:39	09:47 (C14) 09:57 (C14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:28 (C13) 18:02	07:58 15:58	08:41 (C15) 15:39	09:48 (C14) 09:58 (C14)
22	04:58 21:46	05:57 20:40	06:59 19:18	07:30 (C13) 18:00	08:00 15:56	08:43 (C15) 15:40	09:48 (C14) 09:58 (C14)
23	04:59 21:45	05:59 20:37	07:01 19:15	07:32 (C13) 17:57	08:02 15:55	08:45 (C15) 15:40	09:49 (C14) 09:59 (C14)
24	05:01 21:43	06:01 20:35	07:03 19:12	07:34 (C13) 17:55	08:04 15:53	08:47 (C15) 15:41	09:49 (C14) 10:00 (C14)
25	05:03 21:41	06:03 20:32	07:05 19:10	07:36 (C13) 17:52	08:06 15:52	08:49 (C15) 15:41	09:49 (C14) 10:00 (C14)
26	05:05 21:39	06:05 20:30	07:07 19:07	07:38 (C13) 17:50	08:08 15:51	08:51 (C15) 15:42	09:48 (C14) 10:01 (C14)
27	05:06 21:38	06:07 20:27	07:09 19:04	07:40 (C13) 17:48	08:10 15:49	08:53 (C15) 15:43	09:48 (C14) 10:02 (C14)
28	05:08 21:36	06:09 20:24	07:11 19:02	07:42 (C13) 17:46	08:12 15:48	08:55 (C15) 15:44	09:48 (C14) 10:03 (C14)
29	05:10 21:34	06:11 20:22	07:13 18:59	07:44 (C13) 17:44	08:14 15:47	08:57 (C15) 15:45	09:48 (C14) 10:04 (C14)
30	05:12 21:32	06:13 20:19	07:15 18:56	07:46 (C13) 17:42	08:16 15:46	08:59 (C15) 15:46	09:48 (C14) 10:05 (C14)
31	05:14 21:30	06:15 20:17	07:17 18:54	07:48 (C13) 17:40	08:18 15:45	09:01 (C15) 15:47	09:49 (C14) 10:07 (C14)
Potential sun hours	529	469	385	324	247	216	
Total, worst case		492	249	27	1416	558	
Sun reduction		0.50	0.43	0.26	0.08	0.07	
Oper. time red.		0.98	0.98	0.98	0.98	0.98	
Wind dir. red.		0.66	0.66	0.60	0.61	0.61	
Total reduction		0.31	0.27	0.15	0.05	0.04	
Total, real		154	67	4	68	23	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Landzani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (124)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:37 (C14) 19:53	06:49 20:55	06:15 (C13) 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	07:34 (C14) 19:55	06:46 20:58	06:16 (C13) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	07:32 (C14) 19:57	06:43 21:00	06:18 (C13) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:30 (C14) 19:59	06:41 21:02	06:20 (C13) 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	07:28 (C14) 20:01	06:38 21:04	06:28 (C13) 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	07:28 (C14) 20:03	06:36 21:06	06:28 (C13) 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	07:27 (C14) 20:06	06:33 21:08	06:28 (C13) 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	07:26 (C14) 20:08	06:30 21:10	06:28 (C13) 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	07:26 (C14) 20:10	06:28 21:12	06:28 (C13) 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	07:25 (C14) 20:12	06:25 21:14	06:28 (C13) 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	07:25 (C14) 20:14	06:22 21:16	06:28 (C13) 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	07:26 (C14) 20:16	06:20 21:18	06:28 (C13) 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	07:25 (C14) 20:18	06:17 21:20	06:28 (C13) 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	07:26 (C14) 20:20	06:15 21:22	06:28 (C13) 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	07:27 (C14) 20:22	06:12 21:24	06:28 (C13) 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	07:27 (C14) 20:24	06:09 21:25	06:28 (C13) 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	07:28 (C14) 20:26	06:07 21:27	06:28 (C13) 22:08
18	08:38 16:16	07:38 17:23	06:26 18:24	07:30 (C14) 20:28	06:04 21:29	06:28 (C13) 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	07:33 (C14) 20:31	06:02 21:31	06:28 (C13) 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	07:43 (C14) 20:33	5 06:35 (C13)	06:26 (C13) 21:33
21	08:33 16:22	07:31 17:30	06:18 18:30	05:59 20:35	9 06:35 (C13)	06:23 (C13) 21:35
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	12 06:35 (C13)	06:21 (C13) 21:37
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	15 06:36 (C13)	06:18 (C13) 21:38
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	18 06:36 (C13)	06:16 (C13) 21:40
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	20 06:36 (C13)	06:15 (C13) 21:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	22 06:37 (C13)	06:14 (C13) 21:43
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	22 06:36 (C13)	06:14 (C13) 21:45
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	22 06:36 (C13)	06:14 (C13) 21:47
29	08:20 16:39	07:11 17:41	05:57 19:47	05:37 20:51	22 06:36 (C13)	06:15 (C13) 21:48
30	08:19 16:41	07:09 17:39	05:54 19:49	05:35 20:53	20 06:35 (C13)	06:15 (C13) 21:50
31	08:17 16:43	07:07 17:37	05:51 19:51	05:33 20:51	20 06:35 (C13)	06:15 (C13) 21:50
Potential sun hours	235	266	366	426	508	529
Total, worst case		15	461	207	55	
Sun reduction		0.20	0.41	0.50	0.57	
Oper. time red.		0.98	0.98	0.98	0.98	
Wind dir. red.		0.62	0.62	0.65	0.65	
Total reduction		0.12	0.25	0.32	0.36	
Total, real		2	115	66	20	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Landzani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (124)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	08:05 (C14)	07:23
	22:09	21:28	20:14	18:54	29 08:34 (C14)	16:36
2	04:31	05:18	06:19	07:19	08:04 (C14)	07:25
	22:09	21:26	20:11	18:51	30 08:34 (C14)	16:34
3	04:32	05:20	06:21	07:21	08:03 (C14)	07:27
	22:08	21:24	20:09	18:48	31 08:34 (C14)	16:32
4	04:33	05:22	06:23	07:23	08:03 (C14)	07:29
	22:07	21:22	20:06	18:46	31 08:34 (C14)	16:30
5	04:34	05:23	06:25	07:25	08:03 (C14)	07:31
	22:07	21:20	20:03	18:43	30 08:33 (C14)	16:27
6	04:35	05:25	06:27	07:28	08:03 (C14)	07:33
	22:06	21:17	20:01	18:40	29 08:32 (C14)	16:25
7	04:36	05:27	06:29	07:30	08:03 (C14)	07:36
	22:05	21:15	19:58	18:38	28 08:31 (C14)	16:23
8	04:37	05:29	06:31	07:32	08:03 (C14)	07:38
	22:04	21:13	19:56	18:35	27 08:30 (C14)	16:21
9	04:38	05:31	06:33	07:34	08:05 (C14)	07:40
	22:03	21:11	19:53	18:33	25 08:30 (C14)	16:19
10	04:40	05:33	06:35	07:36	08:05 (C14)	07:42
	22:02	21:08	19:50	18:30	23 08:28 (C14)	16:17
11	04:41	05:35	06:37	07:38	08:07 (C14)	07:44
	22:01	21:06	19:47	18:27	19 08:26 (C14)	16:15
12	04:42	05:37	06:39	07:40	08:09 (C14)	07:46
	22:00	21:04	19:45	18:25	15 08:24 (C14)	16:13
13	04:44	05:39	06:41	07:42	08:11 (C14)	07:49
	21:59	21:02	19:42	18:22	11 08:22 (C15)	16:11
14	04:45	05:41	06:43	07:44	08:13 (C15)	07:51
	21:58	20:59	19:39	18:20	7 08:20 (C15)	16:10
15	04:46	05:43	06:45	07:46	08:16 (C15)	07:53
	21:57	20:57	19:37	18:17	3 08:19 (C15)	16:08
16	04:48	05:45	06:47	07:48		07:55
	21:55	20:54	19:34	18:15		16:06
17	04:49	05:47	06:49	07:50		07:57
	21:54	20:52	19:31	18:12		16:04
18	04:51	05:49	06:51	07:52		07:59
	21:52	20:50	19:29	18:09		16:03
19	04:53	05:51	06:53	07:55		08:01
	21:51	20:47	19:26	18:07		16:01
20	04:54	05:53	06:55	07:57		08:03
	21:49	20:45	19:23	18:04		15:59
21	04:56	05:55	06:57	07:59		08:05
	21:48	20:42	19:21	18:02		15:58
22	04:58	05:57	06:59	08:01		08:07
	21:46	20:40	19:18	18:00		15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	19:15	17:57		15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	19:12	7 08:25 (C14)		15:53
25	05:03	06:03	07:05	08:14 (C14)		08:13
	21:41	20:32	19:10	15 08:29 (C14)		15:52
26	05:05	06:05	07:07	08:12 (C14)		08:15
	21:39	20:30	19:07	19 08:31 (C14)		15:51
27	05:06	06:07	07:09	08:10 (C14)		08:17
	21:38	20:27	19:04	22 08:32 (C14)		15:50
28	05:08	06:09	07:11	08:08 (C14)		08:19
	21:36	20:24	19:02	25 08:33 (C14)		15:48
29	05:10	06:11	07:13	08:07 (C14)		08:21
	21:34	20:22	18:59	27 08:34 (C14)		15:47
30	05:12	06:13	07:15	08:06 (C14)		08:22
	21:32	20:19	18:56	28 08:34 (C14)		15:46
31	05:14	06:15		07:20		08:51
	21:30	20:17		16:38		15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		270	143		338	
Sun reduction		0.50	0.43		0.26	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.65	0.62		0.62	
Total reduction		0.32	0.26		0.16	
Total, real		86	37	53		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

## SHADOW - Calendar

Shadow receptor: Landzani 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (75)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	07:37 (C14)	06:49	05:33
	15:48	16:45	17:48	22 07:59 (C14)	19:53	20:55
2	08:50	08:13	07:08	07:34 (C14)	06:46	05:30
	15:50	16:48	17:50	25 07:59 (C14)	19:55	20:58
3	08:50	08:11	07:06	07:34 (C14)	06:44	05:28
	15:51	16:50	17:52	26 08:00 (C14)	19:57	21:00
4	08:50	08:09	07:03	07:33 (C14)	06:41	05:26
	15:52	16:52	17:54	27 08:00 (C14)	19:59	21:02
5	08:49	08:07	07:01	07:33 (C14)	06:38	05:24
	15:54	16:54	17:56	26 07:59 (C14)	20:01	21:04
6	08:49	08:05	06:58	07:33 (C14)	06:36	05:21
	15:55	16:57	17:58	27 08:00 (C14)	20:03	21:06
7	08:48	08:03	06:55	07:33 (C14)	06:33	05:19
	15:56	16:59	18:01	26 07:59 (C14)	20:06	21:08
8	08:48	08:01	06:53	07:33 (C14)	06:30	05:17
	15:58	17:01	18:03	25 07:58 (C14)	20:08	21:10
9	08:47	07:58	06:50	07:34 (C14)	06:28	05:15
	16:00	17:03	18:05	24 07:58 (C14)	20:10	21:12
10	08:46	07:56	06:48	07:34 (C14)	06:25	05:13
	16:01	17:05	18:07	22 07:56 (C14)	20:12	21:14
11	08:45	07:54	06:45	07:35 (C14)	06:22	05:11
	16:03	17:08	18:09	19 07:54 (C14)	20:14	21:16
12	08:44	07:52	06:42	07:37 (C14)	06:20	06:45 (C13)
	16:05	17:10	18:11	16 07:53 (C14)	20:16	06:50 (C13)
13	08:43	07:50	06:40	07:39 (C14)	06:17	06:43 (C13)
	16:06	17:12	18:13	10 07:49 (C14)	20:18	06:51 (C13)
14	08:42	07:47	06:37	06:15	06:15	06:40 (C13)
	16:08	17:14	18:15	12 06:52 (C13)	21:22	06:52 (C13)
15	08:41	07:45	06:34	06:12	06:38 (C13)	05:03
	16:10	17:17	18:18	14 06:52 (C13)	21:24	06:52 (C13)
16	08:40	07:43	06:32	06:09	06:35 (C13)	05:01
	16:12	17:19	18:20	17 06:52 (C13)	21:26	06:52 (C13)
17	08:39	07:40	06:29	06:07	06:33 (C13)	04:59
	16:14	17:21	18:22	20 06:53 (C13)	21:27	06:53 (C13)
18	08:38	07:38	06:26	06:04	06:31 (C13)	04:57
	16:16	17:23	18:24	21 06:52 (C13)	21:29	06:52 (C13)
19	08:36	07:36	06:24	06:02	06:32 (C13)	04:55
	16:18	17:26	18:26	20 06:52 (C13)	21:31	06:52 (C13)
20	08:35	07:33	06:21	05:59	06:32 (C13)	04:53
	16:20	17:28	18:28	19 06:51 (C13)	21:33	06:51 (C13)
21	08:33	07:31	06:18	05:57	06:32 (C13)	04:52
	16:22	17:30	18:30	18 06:50 (C13)	21:35	06:50 (C13)
22	08:32	07:28	06:16	05:54	06:33 (C13)	04:50
	16:24	17:32	18:32	16 06:49 (C13)	21:37	06:49 (C13)
23	08:30	07:26	06:13	05:52	06:34 (C13)	04:48
	16:26	17:34	18:34	13 06:47 (C13)	21:38	06:47 (C13)
24	08:29	07:23	06:10	05:49	06:36 (C13)	04:47
	16:28	17:37	18:36	9 06:45 (C13)	21:40	06:45 (C13)
25	08:27	07:21	07:48 (C14)	06:08	05:47	04:45
	16:30	17:39	4 07:52 (C14)	18:39	20:43	21:42
26	08:26	07:18	07:45 (C14)	06:05	05:44	04:44
	16:32	17:41	10 07:55 (C14)	18:41	20:45	21:43
27	08:24	07:16	07:42 (C14)	06:02	05:42	04:42
	16:34	17:43	14 07:56 (C14)	18:43	20:47	21:45
28	08:22	07:13	07:40 (C14)	06:00	05:40	04:41
	16:37	17:45	18 07:58 (C14)	18:45	20:49	21:47
29	08:20			06:57	05:37	04:40
	16:39			19:47	20:51	21:48
30	08:19			06:54	05:35	04:38
	16:41			19:49	20:53	21:50
31	08:17			06:52		04:37
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case				295		192
Sun reduction				0.41		0.50
Oper. time red.				0.98		0.98
Wind dir. red.				0.62		0.65
Total reduction				0.25		0.32
Total, real				74		61

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Landzani 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (75)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	08:17 (C14) 16:36	07:23 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	08:15 (C14) 16:34	07:25 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	08:13 (C14) 16:32	07:27 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	08:11 (C14) 16:30	07:29 15:43
5	04:34 22:07	05:24 21:20	06:25 20:04	07:25 18:43	08:10 (C14) 16:27	07:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	08:09 (C14) 16:25	07:33 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:09 (C14) 16:23	07:36 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:08 (C14) 16:21	07:38 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:09 (C14) 16:19	07:40 15:39
10	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:08 (C14) 16:17	07:42 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	08:08 (C14) 16:15	07:44 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:09 (C14) 16:13	07:46 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:11 (C14) 16:11	07:49 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:13 (C14) 16:10	07:51 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:16 (C14) 16:08	07:53 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	08:18 (C14) 16:06	07:55 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:20 (C14) 16:04	07:57 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	08:22 (C15) 16:03	16:04 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	16:03 16:01	15:38 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:51 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	07:20 16:38	08:24 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		193	7		342	
Sun reduction		0.50	0.43		0.26	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.65	0.62		0.62	
Total reduction		0.32	0.26		0.16	
Total, real		61	2		54	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Landzani 4 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (159)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March		April		May	June
1	08:51	08:15	07:11		07:37 (C15)	06:49	05:33	04:36
	15:48	16:45	17:48	2	07:39 (C15)	19:53	20:55	21:53
2	08:51	08:13	07:08		07:34 (C15)	06:46	05:30	04:35
	15:50	16:48	17:50	6	07:40 (C15)	19:55	20:58	21:54
3	08:50	08:11	07:06		07:32 (C14)	06:44	05:28	04:34
	15:51	16:50	17:52	9	07:41 (C15)	19:57	21:00	21:55
4	08:50	08:09	07:03		07:29 (C14)	06:41	05:26	04:33
	15:52	16:52	17:54	11	07:40 (C15)	19:59	21:02	21:57
5	08:49	08:07	07:01		07:26 (C14)	06:38	05:24	04:32
	15:54	16:54	17:56	14	07:40 (C14)	20:01	21:04	21:58
6	08:49	08:05	06:58		07:24 (C14)	06:36	05:21	04:31
	15:55	16:57	17:58	17	07:41 (C14)	20:03	21:06	21:59
7	08:48	08:03	06:55		07:21 (C14)	06:33	05:19	04:30
	15:56	16:59	18:01	21	07:42 (C14)	20:06	21:08	22:00
8	08:48	08:01	06:53		07:18 (C14)	06:30	05:17	04:29
	15:58	17:01	18:03	23	07:41 (C14)	20:08	21:10	22:01
9	08:47	07:58	06:50		07:19 (C14)	06:28	05:15	04:29
	16:00	17:03	18:05	23	07:42 (C14)	20:10	21:12	22:02
10	08:46	07:56	06:48		07:18 (C14)	06:25	05:13	04:28
	16:01	17:06	18:07	24	07:42 (C14)	20:12	21:14	22:03
11	08:45	07:54	06:45		07:17 (C14)	06:22	05:11	04:27
	16:03	17:08	18:09	24	07:41 (C14)	20:14	21:16	22:04
12	08:44	07:52	06:42		07:18 (C14)	06:20	06:45 (C13)	05:09
	16:05	17:10	18:11	23	07:41 (C14)	20:16	1	06:46 (C13)
13	08:43	07:50	06:40		07:18 (C14)	06:17	06:43 (C13)	05:07
	16:06	17:12	18:13	22	07:40 (C14)	20:18	5	06:48 (C13)
14	08:42	07:47	06:37		07:19 (C14)	06:15	06:40 (C13)	05:05
	16:08	17:14	18:16	19	07:38 (C14)	20:20	8	06:48 (C13)
15	08:41	07:45	06:34		07:20 (C14)	06:12	06:38 (C13)	05:03
	16:10	17:17	18:18	18	07:38 (C14)	20:22	11	06:49 (C13)
16	08:40	07:43	06:32		07:21 (C14)	06:09	06:35 (C13)	05:01
	16:12	17:19	18:20	14	07:35 (C14)	20:24	14	06:49 (C13)
17	08:39	07:40	06:29		07:24 (C14)	06:07	06:33 (C13)	04:59
	16:14	17:21	18:22	7	07:31 (C14)	20:26	16	06:49 (C13)
18	08:38	07:38	06:26		06:04	06:04	06:30 (C13)	04:57
	16:16	17:23	18:24		20:28	18	06:48 (C13)	21:29
19	08:36	07:36	06:24		06:02	06:02	06:30 (C13)	04:55
	16:18	17:26	18:26		20:31	18	06:48 (C13)	21:31
20	08:35	07:33	06:21		05:59	06:31 (C13)	04:54	04:25
	16:20	17:28	18:28		20:33	17	06:48 (C13)	21:33
21	08:33	07:31	06:18		05:57	06:31 (C13)	04:52	04:25
	16:22	17:30	18:30		20:35	15	06:46 (C13)	21:35
22	08:32	07:28	06:16		05:54	06:32 (C13)	04:50	04:26
	16:24	17:32	18:32		20:37	13	06:45 (C13)	21:37
23	08:30	07:26	06:13		05:52	06:33 (C13)	04:48	04:26
	16:26	17:35	18:34		20:39	10	06:43 (C13)	21:38
24	08:29	07:23	06:10		05:49		04:47	04:26
	16:28	17:37	18:36		20:41		21:40	22:10
25	08:27	07:21	06:08		05:47		04:45	04:27
	16:30	17:39	18:39		20:43		21:42	22:10
26	08:26	07:18	06:05		05:45		04:44	04:27
	16:32	17:41	18:41		20:45		21:43	22:10
27	08:24	07:16	06:02		05:42		04:42	04:28
	16:34	17:43	18:43		20:47		21:45	22:10
28	08:22	07:13	06:00		05:40		04:41	04:28
	16:37	17:45	18:45		20:49		21:47	22:10
29	08:20		06:57		05:37		04:40	04:29
	16:39		19:47		20:51		21:48	22:10
30	08:19		06:54		05:35		04:38	04:29
	16:41		19:49		20:53		21:50	22:09
31	08:17		06:52				04:37	
	16:43		19:51				21:51	
Potential sun hours	235	266	366		426		508	529
Total, worst case			277		146			
Sun reduction			0.41		0.50			
Oper. time red.			0.98		0.98			
Wind dir. red.			0.62		0.65			
Total reduction			0.25		0.32			
Total, real			69		46			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Landzani 4 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (159)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:57 (C14) 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:57 (C14) 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:56 (C14) 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:56 (C14) 16:30	08:29 15:43
5	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:55 (C14) 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:56 (C14) 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:58 (C14) 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:00 (C14) 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:03 (C14) 16:19	08:37 15:39
10	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:05 (C14) 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	08:07 (C14) 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:09 (C15) 16:13	08:40 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:11 (C15) 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:12 (C15) 16:10	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 (C14) 16:50	07:10 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 (C14) 16:48	07:12 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:16 (C14) 16:45	07:14 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:18 (C14) 16:43	07:16 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:19 (C14) 16:41	07:18 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	08:20 (C14) 16:38	07:20 15:47	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		151	70		210	
Sun reduction		0.50	0.43		0.26	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.65	0.62		0.62	
Total reduction		0.32	0.26		0.16	
Total, real		48	18		33	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Landzani 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (133)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	07:41 (C15)	06:49	05:33
	15:48	16:45	17:48	27 08:08 (C14)	19:53	20:55
2	08:51	08:13	07:08	07:41 (C15)	06:46	05:30
	15:50	16:48	17:50	26 08:07 (C14)	19:55	20:58
3	08:50	08:11	07:06	07:42 (C14)	06:44	05:28
	15:51	16:50	17:52	25 08:07 (C14)	19:57	21:00
4	08:50	08:09	07:03	07:42 (C14)	06:41	05:26
	15:52	16:52	17:54	24 08:06 (C14)	19:59	21:02
5	08:49	08:07	07:01	07:42 (C14)	06:38	05:24
	15:54	16:54	17:56	23 08:05 (C14)	20:01	21:04
6	08:49	08:05	06:58	07:43 (C14)	06:36	05:21
	15:55	16:57	17:58	22 08:05 (C14)	20:03	21:06
7	08:48	08:03	06:55	07:44 (C14)	06:33	05:19
	15:56	16:59	18:01	19 08:03 (C14)	20:06	21:08
8	08:48	08:01	06:53	07:45 (C14)	06:30	05:17
	15:58	17:01	18:03	16 08:01 (C14)	20:08	21:10
9	08:47	07:58	06:50	07:48 (C14)	06:28	05:15
	16:00	17:03	18:05	11 07:59 (C14)	20:10	21:12
10	08:46	07:56	06:48	06:25	7 07:00 (C13)	21:12
	16:01	17:05	18:07	11 07:01 (C13)	21:14	22:03
11	08:45	07:54	06:45	06:22	06:48 (C13)	05:11
	16:03	17:08	18:09	14 07:02 (C13)	21:16	22:04
12	08:44	07:52	06:42	06:20	06:45 (C13)	05:09
	16:05	17:10	18:11	16 07:01 (C13)	21:18	22:05
13	08:43	07:50	06:40	06:17	06:43 (C13)	05:07
	16:06	17:12	18:13	19 07:02 (C13)	21:20	22:06
14	08:42	07:47	06:37	06:15	06:41 (C13)	05:05
	16:08	17:14	18:15	20 07:01 (C13)	21:22	22:07
15	08:41	07:45	06:34	06:12	06:41 (C13)	05:03
	16:10	17:17	18:18	20 07:01 (C13)	21:24	22:07
16	08:40	07:43	06:32	06:09	06:41 (C13)	05:01
	16:12	17:19	18:20	19 07:00 (C13)	21:26	22:08
17	08:39	07:40	06:29	06:07	06:42 (C13)	04:59
	16:14	17:21	18:22	17 06:59 (C13)	21:27	22:08
18	08:38	07:38	06:26	06:04	06:42 (C13)	04:57
	16:16	17:23	18:24	16 06:58 (C13)	21:29	22:09
19	08:36	07:36	06:24	06:02	06:43 (C13)	04:55
	16:18	17:26	18:26	14 06:57 (C13)	21:31	22:09
20	08:35	07:33	06:21	05:59	06:46 (C13)	04:53
	16:20	17:28	18:28	9 06:55 (C13)	21:33	22:10
21	08:33	07:31	06:18	05:57	04:52	04:25
	16:22	17:30	18:30	20:35	21:35	22:10
22	08:32	07:28	07:55 (C14)	06:16	05:54	04:50
	16:24	17:32	6 08:01 (C14)	18:32	20:37	21:37
23	08:30	07:26	07:53 (C14)	06:13	05:52	04:48
	16:26	17:34	11 08:04 (C14)	18:34	20:39	21:38
24	08:29	07:23	07:50 (C14)	06:10	05:49	04:47
	16:28	17:37	15 08:05 (C14)	18:36	20:41	21:40
25	08:27	07:21	07:48 (C14)	06:08	05:47	04:45
	16:30	17:39	19 08:07 (C14)	18:39	20:43	21:42
26	08:26	07:18	07:45 (C14)	06:05	05:44	04:44
	16:32	17:41	22 08:07 (C14)	18:41	20:45	21:43
27	08:24	07:16	07:42 (C15)	06:02	05:42	04:42
	16:34	17:43	25 08:07 (C14)	18:43	20:47	21:45
28	08:22	07:13	07:41 (C15)	06:00	05:40	04:41
	16:37	17:45	27 08:08 (C14)	18:45	20:49	21:47
29	08:20			06:57	05:37	04:40
	16:39			19:47	20:51	21:48
30	08:19			06:54	05:35	04:38
	16:41			19:49	20:53	21:50
31	08:17			06:52		04:37
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		125	193		185	
Sun reduction		0.20	0.41		0.50	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.63	0.63		0.66	
Total reduction		0.12	0.25		0.32	
Total, real		15	48		59	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Landzani 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (133)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	06:47 (C13)	07:17	07:23
	22:09	21:28	20:14	13 07:00 (C13)	18:54	16:36
2	04:31	05:18	06:19	06:49 (C13)	07:19	07:25
	22:09	21:26	20:11	10 06:59 (C13)	18:51	16:34
3	04:32	05:20	06:21	06:51 (C13)	07:21	07:27
	22:08	21:24	20:09	7 06:58 (C13)	18:48	16:32
4	04:33	05:22	06:23	06:53 (C13)	07:23	08:26 (C14)
	22:07	21:22	20:06	3 06:56 (C13)	18:46	8 08:34 (C14)
5	04:34	05:24	06:25	07:25	08:23 (C14)	16:30
	22:07	21:20	20:04	18:43	14 08:37 (C14)	16:27
6	04:35	05:25	06:27	07:28	08:21 (C14)	16:27
	22:06	21:17	20:01	18:40	18 08:39 (C14)	16:25
7	04:36	05:27	06:29	07:30	08:19 (C14)	16:25
	22:05	21:15	19:58	18:38	21 08:40 (C14)	16:23
8	04:37	05:29	06:31	07:32	08:18 (C14)	16:23
	22:04	21:13	19:56	18:35	22 08:40 (C14)	16:21
9	04:38	05:31	06:33	07:34	08:18 (C14)	16:21
	22:03	21:11	19:53	18:33	24 08:42 (C14)	16:19
10	04:40	05:33	06:35	07:36	08:17 (C14)	16:19
	22:02	21:08	19:50	18:30	25 08:42 (C14)	16:17
11	04:41	05:35	06:37	07:38	08:16 (C14)	16:17
	22:01	21:06	19:48	18:27	25 08:41 (C14)	16:15
12	04:42	05:37	06:39	07:40	08:15 (C14)	16:15
	22:00	21:04	19:45	18:25	26 08:41 (C14)	16:13
13	04:44	05:39	06:41	07:42	08:14 (C15)	16:13
	21:59	21:02	19:42	18:22	27 08:41 (C14)	16:11
14	04:45	05:41	06:43	07:44	08:13 (C15)	16:11
	21:58	20:59	19:39	18:20	27 08:40 (C14)	16:10
15	04:46	05:43	06:45	07:46	08:16 (C14)	16:10
	21:57	20:57	19:37	18:17	24 08:40 (C14)	16:08
16	04:48	05:45	06:47	07:48	08:18 (C14)	16:08
	21:55	20:54	19:34	18:15	21 08:39 (C14)	16:06
17	04:49	05:47	06:49	07:50	08:20 (C14)	16:06
	21:54	20:52	19:31	18:12	17 08:37 (C14)	16:04
18	04:51	05:49	06:51	07:53	08:22 (C14)	16:04
	21:52	20:50	19:29	18:09	14 08:36 (C14)	16:03
19	04:53	05:51	06:53	07:55	08:25 (C14)	16:03
	21:51	20:47	19:26	18:07	9 08:34 (C14)	16:01
20	04:54	05:53	06:55	07:57	08:27 (C14)	16:01
	21:49	20:45	19:23	18:04	4 08:31 (C14)	15:59
21	04:56	05:55	06:57	07:59		15:58
	21:48	20:42	19:21	18:02		15:58
22	04:58	05:57	06:59	08:01		15:58
	21:46	20:40	19:18	18:00		15:56
23	04:59	05:59	06:49 (C13)	07:01		15:56
	21:45	20:37	10 06:59 (C13)	19:15		15:55
24	05:01	06:01	06:47 (C13)	07:03		15:55
	21:43	20:35	13 07:00 (C13)	19:12		15:53
25	05:03	06:03	06:45 (C13)	07:05		15:53
	21:41	20:32	17 07:02 (C13)	19:10		15:52
26	05:05	06:05	06:44 (C13)	07:07		15:52
	21:39	20:30	18 07:02 (C13)	19:07		15:51
27	05:06	06:07	06:44 (C13)	07:09		15:51
	21:38	20:27	19 07:03 (C13)	19:04		15:50
28	05:08	06:09	06:42 (C13)	07:11		15:50
	21:36	20:24	20 07:02 (C13)	19:02		15:48
29	05:10	06:11	06:42 (C13)	07:13		15:48
	21:34	20:22	20 07:02 (C13)	18:59		15:47
30	05:12	06:13	06:43 (C13)	07:15		15:47
	21:32	20:19	19 07:02 (C13)	18:56		15:46
31	05:14	06:15	06:45 (C13)			15:46
	21:30	20:17	16 07:01 (C13)			15:45
Potential sun hours	529	469	385	324	247	216
Total, worst case		152	33	326		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.66	0.66	0.63		
Total reduction		0.32	0.27	0.16		
Total, real		48	9	51		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Latvani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (168)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	09:02 (C14) 17:48	07:11 17:48	07:37 (C13) 19:53	05:33 20:56
2	08:51 15:49	08:13 16:48	09:03 (C14) 17:50	07:08 17:50	07:34 (C13) 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	09:06 (C14) 17:52	07:06 17:52	07:32 (C13) 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	09:09 (C14) 17:54	07:03 17:54	07:29 (C13) 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	09:01 17:56	07:01 17:56	07:27 (C13) 20:01	05:24 21:04
6	08:49 15:55	08:05 16:56	09:00 17:58	06:58 17:58	07:27 (C13) 20:04	05:21 21:06
7	08:48 15:56	08:03 16:59	09:00 18:01	06:55 18:01	07:26 (C13) 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	09:00 18:03	06:53 18:03	07:27 (C13) 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	09:00 18:05	06:50 18:05	07:29 (C13) 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	09:00 18:07	06:48 18:07	07:31 (C13) 20:12	05:13 21:14
11	08:45 16:03	07:54 17:08	09:00 18:09	06:45 18:09	07:36 (C13) 20:14	05:11 21:16
12	08:44 16:05	07:52 17:10	09:00 18:11	06:42 18:11	07:36 (C13) 20:16	05:09 21:18
13	08:43 16:06	07:50 17:12	09:00 18:13	06:40 18:13	07:36 (C13) 20:18	05:07 21:20
14	08:42 16:08	07:47 17:14	09:00 18:16	06:37 18:16	07:36 (C13) 20:20	05:05 21:22
15	08:41 16:10	07:45 17:17	09:00 18:18	06:34 18:18	07:36 (C13) 20:22	05:03 21:24
16	08:40 16:12	07:43 17:19	09:00 18:20	06:32 18:20	07:36 (C13) 20:24	05:01 21:26
17	08:39 16:14	07:40 17:21	09:00 18:22	06:29 18:22	07:36 (C13) 20:26	04:59 21:27
18	08:38 16:16	07:38 17:23	09:00 18:24	06:26 18:24	07:36 (C13) 20:28	04:57 21:29
19	08:36 16:18	07:36 17:26	09:00 18:26	06:24 18:26	07:36 (C13) 20:30	04:55 21:31
20	08:35 16:20	09:09 (C14) 17:28	09:00 18:28	06:21 18:28	07:36 (C13) 20:32	04:53 21:33
21	08:33 16:22	09:07 (C14) 17:30	09:00 18:30	06:18 18:30	07:36 (C13) 20:34	04:52 21:35
22	08:32 16:24	09:05 (C14) 17:32	09:00 18:32	06:16 18:32	07:36 (C13) 20:36	04:50 21:37
23	08:30 16:26	09:03 (C14) 17:34	09:00 18:34	06:13 18:34	07:36 (C13) 20:38	04:48 21:39
24	08:29 16:28	09:02 (C14) 17:36	09:00 18:36	06:10 18:36	07:36 (C13) 20:40	04:47 21:41
25	08:27 16:30	09:00 (C14) 17:38	09:00 18:38	06:08 18:38	07:36 (C13) 20:42	04:45 21:43
26	08:26 16:32	08:58 (C14) 17:40	09:00 18:40	06:05 18:40	07:36 (C13) 20:44	04:44 21:45
27	08:24 16:34	08:58 (C14) 17:42	09:00 18:42	06:02 18:42	07:36 (C13) 20:46	04:42 21:47
28	08:22 16:36	08:58 (C14) 17:44	09:00 18:44	06:00 18:44	07:36 (C13) 20:48	04:41 21:49
29	08:20 16:38	08:59 (C14) 17:46	09:00 18:46	06:57 18:46	07:36 (C13) 20:50	04:40 21:51
30	08:19 16:40	09:00 (C14) 17:48	09:00 18:48	06:54 18:48	07:36 (C13) 20:52	04:38 21:53
31	08:17 16:42	09:01 (C14) 17:50	09:00 18:50	06:52 18:50	07:36 (C13) 20:54	04:37 21:55
Potential sun hours	235	266	366	426	508	529
Total, worst case	145	24	116			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.59	0.62			
Total reduction	0.08	0.11	0.25			
Total, real	11	3	29			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

## SHADOW - Calendar

Shadow receptor: Latvian - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (168)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	9	08:07 (C13) 08:16 (C13)	07:29 16:30
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	13	08:04 (C13) 08:17 (C13)	07:31 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	15	08:03 (C13) 08:18 (C13)	07:34 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	16	08:02 (C13) 08:18 (C13)	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	17	08:02 (C13) 08:19 (C13)	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	15	08:03 (C13) 08:18 (C13)	07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	13	08:05 (C13) 08:18 (C13)	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	10	08:07 (C13) 08:17 (C13)	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	6	08:09 (C13) 08:15 (C13)	07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	2	08:11 (C13) 08:13 (C13)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20		07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17		07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15		07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12		07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09		07:59 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07		08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04		08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02		08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50		08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45		08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41		08:23 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		08:20 16:38			08:51 15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				116		173	
Sun reduction				0.26		0.08	
Oper. time red.				0.98		0.98	
Wind dir. red.				0.62		0.59	
Total reduction				0.16		0.05	
Total, real				18		8	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lauri - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (49)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:36	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lazdas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (68)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	08:46 (C14) 08:55 (C14)	07:11 17:48	06:49 19:53	05:33 20:56
2	08:51 15:49	08:13 16:48	08:43 (C14) 08:55 (C14)	07:08 17:50	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	08:41 (C14) 08:55 (C14)	07:06 17:52	06:44 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	08:39 (C14) 08:56 (C14)	07:03 17:54	06:41 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	08:38 (C14) 08:56 (C14)	07:01 17:56	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:57	08:38 (C14) 08:56 (C14)	06:58 17:58	06:36 20:04	05:21 21:06
7	08:48 15:56	08:03 16:59	08:39 (C14) 08:56 (C14)	06:55 18:01	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	08:40 (C14) 08:56 (C14)	06:53 18:03	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	08:40 (C14) 08:54 (C14)	06:50 18:05	07:16 (C13) 07:17 (C13)	05:15 21:12
10	08:46 16:01	07:56 17:05	08:41 (C14) 08:53 (C14)	06:48 18:07	07:13 (C13) 07:18 (C13)	05:13 21:14
11	08:45 16:03	07:54 17:08	08:44 (C14) 08:52 (C14)	06:45 18:09	07:10 (C13) 07:19 (C13)	05:11 21:16
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 18:12	07:08 (C13) 07:20 (C13)	05:09 21:18
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 18:15	07:05 (C13) 07:20 (C13)	05:07 21:20
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 18:17	07:02 (C13) 07:19 (C13)	05:05 21:22
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 18:16	07:03 (C13) 07:19 (C13)	05:03 21:24
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 18:15	07:03 (C13) 07:18 (C13)	05:01 21:26
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 18:12	07:04 (C13) 07:16 (C13)	04:59 21:27
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 18:08	07:06 (C13) 07:14 (C13)	04:57 21:29
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 18:02	06:02 20:31	04:55 21:31
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	05:59 21:33	04:53 21:33
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	05:57 21:35	04:52 21:35
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	05:54 21:37	04:50 21:37
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	05:52 21:38	04:48 21:38
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	05:49 21:40	04:47 21:40
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	05:47 21:42	04:45 21:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	05:44 21:43	04:44 21:43
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	05:42 21:45	04:42 21:45
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	05:40 21:47	04:41 21:47
29	08:20 16:39		06:57 19:47	05:37 20:51	05:37 21:48	04:40 21:48
30	08:19 16:41	08:50 (C14) 08:52 (C14)	06:54 19:49	05:35 20:53	05:35 21:50	04:38 21:50
31	08:17 16:43	08:48 (C14) 08:53 (C14)	06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	7	155	110			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.61	0.61	0.63			
Total reduction	0.08	0.12	0.25			
Total, real	1	18	28			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lazdas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (68)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December		
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:46 (C13) 07:59 (C13)	07:23 16:36	08:11 (C14) 08:23 (C14)	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:48 (C13) 07:58 (C13)	07:25 16:34	08:09 (C14) 08:24 (C14)	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:50 (C13) 07:57 (C13)	07:27 16:32	08:09 (C14) 08:25 (C14)	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:52 (C13) 07:55 (C13)	07:29 16:30	08:08 (C14) 08:25 (C14)	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	07:31 16:27	08:09 (C14) 08:26 (C14)	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	07:34 16:25	08:08 (C14) 08:26 (C14)	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	07:36 16:23	08:09 (C14) 08:26 (C14)	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	07:38 16:21	08:12 (C14) 08:26 (C14)	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	07:40 16:19	08:14 (C14) 08:25 (C14)	08:37 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	07:42 16:17	08:17 (C14) 08:25 (C14)	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	07:44 16:15	08:19 (C14) 08:24 (C14)	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	07:47 16:13	08:21 (C14) 08:23 (C14)	08:40 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	07:49 16:11		08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	07:51 16:10		08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	07:53 16:08		08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	07:55 16:06		08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	07:57 16:04		08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	07:59 16:03		08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:01 16:01		08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:03 15:59		08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:05 15:58		08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:07 15:56		08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:09 15:55		08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:11 15:53		08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:50 (C13) 07:56 (C13)	07:07 16:52	08:13 15:52		08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:47 (C13) 07:58 (C13)	07:10 16:50	08:15 15:51		08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:46 (C13) 07:59 (C13)	07:12 16:48	08:17 15:50		08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:44 (C13) 08:00 (C13)	07:14 16:45	08:19 15:48		08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:43 (C13) 08:00 (C13)	07:16 16:43	08:21 15:47		08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:44 (C13) 08:00 (C13)	07:18 16:41	08:23 15:46		08:51 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38	08:13 (C14) 08:22 (C14)			08:51 15:47
Potential sun hours	529	469	385	324	247	216		
Total, worst case			79	42	152			
Sun reduction			0.43	0.26	0.08			
Oper. time red.			0.98	0.98	0.98			
Wind dir. red.			0.63	0.62	0.61			
Total reduction			0.26	0.16	0.05			
Total, real			21	7	7			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Leiš ūpi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (31)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:00 (C14) 21:53	04:36 22:09	04:30 21:28	05:16 19	05:59 (C14) 06:18 (C14)	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	05:58 (C14) 21:54	04:35 22:08	04:31 22:08	05:18 19	05:58 (C14) 06:17 (C14)	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	05:56 (C14) 21:55	04:34 22:08	04:32 22:08	05:20 20	05:58 (C14) 06:18 (C14)	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	05:54 (C14) 21:57	04:33 22:07	04:33 22:07	05:22 20	05:58 (C14) 06:18 (C14)	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	05:52 (C14) 21:58	04:32 22:07	04:34 22:07	05:24 19	05:59 (C14) 06:18 (C14)	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	05:50 (C14) 21:59	04:31 22:06	04:35 22:06	05:26 19	05:58 (C14) 06:17 (C14)	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	05:48 (C14) 22:00	04:30 22:05	04:36 22:05	05:28 17	06:00 (C14) 06:17 (C14)	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	05:48 (C14) 22:01	04:29 22:04	04:37 22:04	05:29 14	06:02 (C14) 06:16 (C14)	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	05:48 (C14) 22:02	04:29 22:03	04:38 22:03	05:31 12	06:04 (C14) 06:16 (C14)	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	05:48 (C14) 22:03	04:28 22:02	04:40 22:02	05:33 9	06:06 (C14) 06:15 (C14)	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	05:48 (C14) 22:04	04:28 22:01	04:41 22:01	05:35 5	06:08 (C14) 06:13 (C14)	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	05:48 (C14) 22:05	04:27 22:00	04:42 22:00	05:37 1	06:09 (C14) 06:10 (C14)	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	05:50 (C14) 22:06	04:27 21:59	04:44 21:59	05:39 21	06:10 (C14) 06:13 (C14)	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	05:50 (C14) 22:07	04:26 21:58	04:45 21:58	05:41 20	06:13 (C14) 06:16 (C14)	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	05:51 (C14) 22:07	04:26 21:57	04:47 21:57	05:43 19	06:15 (C14) 06:18 (C14)	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	05:51 (C14) 22:08	04:26 21:55	04:48 21:55	05:45 18	06:17 (C14) 06:20 (C14)	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	05:54 (C14) 22:08	04:26 21:54	04:50 21:54	05:47 18	06:19 (C14) 06:22 (C14)	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	06:02 (C14) 22:09	04:25 21:52	04:51 21:52	05:49 19	06:20 (C14) 06:23 (C14)	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	06:05 (C14) 22:10	04:25 21:51	04:53 21:51	05:51 20	06:24 (C14) 06:27 (C14)	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	06:10 (C14) 22:11	04:25 21:49	04:54 21:49	05:53 19	06:25 (C14) 06:28 (C14)	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	06:15 (C14) 22:12	04:26 21:48	04:56 21:48	05:55 18	06:26 (C14) 06:29 (C14)	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	06:20 (C14) 22:13	04:26 21:46	04:58 21:46	05:57 17	06:27 (C14) 06:30 (C14)	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	06:25 (C14) 22:14	04:26 21:45	04:59 21:45	05:59 16	06:28 (C14) 06:31 (C14)	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	06:30 (C14) 22:15	04:26 21:43	05:01 21:43	06:01 15	06:29 (C14) 06:32 (C14)	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	06:35 (C14) 22:16	04:27 21:41	05:03 21:41	06:03 14	06:30 (C14) 06:33 (C14)	07:05 19:10	08:07 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	06:40 (C14) 22:17	04:27 21:39	05:05 21:39	06:05 (C14) 5	06:31 (C14) 06:34 (C14)	07:07 19:07	08:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	06:45 (C14) 22:18	04:28 21:38	05:07 21:38	06:10 (C14) 10	06:32 (C14) 06:35 (C14)	07:09 19:04	08:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	06:50 (C14) 22:19	04:28 21:36	05:08 21:36	06:15 (C14) 13	06:33 (C14) 06:36 (C14)	07:11 19:02	08:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39	07:11 17:49	06:57 18:49	05:37 20:51	04:40 21:48	06:55 (C14) 22:20	04:29 21:34	05:10 21:34	06:20 (C14) 14	06:34 (C14) 06:37 (C14)	07:13 18:59	08:16 16:43	08:21 15:47	08:51 15:45
30	08:18 16:41	07:03 17:54	06:54 18:49	05:35 20:53	04:39 21:50	06:00 (C14) 22:21	04:30 21:32	05:12 21:32	06:25 (C14) 16	06:35 (C14) 06:38 (C14)	07:15 18:56	08:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43	07:01 17:59	06:52 18:51	05:33 21:51	04:37 21:51	06:05 (C14) 22:22	05:14 21:30	05:14 21:30	06:30 (C14) 17	06:36 (C14) 06:39 (C14)	07:20 16:38	08:20 16:38	08:51 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216		
Total, worst case					246			75						
Sun reduction					0.57			0.49						
Oper. time red.					0.98			0.98						
Wind dir. red.					0.67			0.67						
Total reduction					0.37			0.32						
Total, real					91			24						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lejas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (156)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:37 (C13) 19:53	05:33 20:56	04:36 21:53
2	08:51 15:49	08:13 16:48	07:08 17:50	07:37 (C13) 19:55	05:30 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	07:38 (C13) 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:38 (C13) 19:59	05:26 21:02	04:33 21:57
5	08:49 15:53	08:07 16:54	07:01 17:56	07:40 (C13) 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	07:42 (C13) 20:04	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07
16	08:40 16:12	09:15 (C14) 07:43	06:32 18:20	06:09 20:24	05:01 21:26	04:26 22:08
17	08:39 16:14	09:14 (C14) 07:40	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:09
18	08:38 16:16	09:12 (C14) 07:38	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09
19	08:36 16:18	09:10 (C14) 07:36	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09
20	08:35 16:20	09:09 (C14) 07:33	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10
21	08:33 16:22	09:07 (C14) 07:31	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10
22	08:32 16:24	09:05 (C14) 07:28	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10
23	08:30 16:26	09:04 (C14) 07:26	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10
24	08:29 16:28	09:05 (C14) 07:23	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11
25	08:27 16:30	09:06 (C14) 07:21	07:48 (C13) 06:08	05:47 20:43	04:45 21:42	04:26 22:11
26	08:26 16:32	09:06 (C14) 07:18	07:45 (C13) 06:05	05:44 20:45	04:44 21:43	04:27 22:10
27	08:24 16:34	09:21 (C14) 07:16	07:42 (C13) 06:02	05:42 20:47	04:42 21:45	04:27 22:10
28	08:22 16:37	09:21 (C14) 07:13	07:53 (C13) 06:00	05:40 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39	09:20 (C14) 07:45	07:54 (C13) 06:57	05:37 20:51	04:40 21:48	04:29 22:10
30	08:19 16:41	09:19 (C14) 07:12	06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10
31	08:17 16:43	09:18 (C14)	06:52 19:51	05:37 21:51	04:37 21:51	04:29 22:10
Potential sun hours	235	266	366	426	508	529
Total, worst case	167	37	74			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.62	0.62			
Total reduction	0.08	0.12	0.25			
Total, real	13	4	18			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lejas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (156)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November		December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36		08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34		08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32		08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:29		08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43		07:31 16:27		08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40		07:34 16:25		08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38		07:36 16:23		08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	8	08:16 (C13) 08:24 (C13)		07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	12	08:14 (C13) 08:26 (C13)		07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	14	08:12 (C13) 08:26 (C13)		07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	16	08:11 (C13) 08:27 (C13)		07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	17	08:10 (C13) 08:27 (C13)	7	07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	15	08:11 (C13) 08:26 (C13)	10	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	13	08:14 (C13) 08:27 (C13)	12	07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	10	08:16 (C13) 08:26 (C13)	14	07:53 16:08
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	6	08:18 (C13) 08:24 (C13)	15	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	2	08:20 (C13) 08:22 (C13)	16	07:57 16:04
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09		07:59 16:03	17	08:39 (C14) 08:56 (C14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07		08:01 16:01	17	08:39 (C14) 08:56 (C14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04		08:03 15:59	16	08:40 (C14) 08:56 (C14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02		08:05 15:58	13	08:43 (C14) 08:56 (C14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56	11	08:45 (C14) 08:56 (C14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	9	08:47 (C14) 08:56 (C14)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	6	08:49 (C14) 08:55 (C14)
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52		08:13 15:52	4	08:51 (C14) 08:55 (C14)
26	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50		08:15 15:51	1	08:54 (C14) 08:55 (C14)
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48		08:17 15:50		15:42 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45		08:19 15:48		08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43		08:21 15:47		08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41		08:23 15:46		08:51 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38				08:51 15:47
Potential sun hours	529	469	385	324		247		216
Total, worst case				113		168		
Sun reduction				0.26		0.08		
Oper. time red.				0.98		0.98		
Wind dir. red.				0.62		0.59		
Total reduction				0.16		0.05		
Total, real				18		8		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lejas 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (128)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:48 (C13) 19:53	05:33 20:56	04:36 21:53
2	08:51 15:49	08:13 16:48	07:08 17:50	07:49 (C13) 19:55	05:30 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	09:22 (C14) 09:24 (C14)	07:54 17:08	06:45 18:09	05:11 21:16	04:27 22:04
12	08:44 16:05	09:21 (C14) 09:25 (C14)	07:52 17:10	06:42 18:11	05:09 21:18	04:27 22:05
13	08:43 16:06	09:19 (C14) 09:25 (C14)	07:50 17:12	06:40 18:13	05:07 21:20	04:26 22:06
14	08:42 16:08	09:18 (C14) 09:26 (C14)	07:47 17:14	06:37 18:16	05:05 21:22	04:26 22:07
15	08:41 16:10	09:17 (C14) 09:27 (C14)	07:45 17:17	06:34 18:18	05:03 21:24	04:26 22:07
16	08:40 16:12	09:15 (C14) 09:27 (C14)	07:43 17:19	06:32 18:20	05:01 21:26	04:26 22:08
17	08:39 16:14	09:14 (C14) 09:28 (C14)	07:40 17:21	06:29 18:22	04:59 21:27	04:25 22:09
18	08:38 16:16	09:12 (C14) 09:28 (C14)	07:38 17:23	06:26 18:24	04:57 21:29	04:25 22:09
19	08:36 16:18	09:12 (C14) 09:28 (C14)	07:36 17:26	06:24 18:26	04:55 21:31	04:25 22:09
20	08:35 16:20	09:13 (C14) 09:29 (C14)	07:33 17:28	06:21 18:28	04:53 21:33	04:25 22:10
21	08:33 16:22	09:13 (C14) 09:29 (C14)	07:31 17:30	06:18 18:30	04:52 21:35	04:25 22:10
22	08:32 16:24	09:13 (C14) 09:28 (C14)	07:28 17:32	06:16 18:32	04:50 21:37	04:26 22:10
23	08:30 16:26	09:14 (C14) 09:28 (C14)	07:26 17:34	06:13 18:34	04:48 21:38	04:26 22:10
24	08:29 16:28	09:16 (C14) 09:28 (C14)	07:23 17:37	06:10 18:36	04:47 21:40	04:26 22:11
25	08:27 16:30	09:17 (C14) 09:27 (C14)	07:21 17:39	06:08 18:39	04:45 21:42	04:26 22:11
26	08:26 16:32	09:19 (C14) 09:26 (C14)	07:18 17:41	06:05 18:41	04:44 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10
31	08:17 16:43		06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	178	94	20			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.63	0.63			
Total reduction	0.08	0.12	0.25			
Total, real	14	11	5			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lejas 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (128)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36	08:24 15:45 2 09:04 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43		07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40		07:34 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38		07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35		07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33		07:40 16:19	08:37 15:39
10	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30		07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	08:26 (C13) 4 08:30 (C13)	07:44 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:22 (C13) 10 08:32 (C13)	07:47 16:13	08:41 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:20 (C13) 13 08:33 (C13)	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:20 (C13) 15 08:35 (C13)	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:19 (C13) 16 08:35 (C13)	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	08:18 (C13) 17 08:35 (C13)	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:20 (C13) 14 08:34 (C13)	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	08:22 (C13) 11 08:33 (C13)	07:59 16:03	08:47 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:25 (C13) 8 08:33 (C13)	08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:27 (C13) 5 08:32 (C13)	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:29 (C13) 1 08:30 (C13)	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:09 15:55	08:49 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:11 15:53	08:49 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:13 15:52	08:51 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50	08:15 15:51	08:15 15:51	08:54 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17 15:49	08:17 15:49	08:56 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45	08:19 15:48	08:19 15:48	08:58 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:21 15:47	08:21 15:47	09:00 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41	08:23 15:46	08:23 15:46	09:02 15:46
31	05:14 21:30	06:15 20:17		08:20 16:38			08:51 15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				114		176	2
Sun reduction				0.26		0.08	0.07
Oper. time red.				0.98		0.98	0.98
Wind dir. red.				0.63		0.59	0.59
Total reduction				0.16		0.05	0.04
Total, real				18		8	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lidijas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (51)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:51 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lieknas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (100)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:10 (C14) 21:53	04:36 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	06:11 (C14) 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	06:13 (C14) 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	06:20 (C14) 21:55	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	06:20 (C14) 21:55	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	06:20 (C14) 21:55	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	06:20 (C14) 21:55	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	06:20 (C14) 21:55	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	06:20 (C14) 21:55	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	06:20 (C14) 21:55	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	06:20 (C14) 21:55	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	06:20 (C14) 21:55	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	06:20 (C14) 21:55	04:44 22:01	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	06:20 (C14) 21:55	04:45 22:01	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	06:20 (C14) 21:55	04:47 22:01	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:26	06:20 (C14) 21:55	04:48 22:01	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	06:20 (C14) 21:55	04:50 22:01	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	06:20 (C14) 21:55	04:51 22:01	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	06:20 (C14) 21:55	04:53 22:01	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	06:20 (C14) 21:55	04:54 22:01	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	06:20 (C14) 21:55	04:56 22:01	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	06:20 (C14) 21:55	04:58 22:01	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	06:20 (C14) 21:55	04:59 22:01	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	06:20 (C14) 21:55	05:01 22:01	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	06:20 (C14) 21:55	05:03 22:01	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	06:20 (C14) 21:55	05:05 22:01	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	06:20 (C14) 21:55	05:07 22:01	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	06:20 (C14) 21:55	05:08 22:01	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	06:20 (C14) 21:55	05:10 22:01	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:39 21:50	06:20 (C14) 21:55	05:12 22:01	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 22:01	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction				108	31			141				
Oper. time red.				0.50	0.57			0.50				
Wind dir. red.				0.98	0.98			0.98				
Total reduction				0.66	0.66			0.66				
Total, real				0.32	0.37			0.32				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Liepsala - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (88)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

January		February		March		April		May		June		
1	08:51	09:33 (C12)	08:15	09:09 (C11)	07:11	07:55 (C10)	06:49	07:14 (C9)	05:32	06:11 (C7)	04:36	06:27 (C8)
2	15:48	15:05 (C16)	16:45	09:39 (C11)	17:47	08:26 (C10)	19:53	07:26 (C9)	20:55	07:02 (C8)	21:52	06:58 (C8)
3	08:50	09:33 (C12)	08:13	09:09 (C11)	07:08	07:53 (C10)	06:46	07:11 (C9)	05:30	06:12 (C7)	04:35	06:27 (C8)
4	15:49	15:06 (C16)	16:47	16:13 (C15)	17:50	08:26 (C10)	19:55	07:26 (C9)	20:57	07:03 (C8)	21:54	06:58 (C8)
5	08:50	09:34 (C12)	08:11	09:09 (C11)	07:05	07:52 (C10)	06:43	07:08 (C9)	05:28	06:13 (C7)	04:34	06:28 (C8)
6	15:51	15:08 (C16)	16:50	16:15 (C15)	17:52	08:28 (C10)	19:57	07:26 (C9)	20:59	07:04 (C8)	21:55	06:57 (C8)
7	08:50	09:34 (C12)	08:09	09:10 (C11)	07:03	07:51 (C10)	06:41	07:08 (C9)	05:26	06:16 (C7)	04:33	06:28 (C8)
8	15:52	15:09 (C16)	16:52	16:18 (C15)	17:54	08:28 (C10)	19:59	07:26 (C9)	21:01	07:04 (C8)	21:56	06:56 (C8)
9	08:49	09:34 (C12)	08:07	09:10 (C11)	07:00	07:50 (C10)	06:38	07:08 (C9)	05:23	06:20 (C8)	04:32	06:30 (C8)
10	15:53	15:11 (C16)	16:54	16:20 (C15)	17:56	08:28 (C10)	20:01	07:25 (C9)	21:03	07:05 (C8)	21:58	06:56 (C8)
11	08:49	09:35 (C12)	08:05	09:10 (C11)	06:58	07:50 (C10)	06:35	07:08 (C9)	05:21	06:20 (C8)	04:31	06:31 (C8)
12	15:55	15:13 (C16)	16:56	16:23 (C15)	17:58	08:29 (C10)	20:03	07:25 (C9)	21:05	07:05 (C8)	21:59	06:56 (C8)
13	08:48	09:35 (C12)	08:02	09:11 (C11)	06:55	07:49 (C10)	06:33	07:09 (C9)	05:19	06:19 (C8)	04:30	06:31 (C8)
14	15:56	15:15 (C16)	16:58	16:25 (C15)	18:00	08:29 (C10)	20:05	07:23 (C9)	21:08	07:05 (C8)	22:00	06:55 (C8)
15	08:47	09:35 (C12)	08:00	09:12 (C11)	06:53	07:48 (C10)	06:30	07:09 (C9)	05:17	06:19 (C8)	04:29	06:32 (C8)
16	15:58	15:16 (C16)	17:01	16:27 (C15)	18:02	08:29 (C10)	20:07	07:21 (C9)	21:10	07:05 (C8)	22:01	06:55 (C8)
17	08:47	09:36 (C12)	07:58	09:13 (C11)	06:50	07:48 (C10)	06:27	07:12 (C9)	05:15	06:19 (C8)	04:28	06:33 (C8)
18	15:59	15:18 (C16)	17:03	16:26 (C15)	18:05	08:30 (C10)	20:09	07:19 (C9)	21:12	07:05 (C8)	22:02	06:54 (C8)
19	08:46	09:36 (C12)	07:56	09:14 (C11)	06:47	07:47 (C10)	06:25		05:12	06:19 (C8)	04:28	06:34 (C8)
20	16:01	15:20 (C16)	17:05	16:26 (C15)	18:07	08:29 (C10)	20:12		21:14	07:05 (C8)	22:03	06:54 (C8)
21	08:45	09:36 (C12)	07:54	09:15 (C11)	06:45	07:47 (C10)	06:22		05:10	06:18 (C8)	04:27	06:35 (C8)
22	16:03	15:22 (C16)	17:07	16:25 (C15)	18:09	08:28 (C10)	20:14		21:16	07:05 (C8)	22:04	06:52 (C8)
23	08:44	09:36 (C12)	07:52	09:17 (C11)	06:42	07:46 (C10)	06:20		05:08	06:18 (C8)	04:27	06:36 (C8)
24	16:04	15:23 (C16)	17:10	16:24 (C15)	18:11	08:28 (C10)	20:16		21:18	07:05 (C8)	22:05	06:52 (C8)
25	08:43	09:37 (C12)	07:49	09:21 (C11)	06:39	07:47 (C10)	06:17		05:06	06:18 (C8)	04:26	06:37 (C8)
26	16:06	15:23 (C16)	17:12	16:23 (C15)	18:13	08:28 (C10)	20:18		21:19	07:05 (C8)	22:06	06:52 (C8)
27	08:42	09:38 (C12)	07:47		06:37	07:47 (C10)	06:14		05:04	06:19 (C8)	04:26	06:37 (C8)
28	16:08	15:24 (C16)	17:14		18:15	08:27 (C10)	20:20		21:21	07:05 (C8)	22:06	06:51 (C8)
29	08:41	09:38 (C12)	07:45		06:34	07:47 (C10)	06:12		05:02	06:19 (C8)	04:26	06:38 (C8)
30	16:10	15:24 (C16)	17:16		18:17	08:25 (C10)	20:22		21:23	07:05 (C8)	22:07	06:50 (C8)
31	08:40	09:39 (C12)	07:42		06:31	07:48 (C10)	06:09		05:00	06:18 (C8)	04:25	06:39 (C8)
32	16:12	15:25 (C16)	17:19		18:19	08:25 (C10)	20:24		21:25	07:04 (C8)	22:08	06:50 (C8)
33	08:39	09:39 (C12)	07:40		06:29	07:48 (C10)	06:07		04:59	06:18 (C8)	04:25	06:40 (C8)
34	16:14	15:24 (C16)	17:21		18:22	08:24 (C10)	20:26		21:27	07:04 (C8)	22:08	06:50 (C8)
35	08:37	09:40 (C12)	07:38		06:26	07:49 (C10)	06:04		04:57	06:19 (C8)	04:25	06:41 (C8)
36	16:16	15:25 (C16)	17:23		18:24	08:22 (C10)	20:28		21:29	07:04 (C8)	22:09	06:49 (C8)
37	08:36	09:17 (C11)	07:35		06:23	07:51 (C10)	06:02		04:55	06:19 (C8)	04:25	06:41 (C8)
38	16:18	15:25 (C16)	17:25		18:26	07:58 (C13)	20:30		21:31	07:03 (C8)	22:09	06:49 (C8)
39	08:35	09:14 (C11)	07:33		06:21	07:52 (C10)	05:59		04:53	06:20 (C8)	04:25	06:42 (C8)
40	16:20	15:24 (C16)	17:28		18:28	08:00 (C13)	20:32		21:33	07:04 (C8)	22:10	06:49 (C8)
41	08:33	09:14 (C11)	07:31		06:18	07:53 (C10)	05:57	06:23 (C7)	04:51	06:20 (C8)	04:25	06:42 (C8)
42	16:22	15:25 (C16)	17:30		18:30	08:02 (C13)	20:34	06:24 (C7)	21:35	07:03 (C8)	22:10	06:49 (C8)
43	08:32	09:12 (C11)	07:28		06:15	07:55 (C10)	05:54	06:21 (C7)	04:50	06:21 (C8)	04:25	06:43 (C8)
44	16:24	15:24 (C16)	17:32		18:32	08:03 (C13)	20:37	06:26 (C7)	21:36	07:03 (C8)	22:10	06:50 (C8)
45	08:30	09:11 (C11)	07:26		06:13	08:02 (C10)	05:52	06:18 (C7)	04:48	06:20 (C8)	04:26	06:43 (C8)
46	16:26	15:23 (C16)	17:34		18:34	08:06 (C13)	20:39	06:47 (C8)	21:38	07:02 (C8)	22:10	06:50 (C8)
47	08:29	09:10 (C11)	07:23		06:10	07:47 (C13)	05:49	06:16 (C7)	04:47	06:21 (C8)	04:26	06:42 (C8)
48	16:28	15:21 (C16)	17:36		18:36	08:05 (C13)	20:41	06:53 (C8)	21:40	07:02 (C8)	22:10	06:50 (C8)
49	08:27	09:10 (C11)	07:21	08:05 (C10)	06:07	07:47 (C13)	05:47	06:14 (C7)	04:45	06:22 (C8)	04:26	06:42 (C8)
50	16:30	15:25 (C16)	17:39	08:16 (C10)	18:38	08:05 (C13)	20:43	06:55 (C8)	21:41	07:02 (C8)	22:10	06:52 (C8)
51	08:25	09:10 (C11)	07:18	08:01 (C10)	06:05	07:48 (C13)	05:44	06:11 (C7)	04:44	06:22 (C8)	04:27	06:42 (C8)
52	16:32	15:27 (C16)	17:41	08:20 (C10)	18:40	08:04 (C13)	20:45	06:57 (C8)	21:43	07:01 (C8)	22:10	06:52 (C8)
53	08:24	09:10 (C11)	07:16	07:58 (C10)	06:02	07:48 (C13)	05:42	06:10 (C7)	04:42	06:23 (C8)	04:27	06:42 (C8)
54	16:34	15:27 (C16)	17:43	08:22 (C10)	18:42	08:03 (C13)	20:47	06:59 (C8)	21:45	07:00 (C8)	22:10	06:53 (C8)
55	08:22	09:10 (C11)	07:13	07:56 (C10)	05:59	07:49 (C13)	05:39	06:10 (C7)	04:41	06:24 (C8)	04:28	06:41 (C8)
56	16:36	15:28 (C16)	17:45	08:24 (C10)	18:45	08:00 (C13)	20:49	07:00 (C8)	21:46	07:00 (C8)	22:10	06:54 (C8)
57	08:20	09:09 (C11)			06:57	07:53 (C13)	05:37	06:09 (C7)	04:39	06:24 (C8)	04:28	06:40 (C8)
58	16:38	15:29 (C16)			19:47	08:58 (C13)	20:51	07:00 (C8)	21:48	07:00 (C8)	22:10	06:55 (C8)
59	08:18	09:08 (C11)			06:54	07:19 (C9)	05:35	06:10 (C7)	04:38	06:25 (C8)	04:29	06:40 (C8)
60	16:41	15:30 (C16)			19:49	07:24 (C9)	20:53	07:01 (C8)	21:49	06:59 (C8)	22:09	06:56 (C8)
61	08:16	09:09 (C11)			06:51	07:16 (C9)			04:37	06:26 (C8)		
62	16:43	15:30 (C16)	09:39 (C11)		19:51	07:25 (C9)			21:51	06:59 (C8)		
Potential sun hours	235		266		366		426		508		529	
Total, worst case	1091		550		943		461		1355		480	
Sun reduction	0.13		0.20		0.41		0.50		0.57		0.56	
Oper. time red.	0.98		0.98		0.98		0.98		0.98		0.98	
Wind dir. red.	0.62		0.62		0.63		0.65		0.65		0.65	
Total reduction	0.08		0.12		0.25		0.32		0.36		0.35	
Total, real	87		66		236		146		484		168	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Liepsala - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (88)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December								
1	04:30	06:39 (C8)	05:16	06:28 (C8)	06:17	07:17	08:27 (C10)	07:22	08:43 (C11)	08:24	09:18 (C12)							
2	22:09	17	06:56 (C8)	21:28	47	07:15 (C8)	20:14	18:53	41	09:08 (C10)	16:36	39	15:55 (C15)	15:45	40	15:04 (C16)		
3	04:31	06:39 (C8)	05:17	06:29 (C8)	06:19	07:19	08:26 (C10)	07:25	08:42 (C11)	08:26	09:18 (C12)							
4	22:08	18	06:57 (C8)	21:26	46	07:15 (C8)	20:11	18:51	41	09:07 (C10)	16:34	41	15:55 (C15)	15:44	40	15:03 (C16)		
5	04:32	06:38 (C8)	05:19	06:29 (C8)	06:21	07:10 (C9)	07:21	08:25 (C10)	07:27	08:41 (C11)	08:27	09:19 (C12)						
6	22:08	21	06:59 (C8)	21:24	46	07:15 (C8)	20:09	7	07:17 (C9)	18:48	42	09:07 (C10)	16:31	43	15:55 (C15)	15:43	37	15:02 (C16)
7	04:32	06:38 (C8)	05:21	06:29 (C8)	06:23	07:06 (C9)	07:23	08:25 (C10)	07:29	08:41 (C11)	08:29	09:19 (C12)						
8	22:07	22	07:00 (C8)	21:21	47	07:16 (C8)	20:06	12	07:18 (C9)	18:45	42	09:07 (C10)	16:29	44	15:55 (C15)	15:42	36	15:01 (C16)
9	04:33	06:38 (C8)	05:23	06:29 (C8)	06:25	07:05 (C9)	07:25	08:25 (C10)	07:31	08:40 (C11)	08:31	09:20 (C12)						
10	22:06	23	07:01 (C8)	21:19	45	07:14 (C8)	20:03	14	07:19 (C9)	18:43	41	09:06 (C10)	16:27	42	15:52 (C15)	15:41	33	15:00 (C16)
11	04:35	06:37 (C8)	05:25	06:29 (C8)	06:27	07:04 (C9)	07:27	08:25 (C10)	07:33	08:40 (C11)	08:32	09:21 (C12)						
12	22:06	25	07:02 (C8)	21:17	45	07:14 (C8)	20:01	16	07:20 (C9)	18:40	41	09:06 (C10)	16:25	40	15:50 (C15)	15:41	31	14:59 (C16)
13	04:36	06:37 (C8)	05:27	06:29 (C8)	06:29	07:03 (C9)	07:29	08:25 (C10)	07:35	08:40 (C11)	08:34	09:21 (C12)						
14	22:05	25	07:02 (C8)	21:15	45	07:14 (C8)	19:58	17	07:20 (C9)	18:38	40	09:05 (C10)	16:23	38	15:48 (C15)	15:40	30	14:58 (C16)
15	04:37	06:36 (C8)	05:29	06:30 (C8)	06:31	07:02 (C9)	07:31	08:25 (C10)	07:38	08:39 (C11)	08:35	09:22 (C12)						
16	22:04	27	07:03 (C8)	21:13	44	07:14 (C8)	19:55	18	07:20 (C9)	18:35	39	09:04 (C10)	16:21	35	15:45 (C15)	15:40	28	14:58 (C16)
17	04:38	06:36 (C8)	05:31	06:24 (C7)	06:33	07:02 (C9)	07:33	08:25 (C10)	07:40	08:40 (C11)	08:36	09:22 (C12)						
18	22:03	28	07:04 (C8)	21:11	49	07:13 (C8)	19:53	18	07:20 (C9)	18:32	38	09:03 (C10)	16:19	30	09:10 (C11)	15:39	25	14:56 (C16)
19	04:39	06:35 (C8)	05:33	06:21 (C7)	06:35	07:04 (C9)	07:36	08:26 (C10)	07:42	08:39 (C11)	08:38	09:23 (C12)						
20	22:02	30	07:05 (C8)	21:08	51	07:12 (C8)	19:50	15	07:19 (C9)	18:30	37	09:03 (C10)	16:17	31	09:10 (C11)	15:39	24	14:56 (C16)
21	04:41	06:34 (C8)	05:35	06:20 (C7)	06:37	07:06 (C9)	07:38	08:27 (C10)	07:44	08:40 (C11)	08:39	09:23 (C12)						
22	22:01	31	07:05 (C8)	21:06	51	07:11 (C8)	19:47	13	07:19 (C9)	18:27	34	09:01 (C10)	16:15	31	09:11 (C11)	15:38	23	14:56 (C16)
23	04:42	06:34 (C8)	05:37	06:19 (C7)	06:39	07:08 (C9)	07:40	08:27 (C10)	07:46	08:40 (C11)	08:40	09:24 (C12)						
24	22:00	32	07:06 (C8)	21:04	51	07:10 (C8)	19:45	9	07:17 (C9)	18:24	33	09:00 (C10)	16:13	30	09:10 (C11)	15:38	21	14:55 (C16)
25	04:43	06:34 (C8)	05:39	06:18 (C7)	06:41	07:10 (C9)	07:42	08:28 (C10)	07:48	08:41 (C11)	08:41	09:25 (C12)						
26	21:59	34	07:08 (C8)	21:01	52	07:10 (C8)	19:42	6	07:16 (C9)	18:22	30	08:58 (C10)	16:11	30	09:11 (C11)	15:38	20	09:45 (C12)
27	04:45	06:33 (C8)	05:41	06:18 (C7)	06:43	07:12 (C9)	07:44	08:30 (C10)	07:51	08:42 (C11)	08:42	09:25 (C12)						
28	21:58	35	07:08 (C8)	20:59	50	07:08 (C8)	19:39	4	18:47 (C13)	18:19	26	08:56 (C10)	16:09	28	09:10 (C11)	15:38	20	09:45 (C12)
29	04:46	06:32 (C8)	05:43	06:17 (C7)	06:45	18:40 (C13)	07:46	08:31 (C10)	07:53	08:42 (C11)	08:43	09:26 (C12)						
30	21:56	36	07:08 (C8)	20:57	50	07:07 (C8)	19:36	11	18:51 (C13)	18:17	22	08:53 (C10)	16:07	27	09:09 (C11)	15:38	19	09:45 (C12)
31	04:48	06:33 (C8)	05:45	06:17 (C7)	06:47	18:38 (C13)	07:48	08:35 (C10)	07:55	08:43 (C11)	08:44	09:27 (C12)						
32	21:55	37	07:10 (C8)	20:54	48	07:06 (C8)	19:34	14	18:52 (C13)	18:14	16	08:51 (C10)	16:06	27	09:10 (C11)	15:38	18	09:45 (C12)
33	04:49	06:32 (C8)	05:47	06:18 (C7)	06:49	18:37 (C13)	07:50	08:40 (C10)	07:57	08:44 (C11)	08:45	09:27 (C12)						
34	21:54	38	07:10 (C8)	20:52	42	07:03 (C8)	19:31	16	18:53 (C13)	18:12	5	08:45 (C10)	16:04	25	09:09 (C11)	15:38	19	09:46 (C12)
35	04:51	06:32 (C8)	05:49	06:20 (C7)	06:51	18:35 (C13)	07:52	07:59	08:44 (C11)	08:46	09:28 (C12)							
36	21:52	39	07:11 (C8)	20:49	36	07:01 (C8)	19:28	17	18:52 (C13)	18:09	16:02	37	14:55 (C16)	15:38	18	09:46 (C12)		
37	04:52	06:31 (C8)	05:51	06:22 (C7)	06:53	18:34 (C13)	07:54	08:01	08:46 (C11)	08:47	09:28 (C12)							
38	21:51	40	07:11 (C8)	20:47	26	06:57 (C8)	19:26	18	18:52 (C13)	18:07	16:01	45	14:58 (C16)	15:38	18	09:46 (C12)		
39	04:54	06:31 (C8)	05:53	06:24 (C7)	06:55	18:34 (C13)	07:56	08:03	08:47 (C11)	08:48	09:29 (C12)							
40	21:49	41	07:12 (C8)	20:44	9	06:50 (C8)	19:23	18	18:52 (C13)	18:04	15:59	48	14:59 (C16)	15:38	18	09:47 (C12)		
41	04:56	06:31 (C8)	05:55	06:26 (C7)	06:57	08:42 (C10)	07:59	08:05	08:49 (C11)	08:48	09:29 (C12)							
42	21:48	41	07:12 (C8)	20:42	4	06:30 (C7)	19:20	31	18:50 (C13)	18:02	15:57	48	15:00 (C16)	15:39	18	09:47 (C12)		
43	04:57	06:31 (C8)	05:57	06:59	08:38 (C10)	08:01	08:07	08:50 (C11)	08:49	09:30 (C12)								
44	21:46	42	07:13 (C8)	20:39	19:18	34	18:47 (C13)	17:59	15:56	48	15:00 (C16)	15:39	17	09:47 (C12)				
45	04:59	06:30 (C8)	05:59	07:01	08:36 (C10)	08:03	08:09	08:54 (C11)	08:49	09:30 (C12)								
46	21:44	43	07:13 (C8)	20:37	19:15	35	18:44 (C13)	17:57	15:55	45	15:02 (C16)	15:40	18	09:48 (C12)				
47	05:01	06:30 (C8)	06:01	07:03	08:34 (C10)	08:05	08:11	09:17 (C12)	08:50	09:31 (C12)								
48	21:43	44	07:14 (C8)	20:34	19:12	36	18:42 (C13)	17:54	15:53	38	15:02 (C16)	15:40	18	09:49 (C12)				
49	05:03	06:29 (C8)	06:03	07:05	08:32 (C10)	07:07	08:13	09:17 (C12)	08:50	09:31 (C12)								
50	21:41	45	07:14 (C8)	20:32	19:10	34	18:39 (C13)	16:52	15:52	39	15:02 (C16)	15:41	18	09:49 (C12)				
51	05:04	06:29 (C8)	06:05	07:07	08:31 (C10)	07:09	08:15	09:17 (C12)	08:50	09:31 (C12)								
52	21:39	46	07:15 (C8)	20:29	19:07	34	09:05 (C10)	16:50	15:51	40	15:03 (C16)	15:42	19	09:50 (C12)				
53	05:06	06:29 (C8)	06:07	07:09	08:29 (C10)	07:12	08:17	09:17 (C12)	08:51	09:31 (C12)								
54	21:37	46	07:15 (C8)	20:27	19:04	37	09:06 (C10)	16:47	15:49	41	15:03 (C16)	15:43	19	09:50 (C12)				
55	05:08	06:29 (C8)	06:09	07:11	08:28 (C10)	07:14	15:45 (C15)	08:19	09:17 (C12)	08:51	09:32 (C12)							
56	21:35	46	07:15 (C8)	20:24	19:01	38	09:06 (C10)	16:45	4	15:49 (C15)	15:48	41	15:03 (C16)	15:44	19	09:51 (C12)		
57	05:10	06:29 (C8)	06:11	07:13	08:27 (C10)	07:16	08:49 (C11)	08:20	09:18 (C12)	08:51	09:32 (C12)							
58	21:34	46	07:15 (C8)	20:22	18:59	39	09:06 (C10)	16:43	22	15:53 (C15)	15:47	41	15:04 (C16)	15:44	19	09:51 (C12)		
59	05:12	06:29 (C8)	06:13	07:15	08:27 (C10)	07:18	08:46 (C11)	08:22	09:18 (C12)	08:51	09:33 (C12)							
60	21:32	47	07:16 (C8)	20:19	18:56	41	09:08 (C10)	16:40	30	15:54 (C15)	15:46	42	15:05 (C16)	15:45	19	09:52 (C12)		
61	05:14	06:28 (C8)	06:15	07:17	08:28 (C10)	07:19	08:47 (C11)	08:23	09:19 (C12)	08:52	09:34 (C12)							
62	21:30	47	07:15 (C8)	20:16	16:38	35	15:54 (C15)	15:47	42	15:05 (C16)	15:45	19	09:52 (C12)					
63	Potential sun hours	529	469	385	602	324	659	247	1134	722								
64	Total, worst case	1092	884	602	0.49	0.26	0.26	0.08	0.07									
65	Sun reduction	0.49	0.50	0.43	0.98	0.98	0.98	0.98	0.98									
66	Oper. time red.	0.98	0.98	0.98	0.65	0.64	0.63	0.61	0.62									
67	Wind dir. red.	0.65	0.65	0.64	0.31	0.26	0.16	0.05	0.04									
68	Total reduction	0.31	0.31	0.26	0.16	0.16	0.16	0.05	0.04									
69	Total, real	338	277	159	103	55	30											

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

## SHADOW - Calendar

Shadow receptor: Līcīši i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (84)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	09:15 (C13) 09:41 (C13)	07:11 17:48	06:49 19:53	05:33 20:55
2	08:51 15:49	08:13 16:47	09:16 (C13) 09:41 (C13)	07:08 17:50	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	09:17 (C13) 09:41 (C13)	07:06 17:52	06:43 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	09:18 (C13) 09:41 (C13)	07:03 17:54	06:41 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	09:19 (C13) 09:40 (C13)	07:01 17:56	06:38 20:01	05:23 21:04
6	08:49 15:55	08:05 16:56	09:20 (C13) 09:38 (C13)	06:58 17:58	06:35 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	09:22 (C13) 09:37 (C13)	06:55 18:01	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	09:25 (C13) 09:34 (C13)	06:53 18:03	06:30 20:08	05:17 21:10
9	08:47 15:59	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:08 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:06 21:20	04:26 22:06
14	08:42 16:08	09:22 (C13) 09:26 (C13)	07:47 17:14	06:37 18:15	06:15 20:20	05:04 21:22
15	08:41 16:10	09:20 (C13) 09:29 (C13)	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24
16	08:40 16:12	09:18 (C13) 09:31 (C13)	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26
17	08:39 16:14	09:17 (C13) 09:33 (C13)	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27
18	08:38 16:16	09:16 (C13) 09:34 (C13)	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29
19	08:36 16:18	09:15 (C13) 09:35 (C13)	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31
20	08:35 16:20	09:15 (C13) 09:37 (C13)	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33
21	08:33 16:22	09:15 (C13) 09:38 (C13)	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35
22	08:32 16:24	09:14 (C13) 09:38 (C13)	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37
23	08:30 16:26	09:14 (C13) 09:39 (C13)	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38
24	08:29 16:28	09:14 (C13) 09:40 (C13)	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40
25	08:27 16:30	09:14 (C13) 09:41 (C13)	07:21 17:39	06:08 18:38	05:47 20:43	04:45 21:42
26	08:26 16:32	09:14 (C13) 09:41 (C13)	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43
27	08:24 16:34	09:14 (C13) 09:42 (C13)	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45
28	08:22 16:36	09:14 (C13) 09:42 (C13)	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:47
29	08:20 16:39	09:15 (C13) 09:42 (C13)		06:57 19:47	05:37 20:51	04:40 21:48
30	08:19 16:41	09:15 (C13) 09:42 (C13)		06:54 19:49	05:35 20:53	04:38 21:50
31	08:17 16:43	09:15 (C13) 09:42 (C13)		06:51 19:51		04:37 21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case	391	161			105	
Sun reduction	0.13	0.20			0.50	
Oper. time red.	0.98	0.98			0.98	
Wind dir. red.	0.59	0.59			0.65	
Total reduction	0.08	0.11			0.31	
Total, real	29	18		33		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Liciš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (84)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	08:48 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:49 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:49 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:50 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:51 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:52 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:53 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:54 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:15 16:50	08:15 15:51	08:57 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:17 16:47	08:17 15:49	08:59 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:19 16:45	08:19 15:48	09:02 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:21 16:43	08:21 15:47	09:06 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:22 16:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		108			558	
Sun reduction		0.50			0.08	
Oper. time red.		0.98			0.98	
Wind dir. red.		0.65			0.59	
Total reduction		0.31			0.05	
Total, real		33			26	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Licu Dzirnavas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (54)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Maurini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (37)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:18	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	07:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:54	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	07:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mazezeri - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (151)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:11 17:47	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:24 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:23	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:46 16:00	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:05	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:05 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	07:14 16:45	08:18 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:22	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:51 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Medni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (190)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:48 19:53	05:32 20:55	04:35 21:53	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:06 17:52	06:43 19:57	05:28 21:00	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:51	08:09 16:52	07:03 17:54	06:40 19:59	05:25 21:02	04:32 21:57	04:32 22:08	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:36 16:23	08:34 15:40
8	08:48 15:57	08:00 17:01	06:53 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:10	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:27 22:03	04:39 22:03	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:41 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:43 17:19	06:31 18:19	06:09 20:24	05:00 21:26	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:06 20:26	04:58 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:37
18	08:38 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:53	05:49 20:50	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:10	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 17:30	06:18 18:30	05:56 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:11	05:00 21:43	06:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:39	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:11	05:02 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:40 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:47	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:10	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:17		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Meistari - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (85)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March		April	May	June	July	August		September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48		06:49 19:53	07:14 (C14) 07:20 (C14)	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:03 (C14) 07:17 (C14)	07:23 18:54	08:24 16:36
2	08:50 15:50	08:13 16:48	07:08 17:50		06:46 19:55	07:11 (C14) 07:21 (C14)	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:01 (C14) 07:18 (C14)	07:19 18:51	08:25 16:34
3	08:50 15:51	08:11 16:50	07:06 17:52		06:44 19:57	07:09 (C14) 07:22 (C14)	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:00 (C14) 07:18 (C14)	07:21 18:48	08:27 16:32
4	08:50 15:52	08:09 16:52	07:03 17:54		06:41 19:59	07:06 (C14) 07:22 (C14)	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	06:59 (C14) 07:19 (C14)	07:23 18:46	08:29 16:30
5	08:49 15:54	08:07 16:54	07:01 17:56		06:38 20:01	07:03 (C14) 07:22 (C14)	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	06:59 (C14) 07:19 (C14)	07:26 18:43	08:31 16:27
6	08:49 15:55	08:05 16:57	06:58 17:58		06:36 20:03	07:02 (C14) 07:22 (C14)	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	06:58 (C14) 07:19 (C14)	07:28 18:40	08:32 16:25
7	08:48 15:57	08:03 16:59	06:55 18:01		06:33 20:06	07:02 (C14) 07:22 (C14)	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	06:59 (C14) 07:18 (C14)	07:30 18:38	08:34 16:23
8	08:48 15:58	08:01 17:01	06:53 18:03		06:30 20:08	07:02 (C14) 07:22 (C14)	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:00 (C14) 07:16 (C14)	07:32 18:35	08:35 16:21
9	08:47 16:00	07:58 17:03	06:50 18:05		06:28 20:10	07:02 (C14) 07:20 (C14)	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:02 (C14) 07:15 (C14)	07:34 18:33	08:37 16:19
10	08:46 16:01	07:56 17:06	06:48 18:07		06:25 20:12	07:02 (C14) 07:19 (C14)	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:04 (C14) 07:14 (C14)	07:36 18:30	08:38 16:17
11	08:45 16:03	07:54 17:08	06:45 18:09		06:22 20:14	07:04 (C14) 07:18 (C14)	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:06 (C14) 07:12 (C14)	07:38 18:27	08:39 16:15
12	08:44 16:05	07:52 17:10	06:42 18:11		06:20 20:16	07:05 (C14) 07:15 (C14)	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:08 (C14) 07:10 (C14)	07:40 18:25	08:40 16:13
13	08:43 16:06	07:50 17:12	06:40 18:13		06:17 20:18	07:12 (C14) 07:15 (C14)	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 (C14) 07:18 (C14)	07:49 18:22	08:42 16:11
14	08:42 16:08	07:47 17:15	06:37 18:16		06:15 20:20	07:15 (C14) 07:17 (C14)	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 (C14) 07:19 (C14)	07:51 18:20	08:43 16:10
15	08:41 16:10	07:45 17:17	06:34 18:18		06:12 20:22	07:17 (C14) 07:19 (C14)	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 (C14) 07:20 (C14)	07:53 18:17	08:44 16:08
16	08:40 16:12	07:43 17:19	06:32 18:20		06:10 20:24	07:20 (C14) 07:21 (C14)	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 (C14) 07:21 (C14)	07:55 18:15	08:45 16:06
17	08:39 16:14	07:40 17:21	06:29 18:22		06:07 20:26	07:23 (C14) 07:24 (C14)	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 (C14) 07:22 (C14)	07:57 18:12	08:46 16:04
18	08:38 16:16	07:38 17:23	06:26 18:24		06:04 20:28	07:26 (C14) 07:27 (C14)	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:53 (C14) 07:24 (C14)	07:59 18:10	08:46 16:03
19	08:36 16:18	07:36 17:26	06:24 18:26		06:02 20:31	07:30 (C14) 07:31 (C14)	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 (C14) 07:26 (C14)	08:01 18:07	08:47 16:01
20	08:35 16:20	07:33 17:28	06:21 18:28		05:59 20:33	07:33 (C14) 07:34 (C14)	04:54 21:33	04:25 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 (C14) 07:28 (C14)	08:03 18:05	08:48 15:59
21	08:33 16:22	07:31 17:30	06:18 18:30		05:57 20:35	07:36 (C14) 07:37 (C14)	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 (C14) 07:29 (C14)	08:05 18:02	08:48 15:58
22	08:32 16:24	07:28 17:32	06:16 18:32		05:54 20:37	07:40 (C14) 07:41 (C14)	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 (C14) 07:30 (C14)	08:07 18:00	08:49 15:56
23	08:30 16:26	07:26 17:35	06:13 18:34		05:52 20:39	07:44 (C14) 07:45 (C14)	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 (C14) 07:31 (C14)	08:09 17:57	08:50 15:55
24	08:29 16:28	07:23 17:37	06:10 18:36		05:49 20:41	07:47 (C14) 07:48 (C14)	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 (C14) 07:32 (C14)	08:11 17:55	08:50 15:53
25	08:27 16:30	07:21 17:39	06:08 18:39		05:47 20:43	07:50 (C14) 07:51 (C14)	04:45 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 (C14) 07:33 (C14)	08:13 17:52	08:50 15:51
26	08:26 16:32	07:18 17:41	06:05 18:41		05:45 20:45	07:54 (C14) 07:55 (C14)	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:10 (C14) 07:34 (C14)	08:15 17:50	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43		05:42 20:47	07:57 (C14) 07:58 (C14)	04:42 21:45	04:28 22:10	05:07 21:38	06:07 20:27	07:09 19:04	08:12 (C14) 07:35 (C14)	08:17 17:48	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45		05:40 20:49	08:00 (C14) 08:01 (C14)	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	08:14 (C14) 07:36 (C14)	08:19 17:45	08:51 15:44
29	08:20 16:39	07:11 17:47	06:57 18:47		05:37 20:51	08:04 (C14) 08:05 (C14)	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 (C14) 07:37 (C14)	08:21 17:43	08:51 15:45
30	08:19 16:41	07:10 17:49	06:54 18:49		05:35 20:53	08:07 (C14) 08:08 (C14)	04:38 21:50	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:18 (C14) 07:38 (C14)	08:22 17:41	08:51 15:46
31	08:17 16:43	07:08 17:51	06:52 18:51	07:17 (C14) 07:18 (C14)	20:53 21:51	04:37 21:51	05:14 21:30	06:15 20:17	07:05 (C14) 07:15 (C14)		07:15 18:56	08:19 (C14) 07:39 (C14)	08:23 17:40	08:51 15:47
Potential sun hours	235	266	366		426		508	528	529	469	385		324	247
Total, worst case														
Sun reduction			1			183				10		176		
Oper. time red.			0.41			0.50				0.50		0.43		
Wind dir. red.			0.98			0.98				0.98		0.98		
Total reduction			0.66			0.66				0.66		0.66		
Total reduction			0.27			0.32				0.32		0.28		
Total, real			0			59				3		48		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mež a Muiž a - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (134)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		14:00 (C13)	08:15		14:09 (C13)	07:11			06:49		07:14 (C6)	05:32					04:36
	15:48	31	14:31 (C13)	16:45	34	14:43 (C13)	17:47			19:53	12	07:26 (C6)	20:55					21:53
2	08:50		14:00 (C13)	08:13		14:10 (C13)	07:08			06:46		07:11 (C6)	05:30					04:35
	15:49	33	14:33 (C13)	16:47	32	14:42 (C13)	17:50			19:55	15	07:26 (C6)	20:57					21:54
3	08:50		14:00 (C13)	08:11		14:11 (C13)	07:06			06:43		07:09 (C6)	05:28					04:34
	15:51	33	14:33 (C13)	16:50	30	14:41 (C13)	17:52			19:57	16	07:25 (C6)	20:59					21:55
4	08:50		14:00 (C13)	08:09		14:13 (C13)	07:03			06:41		07:10 (C6)	05:26					04:33
	15:52	33	14:33 (C13)	16:52	28	14:41 (C13)	17:54			19:59	15	07:25 (C6)	21:02					21:57
5	08:49		14:01 (C13)	08:07		14:15 (C13)	07:00			06:38		07:10 (C6)	05:23					04:32
	15:53	34	14:35 (C13)	16:54	24	14:39 (C13)	17:56			20:01	13	07:23 (C6)	21:04					21:58
6	08:49		14:01 (C13)	08:05		14:17 (C13)	06:58			06:35		07:12 (C6)	05:21			05:50 (C2)		04:31
	15:55	34	14:35 (C13)	16:56	20	14:37 (C13)	17:58			20:03	10	07:22 (C6)	21:06	2		05:52 (C2)		21:59
7	08:48		14:00 (C13)	08:03		14:20 (C13)	06:55			06:33		07:15 (C6)	05:19			05:48 (C2)		04:30
	15:56	36	14:36 (C13)	16:59	14	14:34 (C13)	18:00			20:05	2	07:17 (C6)	21:08	6		05:54 (C2)		22:00
8	08:47		14:01 (C13)	08:00			06:53			06:30			05:17			05:46 (C2)		04:29
	15:58	36	14:37 (C13)	17:01			18:03			20:07			21:10	8		05:54 (C2)		22:01
9	08:47		14:01 (C13)	07:58			06:50			06:27			05:15			05:44 (C2)		04:28
	15:59	36	14:37 (C13)	17:03			18:05			20:10			21:12	11		05:55 (C2)		22:02
10	08:46		14:01 (C13)	07:56			06:47			06:25		06:50 (C4)	05:13			05:42 (C2)		04:28
	16:01	37	14:38 (C13)	17:05			18:07			20:12	3	06:53 (C4)	21:14	13		05:55 (C2)		22:03
11	08:45		14:01 (C13)	07:54			06:45		07:10 (C8)	06:22		06:48 (C4)	05:10			05:40 (C2)		04:27
	16:03	38	14:39 (C13)	17:08			18:09	4	07:14 (C8)	20:14	8	06:56 (C4)	21:16	15		05:55 (C2)		22:04
12	08:44		14:00 (C13)	07:52			06:42		07:08 (C8)	06:20		06:45 (C4)	05:08			05:38 (C2)		04:27
	16:04	39	14:39 (C13)	17:10			18:11	8	07:16 (C8)	20:16	12	06:57 (C4)	21:18	17		05:55 (C2)		22:05
13	08:43		14:01 (C13)	07:49			06:39		07:05 (C8)	06:17		06:43 (C4)	05:06			05:38 (C2)		04:26
	16:06	39	14:40 (C13)	17:12			18:13	11	07:16 (C8)	20:18	16	06:59 (C4)	21:20	17		05:55 (C2)		22:06
14	08:42		14:01 (C13)	07:47			06:37		07:02 (C8)	06:14		06:40 (C4)	05:04			05:39 (C2)		04:26
	16:08	40	14:41 (C13)	17:14			18:15	13	07:15 (C8)	20:20	19	06:59 (C4)	21:22	16		05:55 (C2)		22:07
15	08:41		14:01 (C13)	07:45			06:34		06:59 (C8)	06:12		06:39 (C4)	05:02			05:39 (C2)		04:26
	16:10	40	14:41 (C13)	17:17			18:17	15	07:14 (C8)	20:22	20	06:59 (C4)	21:24	16		05:55 (C2)		22:07
16	08:40		14:01 (C13)	07:43			06:31		07:00 (C8)	06:09		06:38 (C4)	05:01			05:39 (C2)		04:25
	16:12	41	14:42 (C13)	17:19			18:20	14	07:14 (C8)	20:24	21	06:59 (C4)	21:25	15		05:54 (C2)		22:08
17	08:39		14:01 (C13)	07:40			06:29		07:01 (C8)	06:07		06:38 (C4)	04:59			05:40 (C2)		04:25
	16:14	41	14:42 (C13)	17:21			18:22	12	07:13 (C8)	20:26	21	06:59 (C4)	21:27	14		05:54 (C2)		22:08
18	08:37		14:02 (C13)	07:38			06:26		07:02 (C8)	06:04		06:38 (C4)	04:57			05:40 (C2)		04:25
	16:16	41	14:43 (C13)	17:23			18:24	9	07:11 (C8)	20:28	20	06:58 (C4)	21:29	13		05:53 (C2)		22:09
19	08:36		14:02 (C13)	07:35			06:23			06:02		06:38 (C4)	04:55			05:41 (C2)		04:25
	16:18	41	14:43 (C13)	17:25			18:26			20:30	20	06:58 (C4)	21:31	11		05:52 (C2)		22:09
20	08:35		14:03 (C13)	07:33			06:21			05:59		06:38 (C4)	04:53			05:43 (C2)		04:25
	16:20	41	14:44 (C13)	17:28			18:28			20:32	19	06:57 (C4)	21:33	8		05:51 (C2)		22:10
21	08:33		14:03 (C13)	07:31			06:18			05:57		06:39 (C4)	04:52			05:45 (C2)		04:25
	16:22	41	14:44 (C13)	17:30			18:30			20:35	17	06:56 (C4)	21:35	2		05:47 (C2)		22:10
22	08:32		14:03 (C13)	07:28			06:15			05:54		06:40 (C4)	04:50					04:25
	16:24	41	14:44 (C13)	17:32			18:32			20:37	15	06:55 (C4)	21:36					22:10
23	08:30		14:03 (C13)	07:26			06:13			05:52		06:41 (C4)	04:48					04:26
	16:26	41	14:44 (C13)	17:34			18:34			20:39	12	06:53 (C4)	21:38					22:10
24	08:29		14:03 (C13)	07:23			06:10			05:49		06:44 (C4)	04:47					04:26
	16:28	41	14:44 (C13)	17:37			18:36			20:41	6	06:50 (C4)	21:40					22:10
25	08:27		14:04 (C13)	07:21			06:07			05:47			04:45					04:26
	16:30	41	14:45 (C13)	17:39			18:38			20:43			21:42					22:10
26	08:25		14:05 (C13)	07:18			06:05			05:44			04:44					04:27
	16:32	40	14:45 (C13)	17:41			18:40			20:45			21:43					22:10
27	08:24		14:05 (C13)	07:16			06:02			05:42			04:42					04:27
	16:34	40	14:45 (C13)	17:43			18:43			20:47			21:45					22:10
28	08:22		14:06 (C13)	07:13			05:59			05:40			04:41					04:28
	16:36	39	14:45 (C13)	17:45			18:45			20:49			21:47					22:10
29	08:20		14:07 (C13)				06:57		07:22 (C6)	05:37			04:39					04:28
	16:39	38	14:45 (C13)				19:47	3	07:25 (C6)	20:51			21:48					22:10
30	08:18		14:07 (C13)				06:54		07:19 (C6)	05:35			04:38					04:29
	16:41	37	14:44 (C13)				19:49	6	07:25 (C6)	20:53			21:50					22:09
31	08:17		14:07 (C13)				06:51		07:16 (C6)				04:37					
	16:43	36	14:43 (C13)				19:51	10	07:26 (C6)				21:51					
Potential sun hours	235			266			366			426			508					529
Total, worst case	1179			182			105			312			184					
Sun reduction	0.13			0.20			0.41			0.50			0.57					
Oper. time red.	0.98			0.98			0.98			0.98			0.98					
Wind dir. red.	0.66			0.66			0.64			0.66			0.67					
Total reduction	0.09			0.13			0.26			0.32			0.37					
Total, real	102			24			27			100			69					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mež a Muiž a - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (134)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	05:49 (C2) 06:05 (C2)	06:17 20:14	06:47 (C4) 18:54	07:17 16:36
2	04:31 22:08	05:17 21:26	05:51 (C2) 06:05 (C2)	06:19 20:11	06:49 (C4) 18:51	07:19 16:34
3	04:32 22:08	05:19 21:24	05:53 (C2) 06:05 (C2)	06:21 20:09	07:21 18:48	07:27 16:31
4	04:33 22:07	05:21 21:22	05:55 (C2) 06:05 (C2)	06:23 20:06	07:23 18:46	07:29 16:29
5	04:34 22:07	05:23 21:19	05:56 (C2) 06:03 (C2)	06:25 20:03	07:25 18:43	07:31 16:27
6	04:35 22:06	05:25 21:17	05:58 (C2) 06:03 (C2)	06:27 20:01	07:27 18:40	07:33 16:25
7	04:36 22:05	05:27 21:15	06:00 (C2) 06:01 (C2)	06:29 19:58	07:29 18:38	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:55	07:12 (C6) 18:35	07:13 (C6) 18:35	07:19 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:14 (C6) 18:32	07:19 (C6) 18:32	07:21 16:19
10	04:39 22:02	05:33 21:08	06:35 19:50	07:16 (C6) 18:30	07:21 18:30	07:27 16:17
11	04:41 22:01	05:35 21:06	06:37 19:47	07:18 (C6) 18:27	07:23 18:27	07:29 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:20 (C6) 18:25	07:25 18:25	07:31 16:13
13	04:43 21:59	05:39 21:01	06:41 19:42	07:27 (C6) 18:22	07:32 18:22	07:38 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:29 (C6) 18:19	07:34 18:19	07:40 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:31 (C6) 18:17	07:36 18:17	07:42 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:38 (C6) 18:14	07:43 18:14	07:49 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:40 (C6) 18:12	07:45 18:12	07:51 16:04
18	04:51 21:52	05:49 20:49	06:51 19:29	07:42 (C6) 18:09	07:47 18:09	07:53 16:02
19	04:52 21:51	05:51 20:47	06:53 19:26	07:44 (C6) 18:07	07:49 18:07	07:55 16:01
20	04:54 21:49	05:53 20:45	06:55 19:23	07:46 (C6) 18:04	07:51 18:04	07:57 15:59
21	04:56 21:48	05:55 20:42	06:57 19:20	07:48 (C6) 18:02	07:53 18:02	07:59 15:58
22	04:57 21:46	05:57 20:40	06:59 19:18	07:50 (C6) 17:59	07:55 17:59	08:01 15:56
23	04:59 21:45	05:59 20:37	07:01 19:15	07:52 (C6) 17:57	07:57 17:57	08:03 15:55
24	05:01 21:43	06:02 (C2) 20:35	07:02 (C4) 19:12	07:54 (C8) 17:55	07:59 17:55	08:05 15:53
25	05:03 21:41	06:03 (C2) 20:32	07:03 (C4) 19:10	07:56 (C8) 17:53	08:01 17:53	08:07 15:52
26	05:04 21:39	06:05 (C2) 20:29	07:05 (C4) 19:07	07:58 (C8) 17:51	08:03 17:51	08:09 15:51
27	05:06 21:37	06:07 (C2) 20:27	07:07 (C4) 19:04	07:59 (C8) 17:49	08:05 17:49	08:11 15:49
28	05:08 21:36	06:09 (C2) 20:24	07:11 (C4) 19:02	08:01 (C8) 17:47	08:07 17:47	08:13 15:48
29	05:10 21:34	06:11 (C2) 20:22	07:13 (C4) 18:59	08:03 (C8) 17:45	08:09 17:45	08:15 15:47
30	05:12 21:32	06:13 (C2) 20:19	07:15 (C4) 18:56	08:05 (C8) 17:43	08:11 17:43	08:17 15:46
31	05:14 21:30	06:15 (C2) 20:17	06:45 (C4) 18:54	07:17 (C8) 17:41	08:23 17:41	08:29 15:45
Potential sun hours	529	469	385	324	247	216
Total, worst case	121	289	186	17	987	988
Sun reduction	0.49	0.50	0.43	0.26	0.08	0.07
Oper. time red.	0.98	0.98	0.98	0.98	0.98	0.98
Wind dir. red.	0.67	0.66	0.65	0.63	0.66	0.66
Total reduction	0.32	0.32	0.27	0.16	0.05	0.05
Total, real	39	93	50	3	53	45

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mež a Rasas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (102)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:48 19:53	05:32 20:55	04:35 21:53	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:40 19:59	05:25 21:02	04:32 21:57	04:32 22:07	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:36 16:23	08:34 15:40
8	08:48 15:57	08:00 17:01	06:53 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:06 20:26	04:58 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:37
18	08:37 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 17:30	06:18 18:30	05:56 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:39
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:10	05:00 21:43	06:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:40 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:47	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mež muiža - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (122)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June	
1	08:51		14:22 (C14)	08:15		14:24 (C13)	07:11		06:49		07:14 (C6)	05:32				04:36	
	15:48	20	14:42 (C14)	16:45	40	15:04 (C13)	17:47		19:53	7	07:21 (C6)	20:55				21:52	
2	08:50		14:23 (C14)	08:13		14:25 (C13)	07:08		06:46		07:11 (C6)	05:30				04:35	
	15:49	19	14:42 (C14)	16:47	39	15:04 (C13)	17:50		19:55	10	07:21 (C6)	20:57				21:54	
3	08:50		14:23 (C14)	08:11		14:25 (C13)	07:06		06:43		07:08 (C6)	05:28				04:34	
	15:51	20	14:43 (C13)	16:50	39	15:04 (C13)	17:52		19:57	13	07:21 (C6)	20:59				21:55	
4	08:50		14:24 (C14)	08:09		14:26 (C13)	07:03		06:41		07:06 (C6)	05:26				04:33	
	15:52	20	14:44 (C13)	16:52	38	15:04 (C13)	17:54		19:59	15	07:21 (C6)	21:02				21:57	
5	08:49		14:25 (C14)	08:07		14:27 (C13)	07:00		06:38		07:05 (C6)	05:23				04:32	
	15:53	21	14:46 (C13)	16:54	37	15:04 (C13)	17:56		20:01	16	07:21 (C6)	21:04				21:58	
6	08:49		14:25 (C14)	08:05		14:28 (C13)	06:58		06:35		07:05 (C6)	05:21				04:31	
	15:55	22	14:47 (C13)	16:56	34	15:02 (C13)	17:58		20:03	15	07:20 (C6)	21:06				21:59	
7	08:48		14:25 (C13)	08:03		14:29 (C13)	06:55		06:33		07:05 (C6)	05:19				04:30	
	15:56	23	14:48 (C13)	16:59	33	15:02 (C13)	18:00		20:05	14	07:19 (C6)	21:08				22:00	
8	08:47		14:25 (C13)	08:00		14:31 (C13)	06:53		06:30		07:06 (C6)	05:17				04:29	
	15:58	24	14:49 (C13)	17:01	30	15:01 (C13)	18:03		20:07	11	07:17 (C6)	21:10				22:01	
9	08:47		14:25 (C13)	07:58		14:31 (C13)	06:50		06:27		07:09 (C6)	05:15		05:44 (C2)		04:28	
	15:59	26	14:51 (C13)	17:03	28	14:59 (C13)	18:05		20:10	6	07:15 (C6)	21:12	1	05:45 (C2)		22:02	
10	08:46		14:24 (C13)	07:56		14:34 (C13)	06:47		06:25			05:13		05:42 (C2)		04:28	
	16:01	28	14:52 (C13)	17:05	24	14:58 (C13)	18:07		20:12			21:14	4	05:46 (C2)		22:03	
11	08:45		14:24 (C13)	07:54		14:36 (C13)	06:45		06:22			05:10		05:40 (C2)		04:27	
	16:03	29	14:53 (C13)	17:08	20	14:56 (C13)	18:09		20:14			21:16	7	05:47 (C2)		22:04	
12	08:44		14:23 (C13)	07:52		14:39 (C13)	06:42		06:20			05:08		05:38 (C2)		04:27	
	16:04	30	14:53 (C13)	17:10	14	14:53 (C13)	18:11	3	07:11 (C8)			20:16		21:18	10	05:48 (C2)	
13	08:43		14:23 (C13)	07:49			06:39		07:05 (C8)			06:43 (C4)	05:06		05:36 (C2)	04:26	
	16:06	32	14:55 (C13)	17:12			18:13	7	07:12 (C8)			06:46 (C4)	21:20	12	05:48 (C2)	22:06	
14	08:42		14:23 (C13)	07:47			06:37		07:02 (C8)			06:40 (C4)	05:04		05:35 (C2)	04:26	
	16:08	33	14:56 (C13)	17:14			18:15	10	07:12 (C8)			06:49 (C4)	21:22	14	05:49 (C2)	22:07	
15	08:41		14:22 (C13)	07:45			06:34		06:59 (C8)			06:38 (C4)	05:02		05:33 (C2)	04:26	
	16:10	34	14:56 (C13)	17:17			18:17	13	07:12 (C8)			06:51 (C4)	21:24	16	05:49 (C2)	22:07	
16	08:40		14:23 (C13)	07:43			06:31		06:57 (C8)			06:35 (C4)	05:01		05:31 (C2)	04:25	
	16:12	35	14:58 (C13)	17:19			18:20	15	07:12 (C8)			06:51 (C4)	21:25	18	05:49 (C2)	22:08	
17	08:39		14:22 (C13)	07:40			06:29		06:56 (C8)			06:33 (C4)	04:59		05:32 (C2)	04:25	
	16:14	36	14:58 (C13)	17:21			18:22	16	07:12 (C8)			06:52 (C4)	21:27	17	05:49 (C2)	22:08	
18	08:37		14:22 (C13)	07:38			06:26		06:56 (C8)			06:31 (C4)	04:57		05:32 (C2)	04:25	
	16:16	38	15:00 (C13)	17:23			18:24	14	07:10 (C8)			06:52 (C4)	21:29	17	05:49 (C2)	22:09	
19	08:36		14:22 (C13)	07:35			06:23		06:58 (C8)			06:31 (C4)	04:55		05:31 (C2)	04:25	
	16:18	38	15:00 (C13)	17:25			18:26	12	07:10 (C8)			06:52 (C4)	21:31	17	05:48 (C2)	22:09	
20	08:35		14:23 (C13)	07:33			06:21		06:59 (C8)			06:30 (C4)	04:53		05:32 (C2)	04:25	
	16:20	38	15:01 (C13)	17:28			18:28	8	07:07 (C8)			06:52 (C4)	21:33	17	05:49 (C2)	22:10	
21	08:33		14:22 (C13)	07:31			06:18		05:57			06:30 (C4)	04:52		05:32 (C2)	04:25	
	16:22	40	15:02 (C13)	17:30			18:30		20:35			06:52 (C4)	21:35	16	05:48 (C2)	22:10	
22	08:32		14:22 (C13)	07:28			06:15		05:54			06:31 (C4)	04:50		05:33 (C2)	04:25	
	16:24	40	15:02 (C13)	17:32			18:32		20:37			06:52 (C4)	21:36	15	05:48 (C2)	22:10	
23	08:30		14:22 (C13)	07:26			06:13		05:52			06:30 (C4)	04:48		05:33 (C2)	04:26	
	16:26	40	15:02 (C13)	17:34			18:34		20:39			06:51 (C4)	21:38	13	05:46 (C2)	22:10	
24	08:29		14:22 (C13)	07:23			06:10		05:49			06:31 (C4)	04:47		05:35 (C2)	04:26	
	16:28	41	15:03 (C13)	17:37			18:36		20:41			06:50 (C4)	21:40	11	05:46 (C2)	22:10	
25	08:27		14:23 (C13)	07:21			06:07		05:47			06:32 (C4)	04:45		05:36 (C2)	04:26	
	16:30	41	15:04 (C13)	17:39			18:38		20:43			06:49 (C4)	21:42	9	05:45 (C2)	22:10	
26	08:25		14:23 (C13)	07:18			06:05		05:44			06:32 (C4)	04:44		05:38 (C2)	04:27	
	16:32	41	15:04 (C13)	17:41			18:40		20:45			06:47 (C4)	21:43	6	05:44 (C2)	22:10	
27	08:24		14:23 (C13)	07:16			06:02		05:42			06:34 (C4)	04:42			04:27	
	16:34	42	15:05 (C13)	17:43			18:43		20:47			06:46 (C4)	21:45			22:10	
28	08:22		14:23 (C13)	07:13			05:59		05:40			06:37 (C4)	04:41			04:28	
	16:36	42	15:05 (C13)	17:45			18:45		20:49			06:43 (C4)	21:47			22:10	
29	08:20		14:23 (C13)				06:57		05:37				04:39			04:28	
	16:39	42	15:05 (C13)				19:47		20:51				21:48			22:10	
30	08:18		14:24 (C13)				06:54		05:35				04:38			04:29	
	16:41	41	15:05 (C13)				19:49		20:53				21:50			22:09	
31	08:17		14:23 (C13)				06:51						04:37				
	16:43	41	15:04 (C13)				19:51	3	07:19 (C6)				21:51				
Potential sun hours	235			266			366					426		508		529	
Total, worst case	1017			376			101					364		220			
Sun reduction	0.13			0.20			0.41					0.50		0.57			
Oper. time red.	0.98			0.98			0.98					0.98		0.98			
Wind dir. red.	0.66			0.66			0.64					0.66		0.67			
Total reduction	0.09			0.13			0.26					0.32		0.37			
Total, real	88			49			26					117		82			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mež muiža - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (122)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	05:49 (C2) 20:14	06:17 18:54	07:17 18:54	07:46 (C8) 16:36
2	04:31 22:08	05:17 21:26	05:51 (C2) 20:11	06:19 18:51	07:19 18:51	07:51 (C8) 16:34
3	04:32 22:08	05:19 21:24	05:53 (C2) 20:09	06:21 18:48	07:21 18:48	07:48 (C8) 16:34
4	04:33 22:07	05:21 21:22	05:56 (C2) 20:06	06:23 18:46	07:23 18:46	07:49 (C8) 16:29
5	04:34 22:07	05:23 21:19	06:25 20:03	06:33 18:43	07:25 18:43	07:51 (C8) 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	06:35 18:40	07:27 18:40	07:53 (C8) 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	06:37 18:38	07:29 18:38	07:55 (C8) 16:23
8	04:37 22:04	05:29 21:13	06:31 19:55	06:39 18:35	07:31 18:35	07:57 (C8) 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	06:41 18:32	07:33 18:32	07:59 (C8) 16:19
10	04:39 22:02	05:33 21:08	06:35 19:50	06:43 18:30	07:35 18:30	08:01 (C8) 16:17
11	04:41 22:01	05:35 21:06	06:37 19:47	06:45 18:27	07:37 18:27	08:03 (C8) 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	06:47 18:25	07:39 18:25	08:05 (C8) 16:13
13	04:43 21:59	05:39 21:01	06:41 19:42	06:49 18:22	07:41 18:22	08:07 (C8) 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	06:51 18:19	07:43 18:19	08:09 (C8) 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	06:53 18:17	07:45 18:17	08:11 (C8) 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	06:55 18:14	07:47 18:14	08:13 (C8) 16:06
17	04:49 21:54	05:47 (C2) 20:52	06:49 19:31	06:57 18:12	07:49 18:12	08:15 (C8) 16:04
18	04:51 21:52	05:49 (C2) 20:49	06:51 19:29	06:59 18:09	07:51 18:09	08:17 (C8) 16:02
19	04:52 21:51	05:51 (C2) 20:47	06:53 19:26	07:01 18:07	07:53 18:07	08:19 (C8) 16:01
20	04:54 21:49	05:53 (C2) 20:45	06:55 19:23	07:03 18:04	07:55 18:04	08:21 (C8) 15:59
21	04:56 21:48	05:55 (C2) 20:42	06:57 19:20	07:05 18:02	07:57 18:02	08:23 (C8) 15:58
22	04:57 21:46	05:57 (C2) 20:40	06:59 19:18	07:07 18:00	07:59 18:00	08:25 (C8) 15:56
23	04:59 21:45	05:59 (C2) 20:37	07:01 19:15	07:09 17:57	08:01 17:57	08:27 (C8) 15:55
24	05:01 21:43	06:01 (C2) 20:35	07:03 19:12	07:11 17:55	08:03 17:55	08:29 (C8) 15:53
25	05:03 21:41	06:03 (C2) 20:32	07:05 19:10	07:13 17:53	08:05 17:53	08:31 (C8) 15:52
26	05:04 21:39	06:05 (C2) 20:29	07:07 19:07	07:15 17:51	08:07 17:51	08:33 (C8) 15:51
27	05:06 21:37	06:07 (C2) 20:27	07:09 19:04	07:17 17:49	08:09 17:49	08:35 (C8) 15:50
28	05:08 21:36	06:09 (C2) 20:24	07:11 19:02	07:19 17:47	08:11 17:47	08:37 (C8) 15:49
29	05:10 21:34	06:11 (C2) 20:22	07:13 18:59	07:21 17:45	08:13 17:45	08:39 (C8) 15:48
30	05:12 21:32	06:13 (C2) 20:19	07:15 18:56	07:23 17:43	08:15 17:43	08:41 (C8) 15:47
31	05:14 21:30	06:15 (C2) 20:17	07:17 18:54	07:25 17:41	08:17 17:41	08:43 (C8) 15:46
Potential sun hours	529	469	385	324	247	216
Total, worst case	202	278	205	46	1113	661
Sun reduction	0.49	0.50	0.43	0.26	0.08	0.07
Oper. time red.	0.98	0.98	0.98	0.98	0.98	0.98
Wind dir. red.	0.67	0.65	0.65	0.66	0.66	0.66
Total reduction	0.32	0.32	0.27	0.17	0.05	0.05
Total, real	66	89	56	8	60	30

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mež setas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (165)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	09:55 (C14)	08:15	07:11	06:49	05:33
	15:48	11 10:06 (C14)	16:45	17:48	19:53	20:56
2	08:51	09:57 (C14)	08:13	07:08	06:46	05:30
	15:49	9 10:06 (C14)	16:48	17:50	19:55	20:58
3	08:50	09:57 (C14)	08:11	07:06	06:43	05:28
	15:51	8 10:05 (C14)	16:50	17:52	19:57	21:00
4	08:50	09:58 (C14)	08:09	07:03	06:41	05:26
	15:52	6 10:04 (C14)	16:52	17:54	19:59	21:02
5	08:49	10:01 (C14)	08:07	07:01	06:38	05:23
	15:53	3 10:04 (C14)	16:54	3 08:40 (C13)	20:01	21:04
6	08:49	08:05	08:05	08:34 (C13)	06:58	05:21
	15:55	16:56	7 08:41 (C13)	17:58	20:03	21:06
7	08:48	08:03	08:32 (C13)	06:55	06:33	05:19
	15:56	16:59	11 08:43 (C13)	18:01	20:06	21:08
8	08:48	08:01	08:30 (C13)	06:53	06:30	05:17
	15:58	17:01	14 08:44 (C13)	18:03	20:08	21:10
9	08:47	07:58	08:27 (C13)	06:50	06:28	05:15
	15:59	17:03	17 08:44 (C13)	18:05	20:10	21:12
10	08:46	07:56	08:26 (C13)	06:48	06:25	05:13
	16:01	17:05	19 08:45 (C13)	18:07	20:12	21:14
11	08:45	07:54	08:26 (C13)	06:45	06:22	05:11
	16:03	17:08	19 08:45 (C13)	18:09	20:14	21:16
12	08:44	07:52	08:26 (C13)	06:42	06:20	05:09
	16:05	17:10	19 08:45 (C13)	18:11	20:16	21:18
13	08:43	07:50	08:27 (C13)	06:40	06:17	05:07
	16:06	17:12	18 08:45 (C13)	18:13	20:18	21:20
14	08:42	07:47	08:27 (C13)	06:37	06:15	05:05
	16:08	17:14	17 08:44 (C13)	18:15	20:20	21:22
15	08:41	07:45	08:28 (C13)	06:34	06:12	05:03
	16:10	17:17	15 08:43 (C13)	18:18	20:22	21:24
16	08:40	07:43	08:29 (C13)	06:32	06:09	05:01
	16:12	17:19	13 08:42 (C13)	18:20	20:24	21:26
17	08:39	07:40	08:31 (C13)	06:29	06:07	04:59
	16:14	17:21	9 08:40 (C13)	18:22	20:26	21:27
18	08:38	07:38		06:26	06:04	04:57
	16:16	17:23		18:24	20:28	21:29
19	08:36	07:36		06:24	06:02	04:55
	16:18	17:26		18:26	20:31	21:31
20	08:35	07:33		06:21	05:59	04:53
	16:20	17:28		18:28	20:33	21:33
21	08:33	07:31		06:18	05:57	04:52
	16:22	17:30		18:30	20:35	21:35
22	08:32	07:28		06:16	05:54	04:50
	16:24	17:32		18:32	20:37	21:37
23	08:30	07:26		06:13	05:52	04:48
	16:26	17:34		18:34	20:39	21:38
24	08:29	07:23		06:10	05:49	04:47
	16:28	17:37		18:36	20:41	21:40
25	08:27	07:21		06:08	05:47	04:45
	16:30	17:39		18:39	20:43	21:42
26	08:26	07:18		06:05	05:44	04:44
	16:32	17:41		18:41	20:45	21:43
27	08:24	07:16		06:02	05:42	04:42
	16:34	17:43		18:43	20:47	21:45
28	08:22	07:13		06:00	05:40	04:41
	16:37	17:45		18:45	20:49	21:47
29	08:20			06:57	05:37	04:40
	16:39			19:47	20:51	21:48
30	08:19			06:54	05:35	04:38
	16:41			19:49	20:53	21:50
31	08:17			06:51		04:37
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case	37	181				
Sun reduction	0.13	0.20				
Oper. time red.	0.98	0.98				
Wind dir. red.	0.61	0.61				
Total reduction	0.08	0.12				
Total, real	3	22				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mež setas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (165)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:23	07:56 (C13) 08:24
	22:09	21:28	20:14	18:54	16:36	18 08:14 (C13) 15:45
2	04:31	05:18	06:19	07:19	07:25	07:57 (C13) 08:26
	22:09	21:26	20:11	18:51	16:34	17 08:14 (C13) 15:44
3	04:32	05:20	06:21	07:21	07:27	08:00 (C13) 08:28
	22:08	21:24	20:09	18:48	16:32	14 08:14 (C13) 15:43
4	04:33	05:21	06:23	07:23	07:29	08:02 (C13) 08:29
	22:07	21:22	20:06	18:46	16:29	10 08:12 (C13) 15:42
5	04:34	05:23	06:25	07:25	07:31	08:05 (C13) 08:31
	22:07	21:20	20:04	18:43	16:27	7 08:12 (C13) 15:42
6	04:35	05:25	06:27	07:28	07:34	08:07 (C13) 08:32
	22:06	21:17	20:01	18:40	16:25	3 08:10 (C13) 15:41
7	04:36	05:27	06:29	07:30	07:36	08:34
	22:05	21:15	19:58	18:38	16:23	15:40 2 09:48 (C14)
8	04:37	05:29	06:31	07:32	07:38	08:35
	22:04	21:13	19:56	18:35	16:21	15:40 5 09:47 (C14)
9	04:38	05:31	06:33	07:34	07:40	08:37
	22:03	21:11	19:53	18:33	16:19	15:39 8 09:46 (C14)
10	04:39	05:33	06:35	07:36	07:42	08:38
	22:02	21:09	19:50	18:30	16:17	15:39 9 09:54 (C14)
11	04:41	05:35	06:37	07:38	07:44	08:39
	22:01	21:06	19:48	18:27	16:15	15:39 11 09:55 (C14)
12	04:42	05:37	06:39	07:40	07:47	08:41
	22:00	21:04	19:45	18:25	16:13	15:38 11 09:46 (C14)
13	04:43	05:39	06:41	07:42	07:49	08:42
	21:59	21:02	19:42	18:22	16:11	15:38 12 09:46 (C14)
14	04:45	05:41	06:43	07:44	07:51	08:43
	21:58	20:59	19:39	18:20	16:09	15:38 12 09:58 (C14)
15	04:46	05:43	06:45	07:46	07:53	08:44
	21:57	20:57	19:37	18:17	16:08	15:38 13 09:46 (C14)
16	04:48	05:45	06:47	07:48	07:55	08:45
	21:55	20:54	19:34	18:14	16:06	15:38 14 09:59 (C14)
17	04:49	05:47	06:49	07:50	07:57	08:46
	21:54	20:52	19:31	18:12	16:04	15:38 13 10:00 (C14)
18	04:51	05:49	06:51	07:53	07:59	08:46
	21:53	20:50	19:29	18:09	16:02	15:38 14 09:47 (C14)
19	04:53	05:51	06:53	07:55	08:01	08:47
	21:51	20:47	19:26	18:07	16:01	15:38 14 10:01 (C14)
20	04:54	05:53	06:55	07:57	08:03	08:48
	21:50	20:45	19:23	18:04	15:59	15:39 14 09:48 (C14)
21	04:56	05:55	06:57	07:59	08:05	08:49
	21:48	20:42	19:21	18:02	15:58	15:39 15 10:02 (C14)
22	04:58	05:57	06:59	08:01	08:07	08:49
	21:46	20:40	19:18	18:00	15:56	15:39 15 09:48 (C14)
23	04:59	05:59	07:01	08:03	08:09	08:50
	21:45	20:37	19:15	17:57	15:55	15:40 14 10:03 (C14)
24	05:01	06:01	07:03	08:05	09:04 (C13) 08:11	08:50
	21:43	20:35	19:12	17:55	3 09:07 (C13) 15:53	15:41 14 09:50 (C14)
25	05:03	06:03	07:05	07:07	08:00 (C13) 08:13	08:50
	21:41	20:32	19:10	16:52	10 08:10 (C13) 15:52	15:41 14 10:04 (C14)
26	05:05	06:05	07:07	07:10	07:59 (C13) 08:15	08:51
	21:39	20:30	19:07	16:50	13 08:12 (C13) 15:51	15:42 14 09:50 (C14)
27	05:06	06:07	07:09	07:12	07:57 (C13) 08:17	08:51
	21:38	20:27	19:04	16:48	16 08:13 (C13) 15:49	15:43 14 10:04 (C14)
28	05:08	06:09	07:11	07:14	07:56 (C13) 08:19	08:51
	21:36	20:24	19:02	16:45	17 08:13 (C13) 15:48	15:44 13 10:05 (C14)
29	05:10	06:11	07:13	07:16	07:56 (C13) 08:21	08:51
	21:34	20:22	18:59	16:43	18 08:14 (C13) 15:47	15:45 13 09:52 (C14)
30	05:12	06:13	07:15	07:18	07:55 (C13) 08:23	08:51
	21:32	20:19	18:56	16:41	19 08:14 (C13) 15:46	15:46 13 10:05 (C14)
31	05:14	06:15		07:20	07:56 (C13)	08:51
	21:30	20:17		16:38	19 08:15 (C13)	15:47 11 09:55 (C14)
Potential sun hours	529	469	385	324	247	216
Total, worst case				115	69	302
Sun reduction				0.26	0.08	0.07
Oper. time red.				0.98	0.98	0.98
Wind dir. red.				0.61	0.61	0.61
Total reduction				0.16	0.05	0.04
Total, real				18	3	13

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mež vidi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (71)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		12:56 (C16)	08:15			07:11		07:37 (C12)	06:49			05:32			04:36		20:29 (C13)
	15:48	44	13:40 (C16)	16:45			17:47	35	16:12 (C15)	19:53			20:55			21:52	31	21:00 (C13)
2	08:50		12:55 (C16)	08:13			07:08		07:34 (C12)	06:46			05:30			04:35		20:29 (C13)
	15:49	45	13:40 (C16)	16:47			17:50	36	16:10 (C15)	19:55			20:57			21:54	31	21:00 (C13)
3	08:50		12:56 (C16)	08:11			07:06		07:32 (C12)	06:43			05:28			04:34		20:29 (C13)
	15:51	45	13:41 (C16)	16:50			17:52	35	16:08 (C15)	19:57			20:59			21:55	32	21:01 (C13)
4	08:50		12:57 (C16)	08:09			07:03		07:29 (C12)	06:41			05:26			04:33		20:28 (C13)
	15:52	44	13:41 (C16)	16:52			17:54	33	16:05 (C15)	19:59			21:01			21:56	33	21:01 (C13)
5	08:49		12:57 (C16)	08:07		15:53 (C15)	07:00		07:26 (C12)	06:38			05:23			04:32		05:07 (C6)
	15:53	44	13:41 (C16)	16:54	6	15:59 (C15)	17:56	28	16:01 (C15)	20:01			21:04			21:58	35	21:02 (C13)
6	08:49		12:58 (C16)	08:05		15:49 (C15)	06:58		07:27 (C12)	06:35			05:21		05:50 (C8)	04:31		05:06 (C6)
	15:55	44	13:42 (C16)	16:56	15	16:04 (C15)	17:58	16	07:43 (C12)	20:03			21:06	4	05:54 (C8)	21:59	36	21:02 (C13)
7	08:48		12:58 (C16)	08:03		15:46 (C15)	06:55		07:27 (C12)	06:33			05:19		05:48 (C8)	04:30		05:05 (C6)
	15:56	44	13:42 (C16)	16:59	21	16:07 (C15)	18:00	15	07:42 (C12)	20:05			21:08	7	05:55 (C8)	22:00	38	21:02 (C13)
8	08:47		12:59 (C16)	08:00		15:45 (C15)	06:53		07:27 (C12)	06:30			05:17		05:46 (C8)	04:29		05:05 (C6)
	15:58	44	13:43 (C16)	17:01	25	16:10 (C15)	18:03	14	07:41 (C12)	20:07			21:10	10	05:56 (C8)	22:01	39	21:03 (C13)
9	08:47		12:59 (C16)	07:58		15:42 (C15)	06:50		07:29 (C12)	06:27			05:15		05:44 (C8)	04:29		05:04 (C6)
	15:59	44	13:43 (C16)	17:03	29	16:11 (C15)	18:05	11	07:40 (C12)	20:10			21:12	12	05:56 (C8)	22:02	41	21:03 (C13)
10	08:46		13:00 (C16)	07:56		15:42 (C15)	06:47		07:31 (C12)	06:25			05:13		05:42 (C8)	04:28		05:04 (C6)
	16:01	44	13:44 (C16)	17:05	30	16:12 (C15)	18:07	15	17:37 (C14)	20:12			21:14	14	05:56 (C8)	22:03	42	21:04 (C13)
11	08:45		13:00 (C16)	07:54		15:40 (C15)	06:45		17:23 (C14)	06:22		06:48 (C10)	05:10		05:40 (C8)	04:27		05:03 (C6)
	16:03	44	13:44 (C16)	17:08	33	16:13 (C15)	18:09	16	17:39 (C14)	20:14	5	06:53 (C10)	21:16	17	05:57 (C8)	22:04	44	21:04 (C13)
12	08:44		13:00 (C16)	07:52		15:39 (C15)	06:42		17:22 (C14)	06:20		06:45 (C10)	05:08		05:38 (C8)	04:27		05:03 (C6)
	16:04	44	13:44 (C16)	17:10	35	16:14 (C15)	18:11	20	17:42 (C14)	20:16	9	06:54 (C10)	21:18	18	05:56 (C8)	22:05	43	21:04 (C13)
13	08:43		13:01 (C16)	07:49		15:39 (C15)	06:39		17:20 (C14)	06:17		06:43 (C10)	05:06		05:38 (C8)	04:26		05:03 (C6)
	16:06	43	13:44 (C16)	17:12	37	16:16 (C15)	18:13	22	17:42 (C14)	20:18	13	06:56 (C10)	21:20	18	05:56 (C8)	22:06	45	21:05 (C13)
14	08:42		13:02 (C16)	07:47		15:38 (C15)	06:37		17:19 (C14)	06:14		06:40 (C10)	05:04		05:39 (C8)	04:26		05:03 (C6)
	16:08	43	13:45 (C16)	17:14	38	16:16 (C15)	18:15	23	17:42 (C14)	20:20	16	06:56 (C10)	21:21	18	05:57 (C8)	22:06	45	21:05 (C13)
15	08:41		13:02 (C16)	07:45		15:38 (C15)	06:34		17:18 (C14)	06:12		06:38 (C10)	05:03		05:39 (C8)	04:26		05:02 (C6)
	16:10	42	13:44 (C16)	17:17	39	16:17 (C15)	18:17	25	17:43 (C14)	20:22	18	06:56 (C10)	21:23	17	05:56 (C8)	22:07	46	21:05 (C13)
16	08:40		13:03 (C16)	07:42		15:37 (C15)	06:31		17:18 (C14)	06:09		06:37 (C10)	05:01		05:39 (C8)	04:25		05:02 (C6)
	16:12	42	13:45 (C16)	17:19	40	16:17 (C15)	18:20	25	17:43 (C14)	20:24	19	06:56 (C10)	21:25	17	05:56 (C8)	22:08	46	21:05 (C13)
17	08:39		13:03 (C16)	07:40		15:37 (C15)	06:29		17:17 (C14)	06:07		06:37 (C10)	04:59		05:40 (C8)	04:25		05:02 (C6)
	16:14	41	13:44 (C16)	17:21	40	16:17 (C15)	18:22	26	17:43 (C14)	20:26	19	06:56 (C10)	21:27	16	05:56 (C8)	22:08	46	21:05 (C13)
18	08:37		13:04 (C16)	07:38		15:36 (C15)	06:26		17:17 (C14)	06:04		06:36 (C10)	04:57		05:40 (C8)	04:25		05:02 (C6)
	16:16	41	13:45 (C16)	17:23	41	16:17 (C15)	18:24	25	17:42 (C14)	20:28	19	06:55 (C10)	21:29	15	05:55 (C8)	22:09	47	21:06 (C13)
19	08:36		13:04 (C16)	07:35		15:36 (C15)	06:23		06:49 (C11)	06:02		06:37 (C10)	04:55		05:41 (C8)	04:25		05:02 (C6)
	16:18	40	13:44 (C16)	17:25	42	16:18 (C15)	18:26	30	17:42 (C14)	20:30	18	06:55 (C10)	21:31	13	05:54 (C8)	22:09	47	21:06 (C13)
20	08:35		13:05 (C16)	07:33		15:36 (C15)	06:21		06:46 (C11)	05:59		06:37 (C10)	04:53		05:42 (C8)	04:25		05:02 (C6)
	16:20	39	13:44 (C16)	17:28	41	16:17 (C15)	18:28	33	17:41 (C14)	20:32	16	06:53 (C10)	21:33	11	05:53 (C8)	22:10	47	21:06 (C13)
21	08:33		13:06 (C16)	07:31		15:36 (C15)	06:18		06:43 (C11)	05:57		06:38 (C10)	04:52		05:43 (C8)	04:25		05:03 (C6)
	16:22	39	13:45 (C16)	17:30	42	16:18 (C15)	18:30	36	17:40 (C14)	20:35	14	06:52 (C10)	21:35	17	20:47 (C13)	22:10	47	21:07 (C13)
22	08:32		13:07 (C16)	07:28		15:36 (C15)	06:15		06:41 (C11)	05:54		06:40 (C10)	04:50		05:46 (C8)	04:25		05:03 (C6)
	16:24	37	13:44 (C16)	17:32	41	16:17 (C15)	18:32	37	17:40 (C14)	20:37	11	06:51 (C10)	21:36	17	20:50 (C13)	22:10	47	21:07 (C13)
23	08:30		13:08 (C16)	07:26		15:37 (C15)	06:13		06:38 (C11)	05:52		06:41 (C10)	04:48		20:36 (C13)	04:26		05:03 (C6)
	16:26	35	13:43 (C16)	17:34	40	16:17 (C15)	18:34	38	17:38 (C14)	20:39	6	06:47 (C10)	21:38	17	20:53 (C13)	22:10	47	21:07 (C13)
24	08:29		13:09 (C16)	07:23		15:37 (C15)	06:10		06:38 (C11)	05:49		04:47			20:34 (C13)	04:26		05:03 (C6)
	16:28	34	13:43 (C16)	17:37	39	16:16 (C15)	18:36	33	17:35 (C14)	20:41		21:40	19	20:53 (C13)	22:10	47	21:07 (C13)	
25	08:27		13:10 (C16)	07:21		15:37 (C15)	06:07		06:37 (C11)	05:47		04:45			20:33 (C13)	04:26		05:04 (C6)
	16:30	32	13:42 (C16)	17:39	38	16:15 (C15)	18:38	27	17:32 (C14)	20:43		21:42	22	20:55 (C13)	22:10	47	21:08 (C13)	
26	08:25		13:12 (C16)	07:18		15:38 (C15)	06:05		06:38 (C11)	05:44		04:44			20:32 (C13)	04:27		05:04 (C6)
	16:32	30	13:42 (C16)	17:41	37	16:15 (C15)	18:40	17	06:55 (C11)	20:45		21:43	24	20:56 (C13)	22:10	46	21:07 (C13)	
27	08:24		13:14 (C16)	07:16		15:38 (C15)	06:02		06:38 (C11)	05:42		04:42			20:31 (C13)	04:27		05:05 (C6)
	16:34	27	13:41 (C16)	17:43	36	16:14 (C15)	18:43	16	06:54 (C11)	20:47		21:45	25	20:56 (C13)	22:10	46	21:08 (C13)	
28	08:22		13:16 (C16)	07:13		15:40 (C15)	05:59		06:39 (C11)	05:40		04:41			20:30 (C13)	04:28		05:05 (C6)
	16:36	23	13:39 (C16)	17:45	33	16:13 (C15)	18:45	13	06:52 (C11)	20:49		21:46	27	20:57 (C13)	22:10	45	21:07 (C13)	
29	08:20		13:18 (C16)				06:57		07:41 (C11)	05:37		04:40			20:30 (C13)	04:29		05:06 (C6)
	16:39	20	13:38 (C16)				19:47	9	07:50 (C11)	20:51		21:48	28	20:58 (C13)	22:10	45	21:08 (C13)	
30	08:18		13:21 (C16)				06:54			05:35		04:38			20:30 (C13)	04:29		05:07 (C6)
	16:41	13	13:34 (C16)				19:49			20:53		21:49	29	20:59 (C13)	22:09	44	21:08 (C13)	
31	08:16						06:51					04:37			20:29 (C13)			
	16:43						19:51					21:51	31	21:00 (C13)				
Potential sun hours		235		266			366		426			508				528		
Total, worst case		1151		818			709		183			463				1275		
Sun reduction		0.13		0.20			0.41		0.50			0.57				0.56		
Oper. time red.		0.98		0.98			0.98		0.98			0.98				0.98		
Wind dir. red																		

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Mež vidi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (71)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July			August			September			October			November			December		
1	04:30		05:07 (C6)	05:16		05:49 (C8)	06:17		06:47 (C10)	07:17		18:01 (C14)	07:22		15:11 (C15)	08:24		12:42 (C16)
2	22:09	43	21:08 (C13)	21:28	18	06:07 (C8)	20:14	5	06:52 (C10)	18:54	20	18:21 (C14)	16:36	31	15:42 (C15)	15:45	44	13:26 (C16)
3	04:31		05:08 (C6)	05:18		05:51 (C8)	06:19			07:19		18:02 (C14)	07:25		15:12 (C15)	08:26		12:42 (C16)
4	22:08	42	21:08 (C13)	21:26	16	06:07 (C8)	20:11			18:51	17	18:19 (C14)	16:34	28	15:40 (C15)	15:44	44	13:26 (C16)
5	04:32		05:09 (C6)	05:19		05:53 (C8)	06:21			07:21		18:03 (C14)	07:27		15:15 (C15)	08:27		12:42 (C16)
6	22:08	40	21:08 (C13)	21:24	14	06:07 (C8)	20:09			18:48	14	18:17 (C14)	16:32	24	15:39 (C15)	15:43	44	13:26 (C16)
7	04:33		05:10 (C6)	05:21		05:55 (C8)	06:23			07:23		08:07 (C12)	07:29		15:16 (C15)	08:29		12:43 (C16)
8	22:07	41	21:09 (C13)	21:21	11	06:06 (C8)	20:06			18:46	15	18:13 (C14)	16:29	20	15:36 (C15)	15:42	44	13:27 (C16)
9	04:34		05:11 (C6)	05:23		05:56 (C8)	06:25			07:25		08:05 (C12)	07:31		15:19 (C15)	08:31		12:43 (C16)
10	22:07	39	21:09 (C13)	21:19	9	06:05 (C8)	20:03			18:43	12	08:17 (C12)	16:27	14	15:33 (C15)	15:42	45	13:28 (C16)
11	04:35		05:12 (C6)	05:25		05:58 (C8)	06:27			07:27		08:03 (C12)	07:33		15:25 (C15)	08:32		12:44 (C16)
12	22:06	37	21:09 (C13)	21:17	6	06:04 (C8)	20:01			18:40	15	08:18 (C12)	16:25	3	15:28 (C15)	15:41	44	13:28 (C16)
13	04:36		05:13 (C6)	05:27		06:00 (C8)	06:29			07:29		08:02 (C12)	07:35			08:34		12:44 (C16)
14	22:05	36	21:09 (C13)	21:15	2	06:02 (C8)	19:58			18:38	16	08:18 (C12)	16:23			15:40	44	13:28 (C16)
15	04:37		05:14 (C6)	05:29			06:31			07:31		08:01 (C12)	07:38			08:35		12:45 (C16)
16	22:04	34	21:09 (C13)	21:13			19:55			18:35	17	08:18 (C12)	16:21			15:40	44	13:29 (C16)
17	04:38		20:36 (C13)	05:31			06:33			07:34		08:02 (C12)	07:40			08:36		12:45 (C16)
18	22:03	32	21:08 (C13)	21:11			19:53			18:32	32	16:38 (C15)	16:19			15:39	44	13:29 (C16)
19	04:39		20:36 (C13)	05:33			06:35			07:36		08:05 (C12)	07:42			08:38		12:46 (C16)
20	22:02	32	21:08 (C13)	21:08			19:50			18:30	34	16:41 (C15)	16:17			15:39	44	13:30 (C16)
21	04:41		20:37 (C13)	05:35			06:37			07:38		08:07 (C12)	07:44			08:39		12:46 (C16)
22	22:01	31	21:08 (C13)	21:06			19:47			18:27	36	16:43 (C15)	16:15			15:38	44	13:30 (C16)
23	04:42		20:38 (C13)	05:37			06:39			07:40		08:09 (C12)	07:46		12:52 (C16)	08:40		12:46 (C16)
24	22:00	30	21:08 (C13)	21:04			19:45			18:25	35	16:44 (C15)	16:13	14	13:06 (C16)	15:38	44	13:30 (C16)
25	04:43		20:38 (C13)	05:39			06:41			07:42		08:11 (C12)	07:48		12:50 (C16)	08:41		12:47 (C16)
26	21:59	30	21:08 (C13)	21:01			19:42			18:22	34	16:45 (C15)	16:11	20	13:10 (C16)	15:38	44	13:31 (C16)
27	04:45		20:38 (C13)	05:41			06:43		07:32 (C11)	07:44		16:11 (C15)	07:51		12:48 (C16)	08:42		12:47 (C16)
28	21:58	29	21:07 (C13)	20:59			19:39	8	07:40 (C11)	18:19	35	16:46 (C15)	16:09	23	13:11 (C16)	15:38	44	13:31 (C16)
29	04:46		20:39 (C13)	05:43			06:45		07:29 (C11)	07:46		16:11 (C15)	07:53		12:46 (C16)	08:44		12:48 (C16)
30	21:56	27	21:06 (C13)	20:57			19:37	13	07:42 (C11)	18:17	36	16:47 (C15)	16:08	27	13:13 (C16)	15:38	44	13:32 (C16)
31	04:48		20:40 (C13)	05:45			06:47		07:28 (C11)	07:48		16:10 (C15)	07:55		12:45 (C16)	08:44		12:48 (C16)
32	21:55	26	21:06 (C13)	20:54			19:34	15	07:43 (C11)	18:14	37	16:47 (C15)	16:06	30	13:15 (C16)	15:38	44	13:32 (C16)
33	04:49		20:41 (C13)	05:47			06:49		07:27 (C11)	07:50		16:09 (C15)	07:57		12:44 (C16)	08:45		12:49 (C16)
34	21:54	24	21:05 (C13)	20:52			19:31	17	07:44 (C11)	18:12	39	16:48 (C15)	16:04	32	13:16 (C16)	15:38	43	13:32 (C16)
35	04:51		20:42 (C13)	05:49			06:51		07:26 (C11)	07:52		16:08 (C15)	07:59		12:43 (C16)	08:46		12:50 (C16)
36	21:52	23	21:05 (C13)	20:49			19:28	25	18:19 (C14)	18:09	40	16:48 (C15)	16:02	34	13:17 (C16)	15:38	43	13:33 (C16)
37	04:52		20:43 (C13)	05:51			06:53		07:25 (C11)	07:54		16:07 (C15)	08:01		12:43 (C16)	08:47		12:49 (C16)
38	21:51	21	21:04 (C13)	20:47			19:26	32	18:22 (C14)	18:07	41	16:48 (C15)	16:01	35	13:18 (C16)	15:38	44	13:33 (C16)
39	04:54		20:45 (C13)	05:53		06:46 (C10)	06:55		07:24 (C11)	07:57		16:07 (C15)	08:03		12:42 (C16)	08:48		12:50 (C16)
40	21:49	18	21:03 (C13)	20:44	8	06:54 (C10)	19:23	36	18:23 (C14)	18:04	41	16:48 (C15)	15:59	37	13:19 (C16)	15:39	44	13:34 (C16)
41	04:56		20:46 (C13)	05:55		06:44 (C10)	06:57		07:25 (C11)	07:59		16:06 (C15)	08:05		12:41 (C16)	08:48		12:50 (C16)
42	21:48	15	21:01 (C13)	20:42	12	06:56 (C10)	19:20	38	18:24 (C14)	18:02	42	16:48 (C15)	15:58	39	13:20 (C16)	15:39	43	13:33 (C16)
43	04:57		05:55 (C8)	05:57		06:42 (C10)	06:59		07:27 (C11)	08:01		16:06 (C15)	08:07		12:42 (C16)	08:49		12:51 (C16)
44	21:46	17	20:59 (C13)	20:40	15	06:57 (C10)	19:18	37	18:25 (C14)	17:59	42	16:48 (C15)	15:56	39	13:21 (C16)	15:39	43	13:34 (C16)
45	04:59		05:53 (C8)	05:59		06:41 (C10)	07:01		07:29 (C11)	08:03		16:07 (C15)	08:09		12:41 (C16)	08:49		12:51 (C16)
46	21:44	10	06:03 (C8)	20:37	17	06:58 (C10)	19:15	34	18:25 (C14)	17:57	41	16:48 (C15)	15:55	41	13:22 (C16)	15:40	44	13:35 (C16)
47	05:01		05:52 (C8)	06:01		06:41 (C10)	07:03		07:31 (C11)	08:05		16:06 (C15)	08:11		12:41 (C16)	08:50		12:52 (C16)
48	21:43	12	06:04 (C8)	20:34	18	06:59 (C10)	19:12	32	18:25 (C14)	17:55	41	16:47 (C15)	15:53	41	13:22 (C16)	15:41	44	13:36 (C16)
49	05:03		05:50 (C8)	06:03		06:40 (C10)	07:05		07:33 (C11)	07:07		15:06 (C15)	08:13		12:41 (C16)	08:50		12:52 (C16)
50	21:41	14	06:04 (C8)	20:32	19	06:59 (C10)	19:10	27	18:25 (C14)	16:52	41	15:47 (C15)	15:52	41	13:22 (C16)	15:41	44	13:36 (C16)
51	05:04		05:50 (C8)	06:05		06:39 (C10)	07:07		17:59 (C14)	07:09		15:07 (C15)	08:15		12:41 (C16)	08:50		12:53 (C16)
52	21:39	16	06:06 (C8)	20:29	19	06:58 (C10)	19:07	26	18:25 (C14)	16:50	40	15:47 (C15)	15:51	42	13:23 (C16)	15:42	43	13:36 (C16)
53	05:06		05:50 (C8)	06:07		06:38 (C10)	07:09		17:59 (C14)	07:12		15:07 (C15)	08:17		12:41 (C16)	08:51		12:53 (C16)
54	21:37	16	06:06 (C8)	20:27	20	06:58 (C10)	19:04	25	18:24 (C14)	16:47	39	15:46 (C15)	15:49	42	13:23 (C16)	15:43	44	13:37 (C16)
55	05:08		05:49 (C8)	06:09		06:39 (C10)	07:11		17:59 (C14)	07:14		15:07 (C15)	08:19		12:42 (C16)	08:51		12:54 (C16)
56	21:36	17	06:06 (C8)	20:24	18	06:57 (C10)	19:02	25	18:24 (C14)	16:45	38	15:45 (C15)	15:48	43	13:25 (C16)	15:44	43	13:37 (C16)
57	05:10		05:49 (C8)	06:11		06:41 (C10)	07:13		18:00 (C14)	07:16		15:09 (C15)	08:20		12:42 (C16)	08:51		12:54 (C16)
58	21:34	18	06:07 (C8)	20:22	16	06:57 (C10)	18:59	24	18:24 (C14)	16:43	36	15:45 (C15)	15:47	43	13:25 (C16)	15:45	44	13:38 (C16)
59	05:12		05:49 (C8)	06:13		06:43 (C10)	07:15		18:00 (C14)	07:18		15:09 (C15)	08:22		12:42 (C16)	08:51		12:55 (C16)
60	21:32	18	06:07 (C8)	20:19	13	06:56 (C10)	18:56	23	18:23 (C14)	16:40	35	15:44 (C15)	15:46	44	13:26 (C16)	15:46	44	13:39 (C16)
61	05:14		05:49 (C8)	06:15		06:45 (C10)			07:20			15:10 (C15)				08:51		12:55 (C16)
62	21:30	19	06:08 (C8)	20:16	9	06:54 (C10)			16:38	32		15:42 (C15)				15:47	43	13:38 (C16)
Potential sun hours	529			469			385			324			247			216		
Total, worst case	807			260			442			993			787			1358		
Sun reduction																		

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Muižnieki (kad. apz. 56960040061) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (61)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January		February		March	April	May	June
1	08:51	10:12 (C15)	08:15	09:04 (C13)	07:11	06:49	05:33	04:36
	15:48	10	10:22 (C15)	16:45	26	09:30 (C13)	17:48	21:53
2	08:50	10:14 (C15)	08:13	09:03 (C13)	07:08	06:46	05:30	04:35
	15:49	8	10:22 (C15)	16:47	29	09:32 (C13)	17:50	21:54
3	08:50	10:15 (C15)	08:11	09:02 (C13)	07:06	06:43	05:28	04:34
	15:51	6	10:21 (C15)	16:50	31	09:33 (C13)	17:52	21:55
4	08:50		08:09	09:01 (C13)	07:03	06:41	05:26	04:33
	15:52		16:52	33	09:34 (C13)	17:54	19:59	21:02
5	08:49		08:07	09:01 (C13)	07:01	06:38	05:23	04:32
	15:53		16:54	34	09:35 (C13)	17:56	20:01	21:04
6	08:49		08:05	09:00 (C13)	06:58	06:35	05:21	04:31
	15:55		16:56	36	09:36 (C13)	17:58	20:03	21:06
7	08:48		08:03	09:00 (C13)	06:55	06:33	05:19	04:30
	15:56		16:59	36	09:36 (C13)	18:01	20:05	21:08
8	08:48		08:01	08:59 (C13)	06:53	06:30	05:17	04:29
	15:58		17:01	38	09:37 (C13)	18:03	20:08	21:10
9	08:47		07:58	08:59 (C13)	06:50	06:28	05:15	04:29
	15:59		17:03	38	09:37 (C13)	18:05	20:10	21:12
10	08:46		07:56	08:59 (C13)	06:47	06:25	05:13	04:28
	16:01		17:05	39	09:38 (C13)	18:07	20:12	21:14
11	08:45		07:54	08:59 (C13)	06:45	06:22	05:11	04:27
	16:03		17:08	39	09:38 (C13)	18:09	20:14	21:16
12	08:44		07:52	08:58 (C13)	06:42	06:20	05:08	04:27
	16:05		17:10	40	09:38 (C13)	18:11	20:16	21:18
13	08:43		07:50	08:59 (C13)	06:40	06:17	05:06	04:26
	16:06		17:12	39	09:38 (C13)	18:13	20:18	21:20
14	08:42		07:47	08:58 (C13)	06:37	06:15	05:04	04:26
	16:08		17:14	40	09:38 (C13)	18:15	20:20	21:22
15	08:41		07:45	08:59 (C13)	06:34	06:12	05:03	04:26
	16:10		17:17	39	09:38 (C13)	18:18	20:22	21:24
16	08:40		07:43	08:59 (C13)	06:32	06:09	05:01	04:25
	16:12		17:19	38	09:37 (C13)	18:20	20:24	21:25
17	08:39		07:40	09:00 (C13)	06:29	06:07	04:59	04:25
	16:14		17:21	37	09:37 (C13)	18:22	20:26	21:27
18	08:37		07:38	09:00 (C13)	06:26	06:04	04:57	04:25
	16:16		17:23	36	09:36 (C13)	18:24	20:28	21:29
19	08:36		07:36	09:01 (C13)	06:24	06:02	04:55	04:25
	16:18		17:26	35	09:36 (C13)	18:26	20:30	21:31
20	08:35		07:33	09:01 (C13)	06:21	05:59	04:53	04:25
	16:20		17:28	33	09:34 (C13)	18:28	20:33	21:33
21	08:33		07:31	09:02 (C13)	06:18	05:57	04:52	04:25
	16:22		17:30	31	09:33 (C13)	18:30	20:35	21:35
22	08:32		07:28	09:03 (C13)	06:16	05:54	04:50	04:25
	16:24		17:32	28	09:31 (C13)	18:32	20:37	21:37
23	08:30		07:26	09:05 (C13)	06:13	05:52	04:48	04:26
	16:26		17:34	25	09:30 (C13)	18:34	20:39	21:38
24	08:29		07:23	09:07 (C13)	06:10	05:49	04:47	04:26
	16:28		17:37	20	09:27 (C13)	18:36	20:41	21:40
25	08:27		07:21	09:10 (C13)	06:07	05:47	04:45	04:26
	16:30		17:39	15	09:25 (C13)	18:38	20:43	21:42
26	08:26		07:18		06:05	05:44	04:44	04:27
	16:32		17:41		18:41	20:45	21:43	22:10
27	08:24		07:16		06:02	05:42	04:42	04:27
	16:34		17:43		18:43	20:47	21:45	22:10
28	08:22	09:13 (C13)	07:13		05:59	05:40	04:41	04:28
	16:36	8	09:21 (C13)	17:45	18:45	20:49	21:47	22:10
29	08:20	09:09 (C13)			06:57	05:37	04:40	04:29
	16:39	16	09:25 (C13)		19:47	20:51	21:48	22:10
30	08:18	09:07 (C13)			06:54	05:35	04:38	04:29
	16:41	20	09:27 (C13)		19:49	20:53	21:50	22:09
31	08:17	09:06 (C13)			06:51		04:37	
	16:43	23	09:29 (C13)		19:51		21:51	
Potential sun hours	235		266		366	426	508	529
Total, worst case	91		835				163	
Sun reduction	0.13		0.20				0.57	
Oper. time red.	0.98		0.98				0.98	
Wind dir. red.	0.60		0.59				0.67	
Total reduction	0.08		0.11				0.36	
Total, real	7		95				59	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Muižnieki (kad. apz. 56960040061) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (61)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	05:54 (C1) 20:14	06:17 18:54	07:17 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	05:53 (C1) 20:11	06:19 18:51	07:19 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	05:53 (C1) 20:09	06:21 18:48	07:21 16:32	08:28 15:43
4	04:33 22:07	05:21 21:22	05:55 (C1) 20:06	06:23 18:46	07:23 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	05:56 (C1) 20:03	06:25 18:43	07:25 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	05:58 (C1) 20:01	06:27 18:40	07:27 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:00 (C1) 19:58	06:29 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:02 (C1) 19:55	06:31 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:04 (C1) 19:53	06:33 18:32	07:40 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:07 (C1) 19:53	06:35 18:32	07:42 16:19	6 10:03 (C15) 10:09 (C15)
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	10:02 (C15) 10:12 (C15)
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	10:03 (C15) 10:13 (C15)
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	10:02 (C15) 10:14 (C15)
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	10:02 (C15) 10:15 (C15)
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	10:02 (C15) 10:15 (C15)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	10:03 (C15) 10:16 (C15)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	10:03 (C15) 10:17 (C15)
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	10:03 (C15) 10:18 (C15)
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	10:03 (C15) 10:18 (C15)
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	10:04 (C15) 10:18 (C15)
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	10:05 (C15) 10:19 (C15)
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	10:05 (C15) 10:19 (C15)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	10:06 (C15) 10:20 (C15)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	10:06 (C15) 10:20 (C15)
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	10:06 (C15) 10:21 (C15)
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:15 15:51	10:07 (C15) 10:21 (C15)
27	05:06 21:38	05:59 (C1) 06:05 (C1)	06:07 20:27	07:12 16:47	08:17 15:49	10:07 (C15) 10:21 (C15)
28	05:08 21:36	05:58 (C1) 06:07 (C1)	06:09 20:24	07:14 16:45	08:19 15:48	10:08 (C15) 10:21 (C15)
29	05:10 21:34	05:56 (C1) 06:08 (C1)	06:11 20:22	07:16 16:43	08:21 15:47	10:09 (C15) 10:22 (C15)
30	05:12 21:32	05:55 (C1) 06:09 (C1)	06:13 20:19	07:18 16:41	08:22 15:46	10:10 (C15) 10:22 (C15)
31	05:14 21:30	05:55 (C1) 06:10 (C1)	06:15 20:17	07:20 16:38	08:23 (C1) 15:46	10:11 (C15) 10:22 (C15)
Potential sun hours	529	469	385	324	247	216
Total, worst case	56	109		511	408	291
Sun reduction	0.49	0.50		0.26	0.08	0.07
Oper. time red.	0.98	0.98		0.98	0.98	0.98
Wind dir. red.	0.67	0.67		0.59	0.59	0.61
Total reduction	0.32	0.32		0.15	0.05	0.04
Total, real	18	35		75	19	12

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Anna / anna@environment.lv  
Calculated:  
10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Muiž nieki (kad. apz. 76860010011) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (191)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1.01 1.91 4.85 7.09 9.29 9.83 8.40 7.53 5.47 2.70 0.68 0.49

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum  
441 466 538 463 488 780 784 937 1,214 1,078 832 556 8,577  
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December				
1	08:50	08:14	15:35 (C3)	07:10	06:48	05:32	04:35	04:29	05:15	06:17	07:17	07:22	08:24			
	15:48	16:45	21	15:56 (C3)	17:47	19:53	20:55	21:52	22:09	21:28	20:14	18:53	16:35	15:44		
2	08:50	08:12	15:36 (C3)	07:08	06:46	05:30	04:34	04:30	05:17	06:19	07:19	07:24	08:26			
	15:49	16:47	20	15:56 (C3)	17:49	19:55	20:57	21:54	22:08	21:25	20:11	18:50	16:33	15:43		
3	08:50	08:10	15:37 (C3)	07:05	06:43	05:27	04:33	04:31	05:19	06:21	07:21	07:27	08:27			
	15:50	16:49	18	15:55 (C3)	17:51	19:57	20:59	21:55	22:08	21:23	20:08	18:48	16:31	15:43		
4	08:49	08:08	15:38 (C3)	07:03	06:40	05:25	04:32	04:32	05:21	06:23	07:23	07:29	15:13 (C3)	08:29		
	15:51	16:51	17	15:55 (C3)	17:54	19:59	21:01	21:56	22:07	21:21	20:06	18:45	16:29	6	15:19 (C3)	15:42
5	08:49	08:06	15:39 (C3)	07:00	06:38	05:23	04:31	04:33	05:23	06:25	07:25	07:31	15:10 (C3)	08:30		
	15:53	16:54	14	15:53 (C3)	17:56	20:01	21:03	21:58	22:06	21:19	20:03	18:42	16:27	12	15:22 (C3)	15:41
6	08:49	08:04	15:41 (C3)	06:57	06:35	05:21	04:30	04:34	05:25	06:27	07:27	07:33	15:09 (C3)	08:32		
	15:54	16:56	11	15:52 (C3)	17:58	20:03	21:05	21:59	22:06	21:17	20:00	18:40	16:25	15	15:24 (C3)	15:40
7	08:48	08:02	15:45 (C3)	06:55	06:32	05:18	04:29	04:35	05:27	06:29	07:29	07:35	15:08 (C3)	08:33		
	15:56	16:58	4	15:49 (C3)	18:00	20:05	21:07	22:00	22:05	21:15	19:58	18:37	16:22	17	15:25 (C3)	15:40
8	08:47	08:00		06:52	06:30	05:16	04:29	04:36	05:29	06:31	07:31	07:37	15:07 (C3)	08:35		
	15:57	17:00		18:02	20:07	21:09	22:01	22:04	21:13	19:55	18:35	16:20	18	15:25 (C3)	15:39	
9	08:47	07:58		06:50	06:27	05:14	04:28	04:37	05:31	06:33	07:33	07:40	15:07 (C3)	08:36		
	15:59	17:03		18:04	20:09	21:11	22:02	22:03	21:10	19:52	18:32	16:18	19	15:26 (C3)	15:39	
10	08:46	07:56		06:47	06:24	05:12	04:27	04:39	05:33	06:35	07:35	07:42	15:06 (C3)	08:38		
	16:00	17:05		18:06	20:11	21:13	22:03	22:02	21:08	19:50	18:29	16:16	20	15:26 (C3)	15:38	
11	08:45	07:54		06:44	06:22	05:10	04:27	04:40	05:35	06:37	07:37	07:44	15:06 (C3)	08:39		
	16:02	17:07		18:09	20:13	21:15	22:04	22:01	21:06	19:47	18:27	16:14	21	15:27 (C3)	15:38	
12	08:44	07:51		06:42	06:19	05:08	04:26	04:41	05:37	06:39	07:39	07:46	15:06 (C3)	08:40		
	16:04	17:09		18:11	20:15	21:17	22:05	22:00	21:03	19:44	18:24	16:13	21	15:27 (C3)	15:38	
13	08:43	07:49		06:39	06:17	05:06	04:26	04:43	05:39	06:41	07:42	07:48	15:06 (C3)	08:41		
	16:06	17:12		18:13	20:18	21:19	22:06	21:59	21:01	19:42	18:22	16:11	21	15:27 (C3)	15:37	
14	08:42	07:47		06:36	06:14	05:04	04:25	04:44	05:41	06:43	07:44	07:50	15:07 (C3)	08:42		
	16:07	17:14		18:15	20:20	21:21	22:06	21:58	20:59	19:39	18:19	16:09	21	15:28 (C3)	15:37	
15	08:41	07:45		06:34	06:11	05:02	04:25	04:46	05:43	06:45	07:46	07:52	15:07 (C3)	08:43		
	16:09	17:16		18:17	20:22	21:23	22:07	21:56	20:56	19:36	18:16	16:07	20	15:27 (C3)	15:37	
16	08:40	07:42		06:31	06:09	05:00	04:25	04:47	05:45	06:47	07:48	07:55	15:08 (C3)	08:44		
	16:11	17:18		18:19	20:24	21:25	22:08	21:55	20:54	19:34	18:14	16:05	20	15:28 (C3)	15:37	
17	08:38	07:40		06:28	06:06	04:58	04:25	04:49	05:47	06:49	07:50	07:57	15:08 (C3)	08:45		
	16:13	17:21		18:21	20:26	21:27	22:08	21:54	20:52	19:31	18:11	16:03	18	15:26 (C3)	15:37	
18	08:37	07:38		06:26	06:04	04:56	04:24	04:50	05:49	06:51	07:52	07:59	15:09 (C3)	08:46		
	16:15	17:23		18:23	20:28	21:29	22:09	21:52	20:49	19:28	18:09	16:02	15	15:24 (C3)	15:37	
19	08:36	07:35		06:23	06:01	04:54	04:24	04:52	05:51	06:53	07:54	08:01	15:10 (C3)	08:47		
	16:17	17:25		18:25	20:30	21:31	22:09	21:51	20:47	19:25	18:06	16:00	13	15:23 (C3)	15:38	
20	08:34	15:38 (C3)	07:33	06:20	05:59	04:53	04:25	04:53	05:53	06:55	07:56	08:03	15:11 (C3)	08:48		
	16:19	2	15:40 (C3)	17:27	18:28	20:32	21:33	22:09	21:49	20:44	19:23	18:04	15:59	10	15:21 (C3)	15:38
21	08:33	15:38 (C3)	07:30	06:18	05:56	04:51	04:25	04:55	05:55	06:57	07:58	08:05	15:13 (C3)	08:48		
	16:21	5	15:43 (C3)	17:29	18:30	20:34	21:34	22:10	21:48	20:42	19:20	18:01	15:57	6	15:19 (C3)	15:38
22	08:32	15:36 (C3)	07:28	06:15	05:54	04:49	04:25	04:57	05:57	06:59	08:01	08:07	15:14 (C3)	08:49		
	16:23	10	15:46 (C3)	17:32	18:32	20:36	21:36	22:10	21:46	20:39	19:17	17:59	15:56	3	15:17 (C3)	15:39
23	08:30	15:35 (C3)	07:25	06:12	05:51	04:48	04:25	04:59	05:59	07:01	08:03	08:09	15:15	08:49		
	16:25	13	15:48 (C3)	17:34	18:34	20:38	21:38	22:10	21:44	20:37	19:15	17:56	15:54	15:39		
24	08:28	15:35 (C3)	07:23	06:10	05:49	04:46	04:25	05:00	06:01	07:03	08:05	08:11	15:10	08:50		
	16:27	15	15:50 (C3)	17:36	18:36	20:41	21:40	22:10	21:43	20:34	19:12	17:54	15:53	15:40		
25	08:27	15:34 (C3)	07:20	06:07	05:46	04:45	04:26	05:02	06:03	07:05	08:07	08:13	15:10	08:50		
	16:29	18	15:52 (C3)	17:38	18:38	20:43	21:41	22:10	21:41	20:32	19:09	16:52	15:51	15:41		
26	08:25	15:34 (C3)	07:18	06:04	05:44	04:43	04:26	05:04	06:05	07:07	08:09	08:15	15:10	08:50		
	16:32	20	15:54 (C3)	17:40	18:40	20:45	21:43	22:10	21:39	20:29	19:07	16:49	15:50	15:41		
27	08:24	15:34 (C3)	07:15	06:02	05:41	04:42	04:27	05:06	06:07	07:09	08:11	08:17	15:10	08:51		
	16:34	20	15:54 (C3)	17:43	18:42	20:47	21:45	22:10	21:37	20:27	19:04	16:47	15:49	15:42		
28	08:22	15:34 (C3)	07:13	05:59	05:39	04:40	04:27	05:08	06:09	07:11	08:13	08:19	15:10	08:51		
	16:36	21	15:55 (C3)	17:45	18:44	20:49	21:46	22:10	21:35	20:24	19:01	16:45	15:48	15:43		
29	08:20	15:34 (C3)		06:56	05:37	04:39	04:28	05:09	06:11	07:13	08:15	08:20	15:10	08:51		
	16:38	21	15:55 (C3)		19:46	20:51	21:48	22:09	21:33	20:21	18:58	16:42	15:46	15:44		
30	08:18	15:34 (C3)		06:54	05:34	04:38	04:29	05:11	06:13	07:15	08:17	08:22	15:10	08:51		
	16:40	21	15:55 (C3)		19:48	20:53	21:49	22:09	21:32	20:19	18:56	16:40	15:45	15:45		
31	08:16	15:35 (C3)		06:51		04:36		05:13	06:15		07:20		15:10	08:51		
	16:42	21	15:56 (C3)		19:50	21:51		21:30	20:16		16:38		15:46	15:46		
Potential sun hours	235	266		366	426	508	529	529	469	385	324	247		216		
Total, worst case	187	105											296			
Sun reduction	0.13	0.20											0.08			
Oper. time red.	0.98	0.98											0.98			
Wind dir. red.	0.66	0.66											0.66			
Total reduction	0.09	0.13											0.05			
Total, real	16	14											16			

Table layout: For each day in each month the following matrix apply

Day in month      Sun rise (hh:mm)      Sun set (hh:mm)      Minutes with flicker      First time (hh:mm) with flicker      Last time (hh:mm) with flicker      (WTG causing flicker first time)      (WTG causing flicker last time)

## SHADOW - Calendar

Shadow receptor: Malkalni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (64)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:46 (C13) 17:53	06:49 19:53	04:36 21:53
2	08:51 15:49	08:13 16:48	07:08 17:50	07:47 (C13) 17:57 (C13)	06:46 19:55	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52		06:44 19:57	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54		06:41 19:59	04:33 21:57
5	08:49 15:53	08:07 16:54	07:01 17:56		06:38 20:01	04:32 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58		06:36 20:04	04:31 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01		06:33 20:06	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03		06:30 20:08	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05		06:28 20:10	04:29 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07		06:25 20:12	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09		06:22 20:14	04:27 22:04
12	08:44 16:05	09:21 (C14) 09:22 (C14)	07:52 17:10		06:20 20:16	04:27 22:05
13	08:43 16:06	09:19 (C14) 09:22 (C14)	07:50 17:12		06:17 20:18	04:26 22:06
14	08:42 16:08	09:18 (C14) 09:23 (C14)	07:47 17:14		06:15 20:20	04:26 22:07
15	08:41 16:10	09:17 (C14) 09:25 (C14)	07:45 17:17		06:12 20:22	04:26 22:07
16	08:40 16:12	09:15 (C14) 09:25 (C14)	07:43 17:19		06:09 20:24	04:26 22:08
17	08:39 16:14	09:14 (C14) 09:26 (C14)	07:40 17:21		06:07 20:26	04:25 22:09
18	08:38 16:16	09:12 (C14) 09:26 (C14)	07:38 17:23		06:04 20:28	04:25 22:09
19	08:36 16:18	09:10 (C14) 09:26 (C14)	07:36 17:26		06:02 20:31	04:25 22:09
20	08:35 16:20	09:11 (C14) 09:27 (C14)	07:33 17:28		05:59 20:33	04:25 22:10
21	08:33 16:22	09:11 (C14) 09:27 (C14)	07:31 17:30		05:57 20:35	04:25 22:10
22	08:32 16:24	09:11 (C14) 09:26 (C14)	07:28 17:32	07:55 (C13) 07:59 (C13)	05:54 20:37	04:26 22:10
23	08:30 16:26	09:12 (C14) 09:27 (C14)	07:26 17:34	07:53 (C13) 08:01 (C13)	05:52 20:39	04:26 22:10
24	08:29 16:28	09:13 (C14) 09:27 (C14)	07:23 17:37	07:50 (C13) 08:01 (C13)	05:49 20:41	04:26 22:11
25	08:27 16:30	09:14 (C14) 09:26 (C14)	07:21 17:39	07:48 (C13) 08:02 (C13)	05:47 20:43	04:26 22:11
26	08:26 16:32	09:16 (C14) 09:25 (C14)	07:18 17:41	07:45 (C13) 08:01 (C13)	05:44 20:45	04:27 22:10
27	08:24 16:34	09:18 (C14) 09:23 (C14)	07:16 17:43	07:45 (C13) 08:01 (C13)	05:42 20:47	04:27 22:10
28	08:22 16:37		07:13 17:45	07:46 (C13) 08:01 (C13)	05:40 20:49	04:28 22:10
29	08:20 16:39				05:37 20:51	04:29 22:10
30	08:19 16:41				05:35 20:53	04:29 22:10
31	08:17 16:43					04:37 21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case	171	84	23			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.63	0.63			
Total reduction	0.08	0.12	0.25			
Total, real	13	10	6			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Malkalni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (64)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30	05:16	06:17	07:17		07:23	08:24
	22:09	21:28	20:14	18:54		16:36	15:45
2	04:31	05:18	06:19	07:19		07:25	08:26
	22:09	21:26	20:11	18:51		16:34	15:44
3	04:32	05:20	06:21	07:21		07:27	08:28
	22:08	21:24	20:09	18:48		16:32	15:43
4	04:33	05:22	06:23	07:23		07:29	08:29
	22:07	21:22	20:06	18:46		16:29	15:42
5	04:34	05:23	06:25	07:26		07:31	08:31
	22:07	21:20	20:04	18:43		16:27	15:42
6	04:35	05:25	06:27	07:28		07:34	08:32
	22:06	21:17	20:01	18:40		16:25	15:41
7	04:36	05:27	06:29	07:30		07:36	08:34
	22:05	21:15	19:58	18:38		16:23	15:40
8	04:37	05:29	06:31	07:32		07:38	08:35
	22:04	21:13	19:56	18:35		16:21	15:40
9	04:38	05:31	06:33	07:34		07:40	08:37
	22:03	21:11	19:53	18:33		16:19	15:39
10	04:39	05:33	06:35	07:36		07:42	08:38
	22:03	21:09	19:50	18:30		16:17	15:39
11	04:41	05:35	06:37	07:38	08:23 (C13)	07:44	08:39
	22:01	21:06	19:48	18:27	7 08:30 (C13)	16:15	15:39
12	04:42	05:37	06:39	07:40	08:21 (C13)	07:47	08:41
	22:00	21:04	19:45	18:25	11 08:32 (C13)	16:13	15:38
13	04:43	05:39	06:41	07:42	08:19 (C13)	07:49	08:42
	21:59	21:02	19:42	18:22	13 08:32 (C13)	16:11	15:38
14	04:45	05:41	06:43	07:44	08:19 (C13)	07:51	08:43
	21:58	20:59	19:39	18:20	15 08:34 (C13)	16:09	15:38
15	04:46	05:43	06:45	07:46	08:18 (C13)	07:53	08:44
	21:57	20:57	19:37	18:17	16 08:34 (C13)	16:08	5 08:51 (C14) 15:38
16	04:48	05:45	06:47	07:48	08:18 (C13)	07:55	08:49 (C14) 08:45
	21:55	20:55	19:34	18:15	16 08:34 (C13)	16:06	9 08:58 (C14) 15:38
17	04:49	05:47	06:49	07:50	08:20 (C13)	07:57	08:47 (C14) 08:46
	21:54	20:52	19:31	18:12	13 08:33 (C13)	16:04	12 08:59 (C14) 15:38
18	04:51	05:49	06:51	07:53	08:22 (C13)	07:59	08:47 (C14) 08:47
	21:53	20:50	19:29	18:09	10 08:32 (C13)	16:03	14 09:01 (C14) 15:38
19	04:53	05:51	06:53	07:55	08:25 (C13)	08:01	08:46 (C14) 08:47
	21:51	20:47	19:26	18:07	7 08:32 (C13)	16:01	15 09:01 (C14) 15:38
20	04:54	05:53	06:55	07:57	08:27 (C13)	08:03	08:46 (C14) 08:48
	21:50	20:45	19:23	18:04	3 08:30 (C13)	15:59	15 09:01 (C14) 15:39
21	04:56	05:55	06:57	07:59		08:05	08:47 (C14) 08:49
	21:48	20:42	19:21	18:02		15:58	16 09:03 (C14) 15:39
22	04:58	05:57	06:59	08:01		08:07	08:47 (C14) 08:49
	21:46	20:40	19:18	18:00		15:56	16 09:03 (C14) 15:40
23	04:59	05:59	07:01	08:03		08:09	08:47 (C14) 08:50
	21:45	20:37	19:15	17:57		15:55	16 09:03 (C14) 15:40
24	05:01	06:01	07:03	08:05		08:11	08:49 (C14) 08:50
	21:43	20:35	19:12	17:55		15:53	14 09:03 (C14) 15:41
25	05:03	06:03	07:05	07:07		08:13	08:51 (C14) 08:50
	21:41	20:32	19:10	16:52		15:52	12 09:03 (C14) 15:41
26	05:05	06:05	07:07	07:10		08:15	08:54 (C14) 08:51
	21:39	20:30	19:07	16:50		15:51	10 09:04 (C14) 15:42
27	05:06	06:07	07:09	07:12		08:17	08:56 (C14) 08:51
	21:38	20:27	19:04	16:48		15:50	8 09:04 (C14) 15:43
28	05:08	06:09	07:11	07:14		08:19	08:58 (C14) 08:51
	21:36	20:25	19:02	16:45		15:48	5 09:03 (C14) 15:44
29	05:10	06:11	07:13	07:16		08:21	09:00 (C14) 08:51
	21:34	20:22	18:59	16:43		15:47	3 09:03 (C14) 15:45
30	05:12	06:13	07:15	07:18		08:23	09:02 (C14) 08:51
	21:32	20:19	18:56	16:41		15:46	1 09:03 (C14) 15:46
31	05:14	06:15		07:20			08:51
	21:30	20:17		16:38			15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				111		171	
Sun reduction				0.26		0.08	
Oper. time red.				0.98		0.98	
Wind dir. red.				0.63		0.59	
Total reduction				0.16		0.05	
Total, real				17		8	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Masanpurvs - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (192)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:11 17:47	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:50	08:12 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:23	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:46 16:00	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:51 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:05	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:05 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:01 21:25	04:26 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:10	04:56 21:47	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	08:09 17:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:11 17:47	08:17 15:49	08:50 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	08:14 17:45	08:18 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:22	07:13 18:59	08:16 17:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	08:18 17:40	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (46)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January		February		March		April	May	June
1	08:51		08:15		07:11	07:37 (C13)	06:49	05:33	04:36
	15:48		16:45		17:48	16 07:53 (C13)	19:53	20:56	21:53
2	08:51		08:13		07:08	07:34 (C13)	06:46	05:30	04:35
	15:49		16:48		17:50	19 07:53 (C13)	19:55	20:58	21:54
3	08:50		08:11		07:06	07:34 (C13)	06:44	05:28	04:34
	15:51		16:50		17:52	19 07:53 (C13)	19:57	21:00	21:55
4	08:50		08:09		07:03	07:34 (C13)	06:41	05:26	04:33
	15:52		16:52		17:54	18 07:52 (C13)	19:59	21:02	21:57
5	08:49		08:07		07:01	07:34 (C13)	06:38	05:24	04:32
	15:53		16:54		17:56	17 07:51 (C13)	20:01	21:04	21:58
6	08:49		08:05		06:58	07:35 (C13)	06:36	05:21	04:31
	15:55		16:56		17:58	16 07:51 (C13)	20:03	21:06	21:59
7	08:48		08:03		06:55	07:36 (C13)	06:33	05:19	04:30
	15:56		16:59		18:01	13 07:49 (C13)	20:06	21:08	22:00
8	08:48		08:01		06:53	07:37 (C13)	06:30	05:17	04:29
	15:58		17:01		18:03	10 07:47 (C13)	20:08	21:10	22:01
9	08:47	09:24 (C14)	07:58		06:50		06:28	05:15	04:29
	16:00	2 09:26 (C14)	17:03		18:05		20:10	21:12	22:02
10	08:46	09:23 (C14)	07:56		06:48		06:25	05:13	04:28
	16:01	4 09:27 (C14)	17:05		18:07		20:12	21:14	22:03
11	08:45	09:22 (C14)	07:54		06:45		06:22	05:11	04:27
	16:03	6 09:28 (C14)	17:08		18:09		20:14	21:16	22:04
12	08:44	09:21 (C14)	07:52		06:42		06:20	05:09	04:27
	16:05	8 09:29 (C14)	17:10		18:11		20:16	21:18	22:05
13	08:43	09:19 (C14)	07:50		06:40		06:17	05:07	04:26
	16:06	11 09:30 (C14)	17:12		18:13		20:18	21:20	22:06
14	08:42	09:18 (C14)	07:47		06:37		06:15	05:05	04:26
	16:08	13 09:31 (C14)	17:14		18:15		20:20	21:22	22:07
15	08:41	09:17 (C14)	07:45		06:34		06:12	05:03	04:26
	16:10	15 09:32 (C14)	17:17		18:18		20:22	21:24	22:07
16	08:40	09:15 (C14)	07:43		06:32		06:09	05:01	04:26
	16:12	17 09:32 (C14)	17:19		18:20		20:24	21:26	22:08
17	08:39	09:14 (C14)	07:40		06:29		06:07	04:59	04:25
	16:14	19 09:33 (C14)	17:21		18:22		20:26	21:27	22:09
18	08:38	09:14 (C14)	07:38		06:26		06:04	04:57	04:25
	16:16	19 09:33 (C14)	17:23		18:24		20:28	21:29	22:09
19	08:36	09:14 (C14)	07:36		06:24		06:02	04:55	04:25
	16:18	19 09:33 (C14)	17:26		18:26		20:31	21:31	22:09
20	08:35	09:15 (C14)	07:33		06:21		05:59	04:53	04:25
	16:20	19 09:34 (C14)	17:28		18:28		20:33	21:33	22:10
21	08:33	09:15 (C14)	07:31		06:18		05:57	04:52	04:25
	16:22	19 09:34 (C14)	17:30		18:30		20:35	21:35	22:10
22	08:32	09:15 (C14)	07:28		06:16		05:54	04:50	04:26
	16:24	18 09:33 (C14)	17:32		18:32		20:37	21:37	22:10
23	08:30	09:16 (C14)	07:26		06:13		05:52	04:48	04:26
	16:26	17 09:33 (C14)	17:34		18:34		20:39	21:38	22:10
24	08:29	09:17 (C14)	07:23		06:10		05:49	04:47	04:26
	16:28	17 09:34 (C14)	17:37		18:36		20:41	21:40	22:10
25	08:27	09:18 (C14)	07:21		06:08		05:47	04:45	04:26
	16:30	15 09:33 (C14)	17:39		18:39		20:43	21:42	22:11
26	08:26	09:19 (C14)	07:18	07:45 (C13)	06:05		05:44	04:44	04:27
	16:32	13 09:32 (C14)	17:41	5 07:50 (C13)	18:41		20:45	21:43	22:10
27	08:24	09:21 (C14)	07:16	07:42 (C13)	06:02		05:42	04:42	04:27
	16:34	10 09:31 (C14)	17:43	9 07:51 (C13)	18:43		20:47	21:45	22:10
28	08:22	09:24 (C14)	07:13	07:40 (C13)	06:00		05:40	04:41	04:28
	16:37	4 09:28 (C14)	17:45	13 07:53 (C13)	18:45		20:49	21:47	22:10
29	08:20				06:57		05:37	04:40	04:29
	16:39				19:47		20:51	21:48	22:10
30	08:19				06:54		05:35	04:38	04:29
	16:41				19:49		20:53	21:50	22:09
31	08:17				06:52			04:37	
	16:43				19:51			21:51	
Potential sun hours	235		266		366		426	508	529
Total, worst case	265		27		128				
Sun reduction	0.13		0.20		0.41				
Oper. time red.	0.98		0.98		0.98				
Wind dir. red.	0.60		0.62		0.62				
Total reduction	0.08		0.12		0.25				
Total, real	20		3		32				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (46)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	09:04 (C14) 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	09:06 (C14) 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:29	09:08 (C14) 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	08:16 (C13) 08:22 (C13)	09:10 (C14) 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	08:13 (C13) 08:24 (C13)	09:10 (C14) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:11 (C13) 08:26 (C13)	09:10 (C14) 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:10 (C13) 08:27 (C13)	09:08 (C14) 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:09 (C13) 08:27 (C13)	09:10 (C14) 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	08:09 (C13) 08:27 (C13)	09:10 (C14) 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	08:08 (C13) 08:27 (C13)	09:10 (C14) 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:09 (C13) 08:26 (C13)	09:10 (C14) 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:11 (C13) 08:25 (C13)	09:10 (C14) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:14 (C13) 08:25 (C13)	09:10 (C14) 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:16 (C13) 08:24 (C13)	09:10 (C14) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	08:18 (C13) 08:22 (C13)	09:10 (C14) 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	09:10 (C14) 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	09:10 (C14) 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	09:10 (C14) 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	09:10 (C14) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	09:10 (C14) 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	09:10 (C14) 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	09:10 (C14) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	09:10 (C14) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	09:10 (C14) 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	09:10 (C14) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:49	09:10 (C14) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	09:10 (C14) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	09:10 (C14) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:23 15:46	09:10 (C14) 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case				158	254	12
Sun reduction				0.26	0.08	0.07
Oper. time red.				0.98	0.98	0.98
Wind dir. red.				0.62	0.60	0.60
Total reduction				0.16	0.05	0.04
Total, real				25	12	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 2 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (67)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January		February		March		April		May		June	
1	08:51		08:15		07:11		07:38 (C13)	06:49	05:33		04:36	
	15:48		16:45		17:48	17	07:55 (C13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:38 (C13)	06:46	05:30		04:35	
	15:49		16:48		17:50	17	07:55 (C13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:39 (C13)	06:44	05:28		04:34	
	15:51		16:50		17:52	16	07:55 (C13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:39 (C13)	06:41	05:26		04:33	
	15:52		16:52		17:54	14	07:53 (C13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:41 (C13)	06:38	05:24		04:32	
	15:53		16:54		17:56	11	07:52 (C13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:43 (C13)	06:36	05:21		04:31	
	15:55		16:56		17:58	6	07:49 (C13)	20:03	21:06		21:59	
7	08:48		08:03		06:55			06:33	05:19		04:30	
	15:56		16:59		18:01			20:06	21:08		22:00	
8	08:48		08:01		06:53			06:30	05:17		04:29	
	15:58		17:01		18:03			20:08	21:10		22:01	
9	08:47		07:58		06:50			06:28	05:15		04:29	
	16:00		17:03		18:05			20:10	21:12		22:02	
10	08:46		07:56		06:48			06:25	05:13		04:28	
	16:01		17:05		18:07			20:12	21:14		22:03	
11	08:45		07:54		06:45			06:22	05:11		04:27	
	16:03		17:08		18:09			20:14	21:16		22:04	
12	08:44	09:21 (C14)	07:52		06:42			06:20	05:09		04:27	
	16:05	1	09:22 (C14)	17:10	18:11			20:16	21:18		22:05	
13	08:43	09:19 (C14)	07:50		06:40			06:17	05:07		04:26	
	16:06	3	09:22 (C14)	17:12	18:13			20:18	21:20		22:06	
14	08:42	09:18 (C14)	07:47		06:37			06:15	05:05		04:26	
	16:08	6	09:24 (C14)	17:14	18:16			20:20	21:22		22:07	
15	08:41	09:17 (C14)	07:45		06:34			06:12	05:03		04:26	
	16:10	8	09:25 (C14)	17:17	18:18			20:22	21:24		22:07	
16	08:40	09:15 (C14)	07:43		06:32			06:09	05:01		04:26	
	16:12	10	09:25 (C14)	17:19	18:20			20:24	21:26		22:08	
17	08:39	09:14 (C14)	07:40		06:29			06:07	04:59		04:25	
	16:14	12	09:26 (C14)	17:21	18:22			20:26	21:27		22:09	
18	08:38	09:12 (C14)	07:38		06:26			06:04	04:57		04:25	
	16:16	14	09:26 (C14)	17:23	18:24			20:28	21:29		22:09	
19	08:36	09:10 (C14)	07:36		06:24			06:02	04:55		04:25	
	16:18	17	09:27 (C14)	17:26	18:26			20:31	21:31		22:09	
20	08:35	09:10 (C14)	07:33		06:21			05:59	04:53		04:25	
	16:20	18	09:28 (C14)	17:28	18:28			20:33	21:33		22:10	
21	08:33	09:10 (C14)	07:31		06:18			05:57	04:52		04:25	
	16:22	18	09:28 (C14)	17:30	18:30			20:35	21:35		22:10	
22	08:32	09:10 (C14)	07:28		06:16			05:54	04:50		04:26	
	16:24	18	09:28 (C14)	17:32	18:32			20:37	21:37		22:10	
23	08:30	09:11 (C14)	07:26		06:13			05:52	04:48		04:26	
	16:26	16	09:27 (C14)	17:34	18:34			20:39	21:38		22:10	
24	08:29	09:12 (C14)	07:23	07:50 (C13)	06:10			05:49	04:47		04:26	
	16:28	16	09:28 (C14)	17:37	2	07:52 (C13)	18:36	20:41	21:40		22:11	
25	08:27	09:13 (C14)	07:21	07:48 (C13)	06:08			05:47	04:45		04:26	
	16:30	15	09:28 (C14)	17:39	6	07:54 (C13)	18:39	20:43	21:42		22:11	
26	08:26	09:14 (C14)	07:18	07:45 (C13)	06:05			05:44	04:44		04:27	
	16:32	13	09:27 (C14)	17:41	10	07:55 (C13)	18:41	20:45	21:43		22:10	
27	08:24	09:15 (C14)	07:16	07:42 (C13)	06:02			05:42	04:42		04:27	
	16:34	11	09:26 (C14)	17:43	13	07:55 (C13)	18:43	20:47	21:45		22:10	
28	08:22	09:17 (C14)	07:13	07:40 (C13)	06:00			05:40	04:41		04:28	
	16:37	8	09:25 (C14)	17:45	16	07:56 (C13)	18:45	20:49	21:47		22:10	
29	08:20				06:57			05:37	04:40		04:29	
	16:39				19:47			20:51	21:48		22:10	
30	08:19				06:54			05:35	04:38		04:29	
	16:41				19:49			20:53	21:50		22:10	
31	08:17				06:52				04:37			
	16:43				19:51				21:51			
Potential sun hours	235		266		366			426	508		529	
Total, worst case	204		47		81							
Sun reduction	0.13		0.20		0.41							
Oper. time red.	0.98		0.98		0.98							
Wind dir. red.	0.59		0.63		0.63							
Total reduction	0.08		0.12		0.25							
Total, real	16		6		20							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 2 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (67)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43		07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40		07:34 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38		07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	9	08:17 (C13) 08:26 (C13)	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	13	08:15 (C13) 08:28 (C13)	07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	16	08:13 (C13) 08:29 (C13)	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	17	08:12 (C13) 08:29 (C13)	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	18	08:11 (C13) 08:29 (C13)	07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	17	08:11 (C13) 08:28 (C13)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	15	08:14 (C13) 08:29 (C13)	07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	12	08:16 (C13) 08:28 (C13)	07:53 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	9	08:18 (C13) 08:27 (C13)	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	5	08:20 (C13) 08:25 (C13)	07:57 16:04
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09		07:59 16:03	08:01 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07		08:01 16:01	08:01 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04		08:03 15:59	08:03 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02		08:05 15:58	08:05 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56	08:07 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	08:09 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	08:11 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	08:13 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50		08:15 15:51	08:15 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:50	08:17 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45		08:19 15:48	08:19 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	08:21 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41		08:23 15:46	08:23 15:46
31	05:14 21:30	06:15 20:17		08:20 16:38			08:25 15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				131		205	
Sun reduction				0.26		0.08	
Oper. time red.				0.98		0.98	
Wind dir. red.				0.63		0.59	
Total reduction				0.16		0.05	
Total, real				20		10	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 4 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (44)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:37 (C13) 17:53	06:49 19:53	05:33 20:56
2	08:51 15:49	08:13 16:48	07:08 17:50	07:34 (C13) 17:55	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	07:06 17:52	07:34 (C13) 17:57	06:44 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	07:03 17:54	07:34 (C13) 17:59	06:41 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	07:01 17:56	07:35 (C13) 18:01	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:56	06:58 17:58	07:36 (C13) 18:03	06:36 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	06:55 18:01	07:37 (C13) 18:06	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	06:53 18:03	07:46 (C13) 18:11	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	06:50 18:05		06:28 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	06:48 18:07		06:25 20:12	05:13 21:14
11	08:45 16:03	07:54 17:08	06:45 18:09		06:22 20:14	05:11 21:16
12	08:44 16:05	07:52 17:10	06:42 18:11		06:20 20:16	05:09 21:18
13	08:43 16:06	07:50 17:12	06:40 18:13		06:17 20:18	05:07 21:20
14	08:42 16:08	09:18 (C14) 09:19 (C14)	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22
15	08:41 16:10	09:17 (C14) 09:21 (C14)	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24
16	08:40 16:12	09:15 (C14) 09:21 (C14)	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26
17	08:39 16:14	09:14 (C14) 09:23 (C14)	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27
18	08:38 16:16	09:12 (C14) 09:23 (C14)	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29
19	08:36 16:18	09:10 (C14) 09:23 (C14)	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31
20	08:35 16:20	09:09 (C14) 09:24 (C14)	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33
21	08:33 16:22	09:07 (C14) 09:25 (C14)	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35
22	08:32 16:24	09:07 (C14) 09:25 (C14)	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37
23	08:30 16:26	09:07 (C14) 09:25 (C14)	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38
24	08:29 16:28	09:08 (C14) 09:26 (C14)	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40
25	08:27 16:30	09:09 (C14) 09:25 (C14)	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42
26	08:26 16:32	09:10 (C14) 09:25 (C14)	07:18 17:41	07:45 (C13) 18:41	05:44 20:45	04:44 21:43
27	08:24 16:34	09:10 (C14) 09:25 (C14)	07:16 17:43	07:42 (C13) 18:43	05:42 20:47	04:42 21:45
28	08:22 16:37	09:12 (C14) 09:24 (C14)	07:13 17:45	07:50 (C13) 18:45	05:40 20:49	04:41 21:47
29	08:20 16:39	09:13 (C14) 09:23 (C14)		07:52 (C13) 18:45	05:37 20:49	04:40 21:47
30	08:19 16:41	09:16 (C14) 09:20 (C14)		06:57 19:47	05:35 20:51	04:38 21:48
31	08:17 16:43			06:54 19:49	05:33 20:53	04:37 21:50
Potential sun hours	235	266	366	426	508	529
Total, worst case	203	25	105			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.62	0.62			
Total reduction	0.08	0.12	0.25			
Total, real	15	3	26			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 4 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (44)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30	05:16	06:17	07:17		07:23	08:24
	22:09	21:28	20:14	18:54		16:36	15:45
2	04:31	05:18	06:19	07:19		07:25	08:26
	22:09	21:26	20:11	18:51		16:34	15:44
3	04:32	05:20	06:21	07:21		07:27	08:28
	22:08	21:24	20:09	18:48		16:32	15:43
4	04:33	05:22	06:23	07:23		07:29	08:29
	22:07	21:22	20:06	18:46		16:29	15:42
5	04:34	05:23	06:25	07:26		07:31	08:31
	22:07	21:20	20:04	18:43		16:27	15:42
6	04:35	05:25	06:27	07:28	08:15 (C13)	07:34	08:32
	22:06	21:17	20:01	18:40	6 08:21 (C13)	16:25	15:41
7	04:36	05:27	06:29	07:30	08:12 (C13)	07:36	08:34
	22:05	21:15	19:58	18:38	11 08:23 (C13)	16:23	15:40
8	04:37	05:29	06:31	07:32	08:11 (C13)	07:38	08:35
	22:04	21:13	19:56	18:35	14 08:25 (C13)	16:21	15:40
9	04:38	05:31	06:33	07:34	08:10 (C13)	07:40	08:37
	22:03	21:11	19:53	18:33	16 08:26 (C13)	16:19	15:39
10	04:39	05:33	06:35	07:36	08:09 (C13)	07:42	08:38
	22:02	21:09	19:50	18:30	17 08:26 (C13)	16:17	15:39
11	04:41	05:35	06:37	07:38	08:08 (C13)	07:44	08:39
	22:01	21:06	19:48	18:27	18 08:26 (C13)	16:15	15:39
12	04:42	05:37	06:39	07:40	08:09 (C13)	07:47	08:41
	22:00	21:04	19:45	18:25	16 08:25 (C13)	16:13	4 08:51 (C14) 15:38
13	04:43	05:39	06:41	07:42	08:11 (C13)	07:49	08:45 (C14) 08:42
	21:59	21:02	19:42	18:22	13 08:24 (C13)	16:11	10 08:55 (C14) 15:38
14	04:45	05:41	06:43	07:44	08:14 (C13)	07:51	08:43 (C14) 08:43
	21:58	20:59	19:39	18:20	10 08:24 (C13)	16:09	13 08:56 (C14) 15:38
15	04:46	05:43	06:45	07:46	08:16 (C13)	07:53	08:43 (C14) 08:44
	21:57	20:57	19:37	18:17	7 08:23 (C13)	16:08	15 08:58 (C14) 15:38
16	04:48	05:45	06:47	07:48	08:18 (C13)	07:55	08:43 (C14) 08:45
	21:55	20:54	19:34	18:15	3 08:21 (C13)	16:06	15 08:58 (C14) 15:38
17	04:49	05:47	06:49	07:50		07:57	08:42 (C14) 08:46
	21:54	20:52	19:31	18:12		16:04	16 08:58 (C14) 15:38
18	04:51	05:49	06:51	07:53		07:59	08:42 (C14) 08:46
	21:53	20:50	19:29	18:09		16:03	18 09:00 (C14) 15:38
19	04:53	05:51	06:53	07:55		08:01	08:42 (C14) 08:47
	21:51	20:47	19:26	18:07		16:01	18 09:00 (C14) 15:38
20	04:54	05:53	06:55	07:57		08:03	08:42 (C14) 08:48
	21:50	20:45	19:23	18:04		15:59	18 09:00 (C14) 15:39
21	04:56	05:55	06:57	07:59		08:05	08:43 (C14) 08:49
	21:48	20:42	19:21	18:02		15:58	18 09:01 (C14) 15:39
22	04:58	05:57	06:59	08:01		08:07	08:45 (C14) 08:49
	21:46	20:40	19:18	18:00		15:56	15 09:00 (C14) 15:40
23	04:59	05:59	07:01	08:03		08:09	08:47 (C14) 08:50
	21:45	20:37	19:15	17:57		15:55	13 09:00 (C14) 15:40
24	05:01	06:01	07:03	08:05		08:11	08:49 (C14) 08:50
	21:43	20:35	19:12	17:55		15:53	11 09:00 (C14) 15:41
25	05:03	06:03	07:05	07:07		08:13	08:51 (C14) 08:50
	21:41	20:32	19:10	16:52		15:52	9 09:00 (C14) 15:41
26	05:05	06:05	07:07	07:10		08:15	08:54 (C14) 08:51
	21:39	20:30	19:07	16:50		15:51	6 09:00 (C14) 15:42
27	05:06	06:07	07:09	07:12		08:17	08:56 (C14) 08:51
	21:38	20:27	19:04	16:48		15:50	4 09:00 (C14) 15:43
28	05:08	06:09	07:11	07:14		08:19	08:58 (C14) 08:51
	21:36	20:24	19:02	16:45		15:48	1 08:59 (C14) 15:44
29	05:10	06:11	07:13	07:16		08:21	08:51
	21:34	20:22	18:59	16:43		15:47	15:45
30	05:12	06:13	07:15	07:18		08:23	08:51
	21:32	20:19	18:56	16:41		15:46	15:46
31	05:14	06:15		07:20			08:51
	21:30	20:17		16:38			15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				131		204	
Sun reduction				0.26		0.08	
Oper. time red.				0.98		0.98	
Wind dir. red.				0.62		0.59	
Total reduction				0.16		0.05	
Total, real				20		10	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (131)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:37 (C13) 17:49 (C13)	06:49 19:53	05:33 20:56
2	08:51 15:49	08:13 16:48	07:08 17:50	07:34 (C13) 17:49 (C13)	06:46 19:55	20:56 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	07:32 (C13) 17:49 (C13)	06:44 19:57	20:58 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:32 (C13) 17:49 (C13)	06:41 19:59	21:00 21:57
5	08:49 15:53	08:07 16:54	07:01 17:56	07:33 (C13) 17:49 (C13)	06:38 20:01	21:02 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	07:33 (C13) 17:47 (C13)	06:36 20:03	21:04 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	07:34 (C13) 17:45 (C13)	06:33 20:06	21:06 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	07:36 (C13) 17:42 (C13)	06:30 20:08	21:07 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05		06:28 20:10	21:09 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07		06:25 20:12	21:12 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09		06:22 20:14	21:14 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11		06:20 20:16	21:16 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13		06:17 20:18	21:18 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16		06:15 20:20	21:20 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18		06:12 20:22	21:22 22:07
16	08:40 16:12	07:43 09:15 (C14) 09:16 (C14)	06:32 18:20	06:09 20:24	21:24 21:26	22:07 22:08
17	08:39 16:14	07:40 09:14 (C14) 09:18 (C14)	06:29 18:22	06:07 20:26	21:27 21:27	22:09 22:09
18	08:38 16:16	07:38 09:12 (C14) 09:18 (C14)	06:26 18:24	06:04 20:28	21:29 21:29	22:09 22:09
19	08:36 16:18	07:36 09:10 (C14) 09:19 (C14)	06:24 18:26	06:02 20:31	21:31 21:31	22:09 22:09
20	08:35 16:20	07:33 09:09 (C14) 09:20 (C14)	06:21 18:28	05:59 20:33	21:33 21:33	22:09 22:10
21	08:33 16:22	07:31 09:07 (C14) 09:21 (C14)	06:18 18:30	05:57 20:35	21:35 21:35	22:10 22:10
22	08:32 16:24	07:28 09:05 (C14) 09:21 (C14)	06:16 18:32	05:54 20:37	21:37 21:37	22:10 22:10
23	08:30 16:26	07:26 09:04 (C14) 09:21 (C14)	06:13 18:34	05:52 20:39	21:38 21:38	22:10 22:10
24	08:29 16:28	07:23 09:05 (C14) 09:22 (C14)	06:10 18:36	05:49 20:41	21:38 21:40	22:10 22:11
25	08:27 16:30	07:21 09:05 (C14) 09:22 (C14)	06:08 18:39	05:47 20:43	21:42 21:42	22:11 22:11
26	08:26 16:32	07:18 09:06 (C14) 09:22 (C14)	06:05 18:41	05:44 20:45	21:44 21:43	22:11 22:10
27	08:24 16:34	07:16 09:06 (C14) 09:22 (C14)	06:02 18:43	05:42 20:47	21:45 21:45	22:10 22:10
28	08:22 16:37	07:13 09:07 (C14) 09:21 (C14)	06:00 18:45	05:40 20:49	21:47 21:47	22:10 22:10
29	08:20 16:39	07:11 09:08 (C14) 09:21 (C14)	06:57 19:47	05:37 20:51	21:48 21:48	22:10 22:10
30	08:19 16:41	07:10 09:10 (C14) 09:20 (C14)	06:54 19:49	05:35 20:53	21:48 21:50	22:10 22:10
31	08:17 16:43	07:08 09:12 (C14) 09:18 (C14)	06:52 19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	187	14	108			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.62	0.62			
Total reduction	0.08	0.12	0.25			
Total, real	14	2	27			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (131)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30	05:16	06:17	07:17		07:23	08:24
	22:09	21:28	20:14	18:54		16:36	15:45
2	04:31	05:18	06:19	07:19		07:25	08:26
	22:09	21:26	20:11	18:51		16:34	15:44
3	04:32	05:20	06:21	07:21		07:27	08:28
	22:08	21:24	20:09	18:48		16:32	15:43
4	04:33	05:22	06:23	07:23		07:29	08:29
	22:07	21:22	20:06	18:46		16:29	15:42
5	04:34	05:23	06:25	07:26	08:16 (C13)	07:31	08:31
	22:07	21:20	20:04	18:43	1 08:17 (C13)	16:27	15:42
6	04:35	05:25	06:27	07:28	08:11 (C13)	07:34	08:32
	22:06	21:17	20:01	18:40	10 08:21 (C13)	16:25	15:41
7	04:36	05:27	06:29	07:30	08:09 (C13)	07:36	08:34
	22:05	21:15	19:58	18:38	13 08:22 (C13)	16:23	15:40
8	04:37	05:29	06:31	07:32	08:08 (C13)	07:38	08:35
	22:04	21:13	19:56	18:35	16 08:24 (C13)	16:21	15:40
9	04:38	05:31	06:33	07:34	08:07 (C13)	07:40	08:37
	22:03	21:11	19:53	18:33	17 08:24 (C13)	16:19	15:39
10	04:39	05:33	06:35	07:36	08:07 (C13)	07:42	08:38
	22:02	21:09	19:50	18:30	17 08:24 (C13)	16:17	15:39
11	04:41	05:35	06:37	07:38	08:07 (C13)	07:44	08:39
	22:01	21:06	19:48	18:27	16 08:23 (C13)	16:15	6 08:49 (C14) 15:39
12	04:42	05:37	06:39	07:40	08:09 (C13)	07:47	08:40 (C14) 08:41
	22:00	21:04	19:45	18:25	14 08:23 (C13)	16:13	11 08:51 (C14) 15:38
13	04:43	05:39	06:41	07:42	08:11 (C13)	07:49	08:40 (C14) 08:42
	21:59	21:02	19:42	18:22	11 08:22 (C13)	16:11	13 08:53 (C14) 15:38
14	04:45	05:41	06:43	07:44	08:14 (C13)	07:51	08:39 (C14) 08:43
	21:58	20:59	19:39	18:20	7 08:21 (C13)	16:09	14 08:53 (C14) 15:38
15	04:46	05:43	06:45	07:46	08:16 (C13)	07:53	08:39 (C14) 08:44
	21:57	20:57	19:37	18:17	3 08:19 (C13)	16:08	16 08:55 (C14) 15:38
16	04:48	05:45	06:47	07:48		07:55	08:38 (C14) 08:45
	21:55	20:54	19:34	18:15		16:06	17 08:55 (C14) 15:38
17	04:49	05:47	06:49	07:50		07:57	08:38 (C14) 08:46
	21:54	20:52	19:31	18:12		16:04	17 08:55 (C14) 15:38
18	04:51	05:49	06:51	07:53		07:59	08:39 (C14) 08:46
	21:53	20:50	19:29	18:09		16:03	17 08:56 (C14) 15:38
19	04:53	05:51	06:53	07:55		08:01	08:39 (C14) 08:47
	21:51	20:47	19:26	18:07		16:01	17 08:56 (C14) 15:38
20	04:54	05:53	06:55	07:57		08:03	08:40 (C14) 08:48
	21:50	20:45	19:23	18:04		15:59	16 08:56 (C14) 15:39
21	04:56	05:55	06:57	07:59		08:05	08:43 (C14) 08:49
	21:48	20:42	19:21	18:02		15:58	14 08:57 (C14) 15:39
22	04:58	05:57	06:59	08:01		08:07	08:45 (C14) 08:49
	21:46	20:40	19:18	18:00		15:56	11 08:56 (C14) 15:40
23	04:59	05:59	07:01	08:03		08:09	08:47 (C14) 08:50
	21:45	20:37	19:15	17:57		15:55	9 08:56 (C14) 15:40
24	05:01	06:01	07:03	08:05		08:11	08:49 (C14) 08:50
	21:43	20:35	19:12	17:55		15:53	7 08:56 (C14) 15:41
25	05:03	06:03	07:05	07:07		08:13	08:51 (C14) 08:50
	21:41	20:32	19:10	16:52		15:52	4 08:55 (C14) 15:41
26	05:05	06:05	07:07	07:10		08:15	08:54 (C14) 08:51
	21:39	20:30	19:07	16:50		15:51	1 08:55 (C14) 15:42
27	05:06	06:07	07:09	07:12		08:17	08:51
	21:38	20:27	19:04	16:48		15:50	15:43
28	05:08	06:09	07:11	07:14		08:19	08:51
	21:36	20:24	19:02	16:45		15:48	15:44
29	05:10	06:11	07:13	07:16		08:21	08:51
	21:34	20:22	18:59	16:43		15:47	15:45
30	05:12	06:13	07:15	07:18		08:23	08:51
	21:32	20:19	18:56	16:41		15:46	15:46
31	05:14	06:15		07:20			08:51
	21:30	20:17		16:38			15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				125		190	
Sun reduction				0.26		0.08	
Oper. time red.				0.98		0.98	
Wind dir. red.				0.62		0.59	
Total reduction				0.16		0.05	
Total, real				19		9	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (87)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:37 (C13) 19:53	05:33 20:56	04:36 21:53
2	08:51 15:49	08:13 16:48	07:08 17:50	07:34 (C13) 19:55	05:30 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	07:33 (C13) 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:33 (C13) 19:59	05:26 21:02	04:33 21:57
5	08:49 15:53	08:07 16:54	07:01 17:56	07:34 (C13) 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	07:34 (C13) 20:03	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	07:35 (C13) 20:06	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	07:37 (C13) 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	07:43 (C13) 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	07:43 (C13) 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	07:43 (C13) 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	07:43 (C13) 20:16	05:09 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	07:43 (C13) 20:18	05:07 21:20	04:26 22:06
14	08:42 16:08	09:18 (C14) 09:19 (C14)	07:47 17:14	06:37 18:16	05:05 21:22	04:26 22:07
15	08:41 16:10	09:17 (C14) 09:21 (C14)	07:45 17:17	06:34 18:18	05:03 21:24	04:26 22:07
16	08:40 16:12	09:15 (C14) 09:21 (C14)	07:43 17:19	06:32 18:20	05:01 21:26	04:26 22:08
17	08:39 16:14	09:14 (C14) 09:23 (C14)	07:40 17:21	06:29 18:22	04:59 21:27	04:25 22:09
18	08:38 16:16	09:12 (C14) 09:23 (C14)	07:38 17:23	06:26 18:24	04:57 21:29	04:25 22:09
19	08:36 16:18	09:10 (C14) 09:23 (C14)	07:36 17:26	06:24 18:26	04:55 21:31	04:25 22:09
20	08:35 16:20	09:09 (C14) 09:24 (C14)	07:33 17:28	06:21 18:28	04:53 21:33	04:25 22:10
21	08:33 16:22	09:07 (C14) 09:25 (C14)	07:31 17:30	06:18 18:30	04:52 21:35	04:25 22:10
22	08:32 16:24	09:07 (C14) 09:25 (C14)	07:28 17:32	06:16 18:32	04:50 21:37	04:26 22:10
23	08:30 16:26	09:07 (C14) 09:25 (C14)	07:26 17:34	06:13 18:34	04:48 21:38	04:26 22:10
24	08:29 16:28	09:08 (C14) 09:26 (C14)	07:23 17:37	06:10 18:36	04:47 21:40	04:26 22:11
25	08:27 16:30	09:09 (C14) 09:26 (C14)	07:21 17:39	06:08 18:39	04:45 21:42	04:26 22:11
26	08:26 16:32	09:09 (C14) 09:25 (C14)	07:18 17:41	06:05 18:41	04:44 21:43	04:27 22:10
27	08:24 16:34	09:10 (C14) 09:25 (C14)	07:16 17:43	06:02 18:43	04:42 21:45	04:27 22:10
28	08:22 16:37	09:11 (C14) 09:24 (C14)	07:13 17:45	06:00 18:45	04:41 21:47	04:28 22:10
29	08:20 16:39	09:13 (C14) 09:23 (C14)	07:11 17:47	05:57 19:47	04:40 21:48	04:29 22:10
30	08:19 16:41	09:15 (C14) 09:21 (C14)	07:10 17:49	05:54 19:49	04:38 21:50	04:29 22:10
31	08:17 16:43		06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	208	20	113			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.62	0.62			
Total reduction	0.08	0.12	0.25			
Total, real	16	2	28			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (87)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30	05:16	06:17	07:17		07:23	08:24
	22:09	21:28	20:14	18:54		16:36	15:45
2	04:31	05:18	06:19	07:19		07:25	08:26
	22:09	21:26	20:11	18:51		16:34	15:44
3	04:32	05:20	06:21	07:21		07:27	08:28
	22:08	21:24	20:09	18:48		16:32	15:43
4	04:33	05:22	06:23	07:23		07:29	08:29
	22:07	21:22	20:06	18:46		16:29	15:42
5	04:34	05:23	06:25	07:26		07:31	08:31
	22:07	21:20	20:04	18:43		16:27	15:42
6	04:35	05:25	06:27	07:28	08:12 (C13)	07:34	08:32
	22:06	21:17	20:01	18:40	10 08:22 (C13)	16:25	15:41
7	04:36	05:27	06:29	07:30	08:10 (C13)	07:36	08:34
	22:05	21:15	19:58	18:38	13 08:23 (C13)	16:23	15:40
8	04:37	05:29	06:31	07:32	08:09 (C13)	07:38	08:35
	22:04	21:13	19:56	18:35	16 08:25 (C13)	16:21	15:40
9	04:38	05:31	06:33	07:34	08:08 (C13)	07:40	08:37
	22:03	21:11	19:53	18:33	17 08:25 (C13)	16:19	15:39
10	04:39	05:33	06:35	07:36	08:08 (C13)	07:42	08:38
	22:02	21:09	19:50	18:30	17 08:25 (C13)	16:17	15:39
11	04:41	05:35	06:37	07:38	08:07 (C13)	07:44	08:39
	22:01	21:06	19:48	18:27	18 08:25 (C13)	16:15	15:39
12	04:42	05:37	06:39	07:40	08:09 (C13)	07:47	08:41
	22:00	21:04	19:45	18:25	15 08:24 (C13)	16:13	15:38
13	04:43	05:39	06:41	07:42	08:11 (C13)	07:49	08:42
	21:59	21:02	19:42	18:22	12 08:23 (C13)	16:11	15:38
14	04:45	05:41	06:43	07:44	08:14 (C13)	07:51	08:43
	21:58	20:59	19:39	18:20	9 08:23 (C13)	16:09	15:38
15	04:46	05:43	06:45	07:46	08:16 (C13)	07:53	08:44
	21:57	20:57	19:37	18:17	5 08:21 (C13)	16:08	15:38
16	04:48	05:45	06:47	07:48	08:18 (C13)	07:55	08:45
	21:55	20:54	19:34	18:15	1 08:19 (C13)	16:06	15:38
17	04:49	05:47	06:49	07:50		07:57	08:46
	21:54	20:52	19:31	18:12		16:04	15:38
18	04:51	05:49	06:51	07:53		07:59	08:47
	21:53	20:50	19:29	18:09		16:03	15:38
19	04:53	05:51	06:53	07:55		08:01	08:47
	21:51	20:47	19:26	18:07		16:01	15:38
20	04:54	05:53	06:55	07:57		08:03	08:48
	21:50	20:45	19:23	18:04		15:59	15:39
21	04:56	05:55	06:57	07:59		08:05	08:49
	21:48	20:42	19:21	18:02		15:58	15:39
22	04:58	05:57	06:59	08:01		08:07	08:49
	21:46	20:40	19:18	18:00		15:56	15:40
23	04:59	05:59	07:01	08:03		08:09	08:50
	21:45	20:37	19:15	17:57		15:55	15:40
24	05:01	06:01	07:03	08:05		08:11	08:50
	21:43	20:35	19:12	17:55		15:53	15:41
25	05:03	06:03	07:05	07:07		08:13	08:50
	21:41	20:32	19:10	16:52		15:52	15:41
26	05:05	06:05	07:07	07:10		08:15	08:51
	21:39	20:30	19:07	16:50		15:51	15:42
27	05:06	06:07	07:09	07:12		08:17	08:51
	21:38	20:27	19:04	16:48		15:50	15:43
28	05:08	06:09	07:11	07:14		08:19	08:51
	21:36	20:24	19:02	16:45		15:48	15:44
29	05:10	06:11	07:13	07:16		08:21	08:51
	21:34	20:22	18:59	16:43		15:47	15:45
30	05:12	06:13	07:15	07:18		08:23	08:51
	21:32	20:19	18:56	16:41		15:46	15:46
31	05:14	06:15		07:20			08:51
	21:30	20:17		16:38			15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				133		208	
Sun reduction				0.26		0.08	
Oper. time red.				0.98		0.98	
Wind dir. red.				0.62		0.59	
Total reduction				0.16		0.05	
Total, real				21		10	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 8 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (90)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:37 (C13) 17:44 (C13)	06:49 19:53	05:33 20:56
2	08:51 15:49	08:13 16:48	07:08 17:50	07:34 (C13) 17:45 (C13)	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	07:06 17:52	07:32 (C13) 17:46 (C13)	06:44 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	07:03 17:54	07:29 (C13) 17:46 (C13)	06:41 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	07:01 17:56	07:27 (C13) 17:46 (C13)	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:56	06:58 17:58	07:27 (C13) 17:46 (C13)	06:36 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	06:55 18:01	07:27 (C13) 17:45 (C13)	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	06:53 18:03	07:27 (C13) 17:44 (C13)	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	06:50 18:05	07:28 (C13) 17:44 (C13)	06:28 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	06:48 18:07	07:29 (C13) 17:42 (C13)	06:25 20:12	05:13 21:14
11	08:45 16:03	07:54 17:08	06:45 18:09	07:31 (C13) 17:38 (C13)	06:22 20:14	05:11 21:16
12	08:44 16:05	09:21 (C14) 09:22 (C14)	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18
13	08:43 16:06	09:19 (C14) 09:22 (C14)	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20
14	08:42 16:08	09:18 (C14) 09:24 (C14)	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22
15	08:41 16:10	09:17 (C14) 09:25 (C14)	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24
16	08:40 16:12	09:15 (C14) 09:26 (C14)	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26
17	08:39 16:14	09:14 (C14) 09:27 (C14)	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27
18	08:38 16:16	09:12 (C14) 09:27 (C14)	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29
19	08:36 16:18	09:10 (C14) 09:28 (C14)	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31
20	08:35 16:20	09:10 (C14) 09:29 (C14)	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33
21	08:33 16:22	09:09 (C14) 09:29 (C14)	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35
22	08:32 16:24	09:10 (C14) 09:29 (C14)	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37
23	08:30 16:26	09:10 (C14) 09:29 (C14)	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38
24	08:29 16:28	09:11 (C14) 09:30 (C14)	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40
25	08:27 16:30	09:11 (C14) 09:30 (C14)	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42
26	08:26 16:32	09:12 (C14) 09:29 (C14)	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43
27	08:24 16:34	09:13 (C14) 09:29 (C14)	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45
28	08:22 16:37	09:14 (C14) 09:28 (C14)	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47
29	08:20 16:39	09:15 (C14) 09:27 (C14)		06:57 19:47	05:37 20:51	04:40 21:48
30	08:19 16:41	09:18 (C14) 09:26 (C14)		06:54 19:49	05:35 20:53	04:38 21:50
31	08:17 16:43			06:52 19:51		04:37 21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case	257	3	158			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.62	0.62			
Total reduction	0.08	0.12	0.25			
Total, real	20	0	39			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Neretas 8 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (90)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	2	08:13 (C13) 08:15 (C13)	07:25 16:34
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	11	08:08 (C13) 08:19 (C13)	07:27 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	14	08:06 (C13) 08:20 (C13)	07:29 16:29
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	16	08:05 (C13) 08:21 (C13)	07:31 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	18	08:03 (C13) 08:21 (C13)	07:34 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	18	08:03 (C13) 08:21 (C13)	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	19	08:03 (C13) 08:22 (C13)	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	18	08:03 (C13) 08:21 (C13)	07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	16	08:05 (C13) 08:21 (C13)	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	13	08:07 (C13) 08:20 (C13)	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	9	08:09 (C13) 08:18 (C13)	07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	5	08:11 (C13) 08:16 (C13)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20		07:51 16:09	08:48 (C14) 09:00 (C14)
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	14	07:53 16:08	08:46 (C14) 09:02 (C14)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	16	07:55 16:06	08:45 (C14) 09:02 (C14)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	17	07:57 16:04	08:44 (C14) 09:03 (C14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	19	07:59 16:03	08:45 (C14) 09:04 (C14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	19	08:01 16:01	08:45 (C14) 09:04 (C14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	19	08:03 15:59	08:45 (C14) 09:04 (C14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	19	08:05 15:58	08:46 (C14) 09:05 (C14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	19	08:07 15:56	08:46 (C14) 09:05 (C14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	18	08:09 15:55	08:47 (C14) 09:05 (C14)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	15	08:11 15:53	08:49 (C14) 09:04 (C14)
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	13	08:13 15:52	08:51 (C14) 09:04 (C14)
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50	11	08:15 15:51	08:54 (C14) 09:05 (C14)
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48	9	08:17 15:49	08:56 (C14) 09:05 (C14)
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45	6	08:19 15:48	08:58 (C14) 09:04 (C14)
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	4	08:21 15:47	09:00 (C14) 09:04 (C14)
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41	1	08:23 15:46	09:02 (C14) 09:03 (C14)
31	05:14 21:30	06:15 20:17		08:20 16:38			08:51 15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				159		259	
Sun reduction				0.26		0.08	
Oper. time red.				0.98		0.98	
Wind dir. red.				0.62		0.59	
Total reduction				0.16		0.05	
Total, real				25		12	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Nomaies - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (160)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48 08:50 15:50 08:50 15:51 08:50 15:52 08:49 15:54 08:49 15:55 08:48 15:57 08:48 15:58 08:47 16:00 08:46 16:01 08:45 16:03 08:44 16:05 08:43 16:07 08:42 16:08 08:41 16:10 08:40 16:12 08:39 16:14 08:38 16:16 08:36 16:18 08:35 16:20 08:33 16:22 08:32 16:24 08:30 16:26 08:29 16:28 08:27 16:30 08:26 16:32 08:24 16:35 08:22 16:37 08:20 16:39 08:19 16:41 08:17 16:43	08:15 16:45 08:13 16:48 08:11 16:50 08:09 16:52 08:07 16:54 08:05 16:57 08:03 16:59 08:01 17:01 07:58 17:03 07:56 17:06 07:54 17:08 07:52 17:10 07:50 17:12 07:47 17:15 07:45 17:17 07:43 17:19 07:40 17:21 07:38 17:23 07:36 17:26 07:33 17:28 07:31 17:30 07:28 17:32 07:26 17:35 07:23 17:37 07:21 17:39 07:18 17:41 07:16 17:43 07:13 17:46 06:57 19:47 06:54 19:49 06:52 19:51	07:11 17:48 07:08 17:50 07:06 17:52 07:03 17:54 07:01 17:56 06:58 17:59 06:55 18:01 06:53 18:03 06:50 18:05 06:48 18:07 06:45 18:09 06:42 18:11 06:40 18:13 06:37 18:16 06:34 18:18 06:32 18:20 06:29 18:22 06:26 18:24 06:24 18:26 06:21 18:28 06:18 18:30 06:16 18:32 06:13 18:34 06:10 18:36 06:08 18:39 06:05 18:41 06:02 18:43 06:00 18:45 05:57 20:51 05:35 20:53 06:52 19:51	06:49 19:53 06:46 19:55 06:44 19:57 06:41 19:59 06:38 20:01 06:36 20:04 06:33 20:06 06:30 20:08 06:28 20:10 06:25 20:12 06:22 20:14 06:20 20:16 06:17 20:18 06:15 20:20 06:12 20:22 06:10 20:24 06:07 20:26 06:04 20:28 06:02 20:31 05:59 20:33 05:57 20:35 05:54 20:37 05:52 20:39 05:49 20:41 05:47 20:43 05:45 20:44 05:42 20:47 05:40 20:49 05:37 20:51 05:35 20:53 04:37 21:51	05:33 20:55 05:30 20:58 05:28 21:00 05:26 21:02 05:24 21:04 05:21 21:06 05:19 21:08 05:17 21:10 05:15 21:12 05:13 21:12 05:11 21:12 05:11 21:16 05:09 21:18 05:07 21:20 05:05 21:22 05:03 21:24 05:01 21:26 04:59 21:27 04:57 21:29 04:55 21:31 04:54 21:33 04:52 21:35 04:50 21:37 04:49 21:38 04:47 21:40 04:45 21:42 04:44 21:43 04:43 21:45 04:41 21:47 04:40 21:48 04:39 21:50 04:37 21:51	04:36 21:53 04:35 21:58 04:34 21:55 04:33 21:57 04:32 21:58 04:34 21:59 04:30 22:00 04:30 22:01 04:29 22:02 04:28 22:03 04:28 22:04 04:27 22:05 04:44 21:59 04:45 21:58 04:47 21:57 04:48 21:55 04:50 21:52 04:53 21:51 04:54 21:49 04:56 21:48 04:58 21:46 04:59 21:45 04:26 21:43 04:27 21:40 04:27 21:39 04:28 21:38 04:28 21:36 04:29 21:34 04:30 21:32 05:14 21:30	04:30 22:09 04:31 22:09 04:32 22:08 04:33 22:07 04:34 22:07 04:35 22:06 04:36 22:05 04:37 22:04 04:38 22:03 04:40 22:03 04:41 22:02 04:42 22:01 04:43 22:01 04:44 22:02 04:45 22:01 04:46 22:02 04:47 22:03 04:48 22:04 04:49 22:05 04:50 22:06 04:51 22:07 04:52 22:08 04:53 22:09 04:54 22:10 04:55 22:11 04:56 22:12 04:57 22:13 04:58 22:14 04:59 22:15 05:00 22:16 05:01 22:17 05:02 22:18 05:03 22:19 05:04 22:20 05:05 22:21 05:06 22:22 05:07 22:23 05:08 22:24 05:09 22:25 05:10 22:26 05:11 22:27 05:12 22:28 05:13 22:29 05:14 22:30	05:16 21:28 05:18 21:26 05:20 21:24 05:22 21:22 05:24 21:20 05:26 21:17 05:28 21:15 05:29 21:13 05:31 21:11 05:33 21:09 05:35 21:06 05:37 21:04 05:39 21:02 05:41 20:59 05:43 20:57 05:45 20:54 05:47 20:52 05:49 20:50 05:51 20:47 05:53 20:45 05:55 20:42 05:57 20:40 05:59 20:37 06:01 06:03 20:32 06:05 20:30 06:07 20:27 06:09 20:24 06:11 20:22 06:13 20:19 06:15 20:17	06:17 20:14 06:19 20:11 06:21 20:09 06:23 20:06 06:25 20:04 06:27 20:01 06:29 19:58 06:31 19:56 06:33 19:53 06:35 19:50 06:37 19:48 06:39 19:45 06:41 19:42 06:43 19:39 06:45 19:37 06:47 19:34 06:49 19:31 06:51 19:29 06:53 19:26 06:55 19:23 06:57 19:21 06:59 19:18 07:01 19:15 07:03 19:13 07:05 19:10 07:07 19:07 07:09 19:04 07:11 19:02 07:13 18:59 07:15 18:56 07:20 16:38	07:17 18:54 07:19 18:51 07:21 18:48 07:23 18:46 07:26 18:43 07:28 18:40 07:30 18:38 07:32 18:35 07:34 18:33 07:36 18:30 07:38 18:27 07:40 18:25 07:42 18:22 07:44 18:20 07:46 07:48 18:15 07:50 18:12 07:53 18:10 07:55 18:07 07:57 18:05 07:59 18:02 08:01 18:00 08:03 17:57 08:05 17:55 08:07 16:52 08:10 16:51 08:12 16:48 16:45 08:15 16:43 08:22 16:41 08:20 16:45 08:17 16:38	07:23 16:36 07:25 16:34 07:27 16:32 07:29 16:30 07:31 16:27 07:34 16:25 07:36 16:23 07:38 16:21 07:40 16:19 07:42 16:17 07:44 16:15 07:46 16:13 07:49 16:11 07:51 16:10 07:53 16:08 07:55 16:06 07:58 16:04 07:59 16:03 08:01 16:01 08:03 15:59 08:05 15:58 08:07 15:56 08:09 15:55 08:11 15:54 08:13 15:52 08:15 15:51 08:17 15:51 08:19 15:48 08:21 15:47 08:22 15:46 08:51 15:47	08:24 15:45 08:26 15:44 08:28 15:43 08:29 15:43 08:31 15:42 08:32 15:41 08:34 15:41 08:35 15:40 08:37 15:40 08:38 15:39 08:39 15:38 08:40 15:38 08:41 15:38 08:42 15:38 08:43 15:38 08:44 15:38 08:45 15:38 08:46 15:38 08:47 15:39 08:48 15:39 08:49 15:40 08:50 15:40 08:51 15:40 08:52 15:40 08:53 15:40 08:54 15:40 08:55 15:40 08:56 15:40 08:57 15:40 08:58 15:40 08:59 15:40 09:00 15:40
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case				129				132				
Sun reduction				0.50				0.50				
Oper. time red.				0.98				0.98				
Wind dir. red.				0.65				0.65				
Total reduction				0.32				0.32				
Total, real				41				42				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ogu purvs - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (103)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:49 19:53	05:32 20:55	04:35 21:53	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:50	08:11 16:49	07:06 17:52	06:43 19:57	05:28 21:00	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:25 21:02	04:32 21:57	04:32 22:07	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:36 16:23	08:34 15:40
8	08:48 15:57	08:00 17:01	06:53 18:02	06:30 20:07	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:10	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:26 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:43 17:19	06:31 18:19	06:09 20:24	05:00 21:26	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:07 20:26	04:58 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 17:30	06:18 18:30	05:56 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:39
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:40
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:11	04:56 21:43	05:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:42	04:26 22:11	05:02 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:41 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:44
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:17		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ozoli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (1)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:08	05:18 21:26	06:20 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:21 18:48	07:27 16:32	08:28 15:44
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:24 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:28	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:41	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:32 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:23 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:39
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:12	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:37 16:16	07:38 17:24	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:26 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:54 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	05:00 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:08 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:10 20:24	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:12 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:16 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ozolmuiža - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (148)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:11 17:47	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:23	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:46 16:00	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:06	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:05 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	08:09 17:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:11 17:47	08:17 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:22	07:13 18:59	08:16 17:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:51 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ozolsalina - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (106)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:22 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:58	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:34 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:06	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:21	04:26 22:06	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:51 19:29	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:26	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:34	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	08:09 17:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:12 17:47	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: OŠ ini (kad. apz. 76860060068001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (218)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:16 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:16	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:22	07:30 17:30	06:18 18:30	05:56 20:34	04:52 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:52 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:40	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:44
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: OŠ ini (kad. apz. 76860060068006) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (223)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:16	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:22	07:30 17:30	06:18 18:30	05:56 20:34	04:52 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:52 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:40	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:44
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Paegli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (41)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:51 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Palejas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (188)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 15:45	08:24 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	2 07:55 (C14) 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:06	08:25 (C14) 18:07	06:48 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	08:23 (C14) 18:09	06:45 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	08:20 (C14) 18:11	06:42 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	08:18 (C14) 18:13	06:40 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	08:15 (C14) 18:16	06:37 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	08:14 (C14) 18:18	06:34 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	08:13 (C14) 18:20	06:32 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	08:15 (C14) 18:22	06:29 20:26	04:59 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	08:16 (C14) 18:24	06:26 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:47 15:38
19	08:36 16:18	07:36 17:26	08:17 (C14) 18:26	06:24 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	08:20 (C14) 18:28	06:21 20:33	04:54 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	08:23 (C14) 18:30	06:18 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	08:24 (C14) 18:32	06:16 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	08:25 (C14) 18:34	06:13 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	08:26 (C14) 18:36	06:10 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	08:27 (C14) 18:39	06:08 20:43	04:45 21:42	04:27 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	08:28 (C14) 18:41	06:05 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	08:29 (C14) 18:43	06:02 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	08:30 (C14) 18:45	06:00 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39	07:11 17:51	08:31 (C14) 18:47	06:57 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41	07:11 17:53	08:32 (C14) 18:48	06:54 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:17 16:41	08:23 15:46	08:51 15:46
31	08:17 16:43	07:11 17:55	08:33 (C14) 18:49	06:52 20:53	04:37 21:51	04:29 22:10	05:14 21:30	06:15 20:17	07:21 16:38	08:18 15:53	08:24 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		115								118	2	
Sun reduction		0.20								0.26	0.08	
Oper. time red.		0.98								0.98	0.98	
Wind dir. red.		0.62								0.62	0.62	
Total reduction		0.12								0.16	0.05	
Total, real		14								19	0	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pilskalni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (32)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:20 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:41	07:34 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:23 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:40 15:38
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:24	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:08 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:16 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pludmales - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (118)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

January		February		March		April		May		June		
1	08:51 15:48 18	14:39 (C15) 14:57 (C15) 18	08:15 16:45 13	09:09 (C11) 09:22 (C11) 09:12 (C11)	07:11 17:47 20	16:39 (C13) 16:59 (C13) 16:39 (C13)	06:49 19:53 06:46	05:32 20:55 05:30		04:36 21:52 04:35	05:30 (C4) 05:54 (C4) 05:29 (C4)	
2	08:50 15:49 18	14:39 (C15) 14:57 (C15) 18	08:13 16:47 8	09:20 (C11) 08:11 09:20 (C11)	07:08 17:50 19	16:39 (C13) 16:58 (C13) 16:41 (C13)	06:46 19:55 06:43	05:30 20:57 05:28		04:35 21:54 04:34	05:29 (C4) 05:55 (C4) 05:29 (C4)	
3	08:50 15:51 18	14:40 (C15) 14:58 (C15) 18	08:11 16:50 15:55	08:11 16:50 17:52	07:06 17:52 16	16:41 (C13) 16:57 (C13) 16:42 (C13)	06:43 19:57 06:41	05:28 20:59 05:26		04:34 21:55 04:33	05:29 (C4) 05:56 (C4) 05:28 (C4)	
4	08:50 15:52 17	14:40 (C15) 14:57 (C15) 17	08:09 16:52 15:53	08:09 16:52 16:54	07:03 17:54 12	16:42 (C13) 16:54 (C13) 16:47 (C13)	06:41 19:59 06:38	05:26 21:01 05:23		04:33 21:56 04:32	05:28 (C4) 05:57 (C4) 05:28 (C4)	
5	08:49 15:53 18	14:41 (C15) 14:59 (C15) 18	08:07 16:54 15:55	08:07 16:54 16:56	07:00 17:56 2	16:47 (C13) 16:49 (C13) 16:49 (C13)	06:38 20:01 06:35	05:23 21:04 05:21		04:32 21:58 04:31	05:28 (C4) 05:58 (C4) 05:28 (C4)	
6	08:49 15:55 17	14:42 (C15) 14:59 (C15) 17	08:05 16:56 15:56	08:05 16:56 16:58	06:58 17:58 6	16:49 (C13) 16:49 (C13) 08:32 (C10)	06:35 20:03 06:33	05:21 21:06 05:19		04:31 21:59 04:30	05:28 (C4) 05:59 (C4) 05:27 (C4)	
7	08:48 15:56 17	14:42 (C15) 14:59 (C15) 17	08:03 16:58 15:57	08:03 16:58 16:58	06:55 18:00 8	08:32 (C10) 08:38 (C10) 08:30 (C10)	06:33 20:05 06:30	05:19 21:08 05:17		04:30 22:00 04:29	05:27 (C4) 05:59 (C4) 05:27 (C4)	
8	08:47 15:58 16	14:43 (C15) 14:59 (C15) 16	08:00 17:01 15:58	08:00 17:01 17:01	06:53 18:03 11	08:30 (C10) 08:41 (C10) 08:27 (C10)	06:30 20:07 06:27	05:17 21:10 05:15		04:29 22:01 04:28	05:27 (C4) 06:00 (C4) 05:27 (C4)	
9	08:47 15:59 15	14:44 (C15) 14:59 (C15) 15	07:58 17:03 15:59	07:58 17:03 17:03	06:50 18:05 15	08:27 (C10) 08:42 (C10) 08:46 (C10)	06:27 20:10 06:25	05:15 21:12 05:12		04:28 22:02 04:28	05:27 (C4) 06:00 (C4) 05:27 (C4)	
10	08:46 16:01 14	14:45 (C15) 14:59 (C15) 14	07:56 17:05 18	07:56 17:05 18:04	06:47 18:07 17	08:26 (C10) 08:44 (C10) 08:24 (C10)	06:25 20:12 06:22	05:12 21:14 05:10		04:28 22:03 04:27	05:27 (C4) 06:01 (C4) 05:26 (C4)	
11	08:45 16:03 13	14:46 (C15) 14:59 (C15) 13	07:54 17:07 20	07:54 17:07 18:04	06:45 18:09 20	08:24 (C10) 08:44 (C10) 08:24 (C10)	06:22 20:14 06:20	05:10 21:16 05:08		04:27 22:04 04:27	05:26 (C4) 06:01 (C4) 05:26 (C4)	
12	08:44 16:04 12	14:46 (C15) 14:58 (C15) 12	07:52 17:10 21	07:52 17:10 18:04	06:42 18:11 22	08:24 (C10) 08:45 (C10) 08:24 (C10)	06:20 20:16 06:17	05:08 21:18 05:06		04:27 22:05 04:26	05:26 (C4) 06:02 (C4) 05:27 (C4)	
13	08:43 16:06 9	14:48 (C15) 14:57 (C15) 9	07:49 17:12 22	07:49 17:12 18:04	06:39 18:13 25	08:24 (C10) 08:46 (C10) 08:26 (C10)	06:17 20:18 06:14	05:06 21:20 05:04		04:26 22:06 04:26	05:27 (C4) 06:03 (C4) 05:26 (C4)	
14	08:42 16:08 7	14:50 (C15) 14:57 (C15) 7	07:47 17:14 23	07:47 17:14 18:04	06:37 18:15 26	08:23 (C10) 08:46 (C10) 08:23 (C10)	06:14 20:20 06:12	05:04 21:22 05:02		04:26 22:07 04:26	05:26 (C4) 06:02 (C4) 05:26 (C4)	
15	08:41 16:10 08:40	14:51 (C15) 14:59 (C15) 09:15 (C11)	07:45 17:16 07:42	07:45 17:16 08:23 (C10)	06:34 18:17 06:31	08:23 (C10) 08:46 (C10) 08:23 (C10)	06:12 20:22 06:09	05:02 21:23 05:00		04:26 22:07 04:25	05:26 (C4) 06:03 (C4) 05:26 (C4)	
16	08:40 16:12 1	14:52 (C15) 14:59 (C15) 09:16 (C11)	07:44 17:19 07:40	07:44 17:19 08:23 (C10)	06:31 18:19 26	08:23 (C10) 08:46 (C10) 08:23 (C10)	06:09 20:24 06:07	05:00 21:25 05:00		04:25 22:08 04:25	05:26 (C4) 06:03 (C4) 05:27 (C4)	
17	08:39 16:14 4	14:53 (C15) 14:59 (C15) 09:17 (C11)	07:39 17:21 23	07:39 17:21 08:23 (C10)	06:29 18:22 26	08:23 (C10) 08:46 (C10) 08:23 (C10)	06:07 20:26 06:04	05:00 21:27 05:00		04:25 22:08 04:25	05:27 (C4) 06:04 (C4) 05:27 (C4)	
18	08:37 16:16 7	14:54 (C15) 14:59 (C15) 09:18 (C11)	07:38 17:23 27	07:38 17:23 08:23 (C10)	06:26 18:24 26	08:23 (C10) 08:46 (C10) 08:23 (C10)	06:04 20:28 06:02	05:00 21:29 05:00		04:25 22:09 04:25	05:27 (C4) 06:04 (C4) 05:27 (C4)	
19	08:36 16:18 10	14:55 (C15) 14:59 (C15) 09:19 (C11)	07:35 17:25 32	07:35 17:25 08:24 (C10)	06:23 18:26 26	08:24 (C10) 08:46 (C10) 08:24 (C10)	06:02 20:30 06:00	05:00 21:31 05:00		04:25 22:09 04:25	05:27 (C4) 06:04 (C4) 05:27 (C4)	
20	08:35 16:20 12	14:56 (C15) 14:59 (C15) 09:20 (C11)	07:33 17:28 33	07:33 17:28 08:25 (C10)	06:21 18:28 24	08:25 (C10) 08:46 (C10) 08:25 (C10)	05:59 20:32 06:00	05:00 21:33 05:00		04:25 22:10 04:25	05:27 (C4) 06:04 (C4) 05:27 (C4)	
21	08:33 16:22 15	14:57 (C15) 14:59 (C15) 09:21 (C11)	07:31 17:30 33	07:31 17:30 08:27 (C10)	06:18 18:30 22	08:27 (C10) 08:46 (C10) 08:27 (C10)	05:57 20:35 06:00	05:00 21:35 05:00		04:25 22:10 04:25	05:27 (C4) 06:04 (C4) 05:27 (C4)	
22	08:32 16:24 17	14:58 (C15) 14:59 (C15) 09:22 (C11)	07:28 17:32 33	07:28 17:32 08:28 (C10)	06:15 18:32 20	08:28 (C10) 08:46 (C10) 08:28 (C10)	05:54 20:37 06:00	05:00 21:36 05:00		04:25 22:10 04:25	05:28 (C4) 06:05 (C4) 05:28 (C4)	
23	08:30 16:26 19	14:59 (C15) 14:59 (C15) 09:23 (C11)	07:26 17:34 26	07:26 17:34 08:32 (C10)	06:13 18:34 17	08:32 (C10) 08:46 (C10) 08:32 (C10)	05:52 20:39 06:00	05:00 21:38 05:00		04:26 22:10 04:26	05:28 (C4) 06:05 (C4) 05:28 (C4)	
24	08:29 16:28 19	14:59 (C15) 14:59 (C15) 09:24 (C11)	07:23 17:36 23	07:23 17:36 08:33 (C13)	06:10 18:36 11	08:33 (C13) 08:46 (C10) 08:33 (C13)	05:49 20:41 06:00	05:00 21:40 05:00		04:27 22:10 04:27	05:28 (C4) 06:05 (C4) 05:29 (C4)	
25	08:27 16:30 19	14:59 (C15) 14:59 (C15) 09:25 (C11)	07:21 17:39 23	07:21 17:39 08:34 (C13)	06:07 18:38 24	08:34 (C13) 08:46 (C10) 08:34 (C13)	06:00 20:43 06:00	05:00 21:42 05:00		04:26 22:10 04:26	05:29 (C4) 06:06 (C4) 05:29 (C4)	
26	08:25 16:32 20	14:59 (C15) 14:59 (C15) 09:26 (C11)	07:18 17:41 23	07:18 17:41 08:35 (C13)	06:05 18:40 23	08:35 (C13) 08:46 (C10) 08:35 (C13)	06:00 20:45 06:00	05:00 21:44 05:00		04:27 22:10 04:27	05:28 (C4) 06:06 (C4) 05:29 (C4)	
27	08:24 16:34 19	14:59 (C15) 14:59 (C15) 09:27 (C11)	07:16 17:43 22	07:16 17:43 08:36 (C13)	06:02 18:42 22	08:36 (C13) 08:46 (C10) 08:36 (C13)	06:00 20:47 06:00	05:00 21:45 05:00		04:27 22:10 04:27	05:29 (C4) 06:06 (C4) 05:29 (C4)	
28	08:22 16:36 19	14:59 (C15) 14:59 (C15) 09:28 (C11)	07:13 17:45 22	07:13 17:45 08:37 (C13)	05:59 18:45 18	08:37 (C13) 08:46 (C10) 08:37 (C13)	06:00 20:49 06:00	05:00 21:46 05:00		04:28 22:10 04:28	05:29 (C4) 06:06 (C4) 05:30 (C4)	
29	08:20 16:38 17	14:59 (C15) 14:59 (C15) 09:29 (C11)	07:11 17:47 20	07:11 17:47 08:38 (C13)	05:57 19:47 14	08:38 (C13) 08:46 (C10) 08:38 (C13)	06:00 20:51 06:00	05:00 21:48 05:00		04:28 22:10 04:28	05:30 (C4) 06:06 (C4) 05:31 (C4)	
30	08:18 16:41 16	14:59 (C15) 14:59 (C15) 09:30 (C11)	07:09 17:49 20	07:09 17:49 08:39 (C13)	05:55 19:49 9	08:39 (C13) 08:46 (C10) 08:39 (C13)	06:00 20:53 06:00	05:00 21:50 05:00		04:29 22:09 04:29	05:31 (C4) 06:06 (C4) 05:31 (C4)	
31	08:16 16:43 14	14:59 (C15) 14:59 (C15) 09:31 (C11)	07:08 17:51 20	07:08 17:51 08:40 (C13)	05:51 19:51 22	08:40 (C13) 08:46 (C10) 08:40 (C13)	06:00 20:55 06:00	05:00 21:51 05:00		04:30 22:09 04:30	05:31 (C4) 06:06 (C4) 05:31 (C4)	
Potential sun hours	235		266		366		426		508		529	
Total, worst case	437		523		415		446		74		1032	
Sun reduction	0.13		0.20		0.41		0.50		0.57		0.56	
Oper. time red.	0.98		0.98		0.98		0.98		0.98		0.98	
Wind dir. red.	0.62		0.64		0.63		0.66		0.67		0.67	
Total reduction	0.08		0.12		0.25		0.32		0.37		0.36	
Total, real	35		65		104		142		27		375	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pludmales - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (118)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July			August			September			October			November			December		
1	04:30		05:30 (C4)	05:16			06:17		06:51 (C6)	07:17		07:51 (C8)	07:22		07:55 (C10)	08:24		14:28 (C15)
	22:09	36	06:06 (C4)	21:28			20:14	10	07:01 (C6)	18:53	24	08:15 (C8)	16:36	18	08:13 (C10)	15:45	13	14:41 (C15)
2	04:31		05:31 (C4)	05:17			06:19			07:19		07:52 (C8)	07:25		07:57 (C10)	08:26		14:27 (C15)
	22:08	35	06:06 (C4)	21:26			20:11			18:51	21	08:13 (C8)	16:34	14	08:11 (C10)	15:44	14	14:41 (C15)
3	04:32		05:32 (C4)	05:19			06:21			07:21		07:53 (C8)	07:27		08:00 (C10)	08:27		14:27 (C15)
	22:08	34	06:06 (C4)	21:24			20:09			18:48	19	08:12 (C8)	16:31	10	08:10 (C10)	15:43	15	14:42 (C15)
4	04:32		05:32 (C4)	05:21			06:23			07:23		07:55 (C8)	07:29		08:02 (C10)	08:29		14:27 (C15)
	22:07	34	06:06 (C4)	21:22			20:06			18:45	14	08:09 (C8)	16:29	5	08:07 (C10)	15:42	16	14:43 (C15)
5	04:33		05:33 (C4)	05:23			06:25			07:25		07:57 (C8)	07:31			08:31		14:27 (C15)
	22:07	33	06:06 (C4)	21:19			20:03			18:43	9	08:06 (C8)	16:27			15:41	17	14:44 (C15)
6	04:35		05:34 (C4)	05:25			06:27			07:27			07:33			08:32		14:28 (C15)
	22:06	31	06:05 (C4)	21:17			20:01			18:40			16:25			15:41	17	14:45 (C15)
7	04:36		05:34 (C4)	05:27			06:29			07:29			07:35			08:34		14:27 (C15)
	22:05	31	06:05 (C4)	21:15			19:58			18:38			16:23			15:40	18	14:45 (C15)
8	04:37		05:35 (C4)	05:29			06:31			07:31			07:38			08:35		14:28 (C15)
	22:04	30	06:05 (C4)	21:13			19:55			18:35			16:21			15:40	18	14:46 (C15)
9	04:38		05:36 (C4)	05:31			06:33			07:34		17:18 (C13)	07:40		08:42 (C11)	08:36		14:28 (C15)
	22:03	28	06:04 (C4)	21:11			19:53			18:32	9	17:27 (C13)	16:19	9	08:51 (C11)	15:39	18	14:46 (C15)
10	04:39		05:36 (C4)	05:33			06:35			07:36		17:16 (C13)	07:42		08:40 (C11)	08:38		14:29 (C15)
	22:02	27	06:03 (C4)	21:08			19:50			18:30	14	17:30 (C13)	16:17	12	08:52 (C11)	15:39	18	14:47 (C15)
11	04:41		05:37 (C4)	05:35			06:37			07:38		17:14 (C13)	07:44		08:40 (C11)	08:39		14:29 (C15)
	22:01	25	06:02 (C4)	21:06			19:47			18:27	17	17:31 (C13)	16:15	14	08:54 (C11)	15:38	18	14:47 (C15)
12	04:42		05:38 (C4)	05:37			06:39			07:40		17:13 (C13)	07:46		08:39 (C11)	08:40		14:29 (C15)
	22:00	23	06:01 (C4)	21:04			19:45			18:25	19	17:32 (C13)	16:13	16	08:55 (C11)	15:38	18	14:47 (C15)
13	04:43		05:40 (C4)	05:39		06:55 (C6)	06:41			07:42		17:11 (C13)	07:48		08:39 (C11)	08:41		14:30 (C15)
	21:59	21	06:01 (C4)	21:01	11	07:06 (C6)	19:42			18:22	21	17:32 (C13)	16:11	17	08:56 (C11)	15:38	18	14:48 (C15)
14	04:45		05:41 (C4)	05:41		06:53 (C6)	06:43			07:44		17:10 (C13)	07:51		08:38 (C11)	08:43		14:30 (C15)
	21:58	18	05:59 (C4)	20:59	15	07:08 (C6)	19:39			18:19	22	17:32 (C13)	16:09	19	08:57 (C11)	15:38	19	14:49 (C15)
15	04:46		05:43 (C4)	05:43		06:51 (C6)	06:45			07:46		17:10 (C13)	07:53		08:38 (C11)	08:44		14:31 (C15)
	21:56	14	05:57 (C4)	20:57	19	07:10 (C6)	19:37			18:17	22	17:32 (C13)	16:07	19	08:57 (C11)	15:38	18	14:49 (C15)
16	04:48		05:47 (C4)	05:45		06:50 (C6)	06:47			07:48		17:10 (C13)	07:55		08:38 (C11)	08:45		14:31 (C15)
	21:55	8	05:55 (C4)	20:54	21	07:11 (C6)	19:34			18:14	23	17:33 (C13)	16:06	20	08:58 (C11)	15:38	18	14:49 (C15)
17	04:49					06:48 (C6)	06:49			07:50		17:10 (C13)	07:57		08:38 (C11)	08:45		14:32 (C15)
	21:54		20:52	23	07:11 (C6)	19:31				18:12	22	17:32 (C13)	16:04	19	08:57 (C11)	15:38	18	14:50 (C15)
18	04:51		05:49			06:47 (C6)	06:51			07:52		17:09 (C13)	07:59		08:38 (C11)	08:46		14:32 (C15)
	21:52		20:49	25	07:12 (C6)	19:28				18:09	23	17:32 (C13)	16:02	19	08:57 (C11)	15:38	19	14:51 (C15)
19	04:52		05:51			06:46 (C6)	06:53		08:01 (C8)	07:54		09:01 (C10)	08:01		08:39 (C11)	08:47		14:32 (C15)
	21:51		20:47	26	07:12 (C6)	19:26	10	08:11 (C8)	18:07	29	17:31 (C13)	16:01	19	08:58 (C11)	15:38	18	14:50 (C15)	
20	04:54		05:53			06:46 (C6)	06:55		07:58 (C8)	07:57		08:58 (C10)	08:03		08:40 (C11)	08:48		14:33 (C15)
	21:49		20:44	27	07:13 (C6)	19:23	16	08:14 (C8)	18:04	34	17:31 (C13)	15:59	17	08:57 (C11)	15:38	18	14:51 (C15)	
21	04:56		05:55			06:45 (C6)	06:57		07:56 (C8)	07:59		08:56 (C10)	08:05		08:42 (C11)	08:48		14:34 (C15)
	21:48		20:42	28	07:13 (C6)	19:20	19	08:15 (C8)	18:02	35	17:29 (C13)	15:57	15	08:57 (C11)	15:39	18	14:52 (C15)	
22	04:57		05:57			06:45 (C6)	06:59		07:55 (C8)	08:01		08:55 (C10)	08:07		08:45 (C11)	08:49		14:34 (C15)
	21:46		20:40	28	07:13 (C6)	19:18	21	08:16 (C8)	17:59	33	17:26 (C13)	15:56	12	08:57 (C11)	15:39	18	14:52 (C15)	
23	04:59		05:59			06:45 (C6)	07:01		07:53 (C8)	08:03		08:55 (C10)	08:09		08:47 (C11)	08:49		14:34 (C15)
	21:44		20:37	28	07:13 (C6)	19:15	24	08:17 (C8)	17:57	30	17:25 (C13)	15:55	10	08:57 (C11)	15:40	18	14:52 (C15)	
24	05:01		06:01			06:45 (C6)	07:03		07:52 (C8)	08:05		08:54 (C10)	08:11		08:49 (C11)	08:50		14:35 (C15)
	21:43		20:34	28	07:13 (C6)	19:12	25	08:17 (C8)	17:54	22	09:16 (C10)	15:53	7	08:56 (C11)	15:40	18	14:53 (C15)	
25	05:03		06:03			06:44 (C6)	07:05		07:51 (C8)	07:07		07:53 (C10)	08:13		08:51 (C11)	08:50		14:35 (C15)
	21:41		20:32	27	07:11 (C6)	19:10	26	08:17 (C8)	16:52	22	08:15 (C10)	15:52	4	08:55 (C11)	15:41	18	14:53 (C15)	
26	05:04		06:05			06:44 (C6)	07:07		07:51 (C8)	07:09		07:53 (C10)	08:15		08:53 (C11)	08:50		14:36 (C15)
	21:39		20:29	27	07:11 (C6)	19:07	26	08:17 (C8)	16:50	23	08:16 (C10)	15:51	1	08:54 (C11)	15:42	18	14:54 (C15)	
27	05:06		06:07			06:44 (C6)	07:09		07:50 (C8)	07:12		07:53 (C10)	08:17			08:51		14:36 (C15)
	21:37		20:27	26	07:10 (C6)	19:04	27	08:17 (C8)	16:47	23	08:16 (C10)	15:49			15:43	18	14:54 (C15)	
28	05:08		06:09			06:45 (C6)	07:11		07:50 (C8)	07:14		07:52 (C10)	08:19		14:30 (C15)	08:51		14:37 (C15)
	21:36		20:24	24	07:09 (C6)	19:02	26	08:16 (C8)	16:45	23	08:15 (C10)	15:48	6	14:36 (C15)	15:44	18	14:55 (C15)	
29	05:10		06:11			06:46 (C6)	07:13		07:51 (C8)	07:16		07:53 (C10)	08:21		14:29 (C15)	08:51		14:37 (C15)
	21:34		20:22	22	07:08 (C6)	18:59	26	08:17 (C8)	16:43	23	08:16 (C10)	15:47	9	14:38 (C15)	15:44	18	14:55 (C15)	
30	05:12		06:13			06:47 (C6)	07:15		07:51 (C8)	07:18		07:53 (C10)	08:22		14:28 (C15)	08:51		14:38 (C15)
	21:32		20:19	19	07:06 (C6)	18:56	25	08:16 (C8)	16:40	22	08:15 (C10)	15:46	12	14:40 (C15)	15:45	18	14:56 (C15)	
31	05:14		06:15			06:48 (C6)				07:20		07:54 (C10)				08:51		14:38 (C15)
	21:30		20:16	16	07:04 (C6)					16:38	19	08:13 (C10)				15:47	18	14:56 (C15)
Potential sun hours	529		469				385			324			247			216		
Total, worst case		428		440			281			617			323			544		
Sun reduction		0.49		0.50			0.43			0.26			0.08			0.07		
Oper. time red.		0.98		0.98			0.98			0.98			0.98			0.98		
Wind dir. red.		0.67		0.66			0.62			0.64			0.60			0.66		
Total reduction		0.32		0.32			0.26			0.16			0.05			0.05		
Total, real		137		139			73			99			15			25		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pludmales 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (117)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		14:37 (C15)	08:15		09:09 (C11)	07:11		16:37 (C13)	06:49		05:32				04:36		05:30 (C4)
	15:48	18	14:55 (C15)	16:45	12	09:21 (C11)	17:47	20	16:57 (C13)	19:53		20:55				21:52	30	06:00 (C4)
2	08:50		14:37 (C15)	08:13		09:11 (C11)	07:08		16:38 (C13)	06:46		05:30				04:35		05:30 (C4)
	15:49	18	14:55 (C15)	16:47	8	09:19 (C11)	17:50	17	16:55 (C13)	19:55		20:57				21:54	31	06:01 (C4)
3	08:50		14:38 (C15)	08:11			07:06		16:40 (C13)	06:43		05:28				04:34		05:29 (C4)
	15:51	18	14:56 (C15)	16:50			17:52	14	16:54 (C13)	19:57		20:59				21:55	33	06:02 (C4)
4	08:50		14:39 (C15)	08:09			07:03		16:42 (C13)	06:41		05:26				04:33		05:29 (C4)
	15:52	17	14:56 (C15)	16:52			17:54	9	16:51 (C13)	19:59		21:01				21:56	33	06:02 (C4)
5	08:49		14:40 (C15)	08:07			07:00			06:38		05:23				04:32		05:29 (C4)
	15:53	17	14:57 (C15)	16:54			17:56			20:01		21:04				21:58	34	06:03 (C4)
6	08:49		14:40 (C15)	08:05			06:58			06:35		05:21				04:31		05:29 (C4)
	15:55	17	14:57 (C15)	16:56			17:58			20:03		21:06				21:59	35	06:04 (C4)
7	08:48		14:41 (C15)	08:03		08:32 (C10)	06:55			06:33		05:19				04:30		05:28 (C4)
	15:56	16	14:57 (C15)	16:58	5	08:37 (C10)	18:00			20:05		21:08				22:00	36	06:04 (C4)
8	08:47		14:42 (C15)	08:00		08:30 (C10)	06:53		07:22 (C8)	06:30		05:17				04:29		05:29 (C4)
	15:58	15	14:57 (C15)	17:01	11	08:41 (C10)	18:03	6	07:28 (C8)	20:07		21:10				22:01	36	06:05 (C4)
9	08:47		14:42 (C15)	07:58		08:27 (C10)	06:50		07:18 (C8)	06:27		05:15				04:28		05:28 (C4)
	15:59	15	14:57 (C15)	17:03	15	08:42 (C10)	18:05	14	07:32 (C8)	20:10		21:12				22:02	37	06:05 (C4)
10	08:46		14:44 (C15)	07:56		08:25 (C10)	06:47		07:16 (C8)	06:25		06:54 (C6)				04:28		05:28 (C4)
	16:01	13	14:57 (C15)	17:05	18	08:43 (C10)	18:07	18	07:34 (C8)	20:12	8	07:02 (C6)				22:03	38	06:06 (C4)
11	08:45		14:45 (C15)	07:54		08:24 (C10)	06:45		07:14 (C8)	06:22		06:51 (C6)				04:27		05:28 (C4)
	16:03	12	14:57 (C15)	17:07	20	08:44 (C10)	18:09	20	07:34 (C8)	20:14	15	07:06 (C6)				22:04	38	06:06 (C4)
12	08:44		14:45 (C15)	07:52		08:24 (C10)	06:42		07:12 (C8)	06:20		06:48 (C6)				04:27		05:28 (C4)
	16:04	10	14:55 (C15)	17:10	21	08:45 (C10)	18:11	23	07:35 (C8)	20:16	19	07:07 (C6)				22:05	38	06:06 (C4)
13	08:43		14:47 (C15)	07:49		08:24 (C10)	06:39		07:12 (C8)	06:17		06:47 (C6)				04:26		05:28 (C4)
	16:06	8	14:55 (C15)	17:12	22	08:46 (C10)	18:13	24	07:36 (C8)	20:18	22	07:09 (C6)				22:06	39	06:07 (C4)
14	08:42		14:51 (C15)	07:47		08:23 (C10)	06:37		07:11 (C8)	06:14		06:45 (C6)				04:26		05:28 (C4)
	16:08	2	14:53 (C15)	17:14	23	08:46 (C10)	18:15	25	07:36 (C8)	20:20	24	07:09 (C6)				22:07	39	06:07 (C4)
15	08:41			07:45		08:23 (C10)	06:34		07:10 (C8)	06:12		06:45 (C6)				04:26		05:28 (C4)
	16:10			17:16	23	08:46 (C10)	18:17	26	07:36 (C8)	20:22	25	07:10 (C6)				22:07	39	06:07 (C4)
16	08:40			07:42		08:23 (C10)	06:31		07:10 (C8)	06:09		06:43 (C6)				04:25		05:28 (C4)
	16:12			17:19	22	08:45 (C10)	18:19	26	07:36 (C8)	20:24	27	07:10 (C6)				22:08	40	06:08 (C4)
17	08:39		09:13 (C11)	07:40		08:23 (C10)	06:29		07:10 (C8)	06:07		06:43 (C6)				04:25		05:28 (C4)
	16:14	3	09:16 (C11)	17:21	23	08:46 (C10)	18:22	26	07:36 (C8)	20:26	28	07:11 (C6)				22:08	40	06:08 (C4)
18	08:37		09:12 (C11)	07:38		08:23 (C10)	06:26		07:09 (C8)	06:04		06:42 (C6)				04:25		05:28 (C4)
	16:16	6	09:18 (C11)	17:23	31	16:52 (C13)	18:24	26	07:35 (C8)	20:28	28	07:10 (C6)				22:09	40	06:08 (C4)
19	08:36		09:10 (C11)	07:35		08:24 (C10)	06:23		07:10 (C8)	06:02		06:42 (C6)				04:25		05:29 (C4)
	16:18	9	09:19 (C11)	17:25	34	16:55 (C13)	18:26	25	07:35 (C8)	20:30	28	07:10 (C6)				22:09	40	06:09 (C4)
20	08:35		09:09 (C11)	07:33		08:25 (C10)	06:21		07:10 (C8)	05:59		06:41 (C6)				04:25		05:29 (C4)
	16:20	12	09:21 (C11)	17:28	36	16:57 (C13)	18:28	23	07:33 (C8)	20:32	28	07:09 (C6)				22:10	40	06:09 (C4)
21	08:33		09:07 (C11)	07:31		08:27 (C10)	06:18		07:11 (C8)	05:57		06:42 (C6)				04:25		05:29 (C4)
	16:22	14	09:21 (C11)	17:30	34	16:58 (C13)	18:30	21	07:32 (C8)	20:35	27	07:09 (C6)				22:10	40	06:09 (C4)
22	08:32		09:05 (C11)	07:28		08:28 (C10)	06:15		07:11 (C8)	05:54		06:42 (C6)				04:25		05:30 (C4)
	16:24	17	09:22 (C11)	17:32	33	16:59 (C13)	18:32	19	07:30 (C8)	20:37	27	07:09 (C6)				22:10	40	06:10 (C4)
23	08:30		09:04 (C11)	07:26		16:37 (C13)	06:13		07:14 (C8)	05:52		06:42 (C6)				04:26		05:30 (C4)
	16:26	18	09:22 (C11)	17:34	23	17:00 (C13)	18:34	14	07:28 (C8)	20:39	26	07:08 (C6)				22:10	40	06:10 (C4)
24	08:29		09:04 (C11)	07:23		16:36 (C13)	06:10		07:16 (C8)	05:49		06:43 (C6)				04:26		05:30 (C4)
	16:28	19	09:23 (C11)	17:36	23	16:59 (C13)	18:36	8	07:24 (C8)	20:41	24	07:07 (C6)				22:10	39	06:09 (C4)
25	08:27		09:05 (C11)	07:21		16:36 (C13)	06:07			05:47		06:44 (C6)				04:25		05:30 (C4)
	16:30	19	09:24 (C11)	17:39	23	16:59 (C13)	18:38			20:43	23	07:07 (C6)			05:39 (C4)	04:26		05:30 (C4)
26	08:25		09:05 (C11)	07:18		16:36 (C13)	06:05			05:44		06:44 (C6)			05:36 (C4)	04:27	40	06:10 (C4)
	16:32	19	09:24 (C11)	17:41	23	16:59 (C13)	18:40			20:45	21	07:05 (C6)			05:52 (C4)	22:10	40	06:10 (C4)
27	08:24		09:05 (C11)	07:16		16:36 (C13)	06:02			05:42		06:45 (C6)			05:35 (C4)	04:27		05:31 (C4)
	16:34	19	09:24 (C11)	17:43	22	16:58 (C13)	18:42			20:47	18	07:03 (C6)			05:54 (C4)	22:10	39	06:10 (C4)
28	08:22		09:06 (C11)	07:13		16:37 (C13)	05:59			05:39		06:47 (C6)			05:34 (C4)	04:28		05:31 (C4)
	16:36	18	09:24 (C11)	17:45	21	16:58 (C13)	18:45			20:49	15	07:02 (C6)			05:56 (C4)	22:10	39	06:10 (C4)
29	08:20		09:06 (C11)				06:57			05:37		06:49 (C6)			05:33 (C4)	04:28		05:32 (C4)
	16:38	18	09:24 (C11)				19:47			20:51	9	06:58 (C6)			05:57 (C4)	22:10	38	06:10 (C4)
30	08:18		09:07 (C11)				06:54			05:35					05:32 (C4)	04:29		05:32 (C4)
	16:41	17	09:24 (C11)				19:49			20:53					05:58 (C4)	22:09	39	06:11 (C4)
31	08:16		09:07 (C11)				06:51								05:31 (C4)			
	16:43	15	09:22 (C11)				19:51								21:51	28	05:59 (C4)	
Potential sun hours	235			266			366			426			508			529		
Total, worst case	419			526			404			442			146			1130		
Sun reduction	0.13			0.20			0.41			0.50			0.57			0.56		
Oper. time red.	0.98			0.98			0.98			0.98			0.98			0.98		
Wind dir. red.	0.62			0.64			0.63			0.66			0.67			0.67		
Total reduction	0.08			0.12			0.25			0.32			0.37			0.36		

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pludmales 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (117)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July				August				September				October				November				December			
1	04:30		05:32 (C4)	05:16					06:17		06:50 (C6)	07:17		07:52 (C8)	07:22		07:55 (C10)	08:24					14:27 (C15)	
	22:09	38	06:10 (C4)	21:28					20:14	15	07:05 (C6)	18:53	23	08:15 (C8)	16:36	18	08:13 (C10)	15:45			12		14:39 (C15)	
2	04:31		05:32 (C4)	05:17					06:19		06:53 (C6)	07:19		07:52 (C8)	07:25		07:57 (C10)	08:26					14:26 (C15)	
	22:08	38	06:10 (C4)	21:26					20:11	8	07:01 (C6)	18:51	22	08:14 (C8)	16:34	14	08:11 (C10)	15:44			13		14:39 (C15)	
3	04:32		05:33 (C4)	05:19					06:21			07:21		07:53 (C8)	07:27		08:00 (C10)	08:27					14:26 (C15)	
	22:08	37	06:10 (C4)	21:24					20:09			18:48	19	08:12 (C8)	16:31	10	08:10 (C10)	15:43			14		14:40 (C15)	
4	04:32		05:34 (C4)	05:21					06:23			07:23		07:54 (C8)	07:29		08:02 (C10)	08:29					14:26 (C15)	
	22:07	36	06:10 (C4)	21:22					20:06			18:45	16	08:10 (C8)	16:29	4	08:06 (C10)	15:42			15		14:41 (C15)	
5	04:33		05:34 (C4)	05:23					06:25			07:25		07:57 (C8)	07:31			08:31					14:26 (C15)	
	22:07	36	06:10 (C4)	21:19					20:03			18:43	10	08:07 (C8)	16:27			15:41			16		14:42 (C15)	
6	04:35		05:35 (C4)	05:25					06:27			07:27			07:33			08:32					14:26 (C15)	
	22:06	35	06:10 (C4)	21:17					20:01			18:40			16:25			15:41			17		14:43 (C15)	
7	04:36		05:35 (C4)	05:27					06:29			07:29			07:35			08:34					14:26 (C15)	
	22:05	35	06:10 (C4)	21:15					19:58			18:38			16:23			15:40			17		14:43 (C15)	
8	04:37		05:36 (C4)	05:29					06:31			07:31			07:38			08:35					14:27 (C15)	
	22:04	34	06:10 (C4)	21:13					19:55			18:35			16:21			15:40			17		14:44 (C15)	
9	04:38		05:36 (C4)	05:31					06:33			07:34		17:20 (C13)	07:40		08:42 (C11)	08:36					14:26 (C15)	
	22:03	33	06:09 (C4)	21:11					19:53			18:32	2	17:22 (C13)	16:19	8	08:50 (C11)	15:39			18		14:44 (C15)	
10	04:39		05:37 (C4)	05:33					06:35			07:36		17:16 (C13)	07:42		08:40 (C11)	08:38					14:27 (C15)	
	22:02	32	06:09 (C4)	21:08					19:50			18:30	11	17:27 (C13)	16:17	12	08:52 (C11)	15:39			18		14:45 (C15)	
11	04:41		05:38 (C4)	05:35					06:37			07:38		17:13 (C13)	07:44		08:39 (C11)	08:39					14:27 (C15)	
	22:01	30	06:08 (C4)	21:06					19:47			18:27	16	17:29 (C13)	16:15	15	08:54 (C11)	15:38			18		14:45 (C15)	
12	04:42		05:38 (C4)	05:37					06:39			07:40		17:11 (C13)	07:46		08:38 (C11)	08:40					14:27 (C15)	
	22:00	29	06:07 (C4)	21:04					19:45			18:25	19	17:30 (C13)	16:13	16	08:54 (C11)	15:38			18		14:45 (C15)	
13	04:43		05:40 (C4)	05:39					06:41			07:42		17:10 (C13)	07:48		08:38 (C11)	08:41					14:29 (C15)	
	21:59	27	06:07 (C4)	21:01					19:42			18:22	20	17:30 (C13)	16:11	18	08:56 (C11)	15:38			18		14:47 (C15)	
14	04:45		05:41 (C4)	05:41		06:56 (C6)			06:43			07:44		17:09 (C13)	07:51		08:38 (C11)	08:43					14:29 (C15)	
	21:58	25	06:06 (C4)	20:59	11	07:07 (C6)			19:39			18:19	22	17:31 (C13)	16:09	18	08:56 (C11)	15:38			18		14:47 (C15)	
15	04:46		05:42 (C4)	05:43		06:54 (C6)			06:45			07:46		17:09 (C13)	07:53		08:37 (C11)	08:44					14:29 (C15)	
	21:56	23	06:05 (C4)	20:57	16	07:10 (C6)			19:37			18:17	23	17:32 (C13)	16:07	19	08:56 (C11)	15:38			18		14:47 (C15)	
16	04:48		05:44 (C4)	05:45		06:52 (C6)			06:47			07:48		17:08 (C13)	07:55		08:38 (C11)	08:45					14:30 (C15)	
	21:55	20	06:04 (C4)	20:54	19	07:11 (C6)			19:34			18:14	23	17:31 (C13)	16:06	19	08:57 (C11)	15:38					14:48 (C15)	
17	04:49		05:45 (C4)	05:47		06:50 (C6)			06:49			07:50		17:08 (C13)	07:57		08:38 (C11)	08:45					14:30 (C15)	
	21:54	18	06:03 (C4)	20:52	21	07:11 (C6)			19:31			18:12	23	17:31 (C13)	16:04	19	08:57 (C11)	15:38			18		14:48 (C15)	
18	04:51		05:48 (C4)	05:49		06:49 (C6)			06:51			07:52		17:08 (C13)	07:59		08:38 (C11)	08:46					14:31 (C15)	
	21:52	13	06:01 (C4)	20:49	23	07:12 (C6)			19:28			18:09	22	17:30 (C13)	16:02	19	08:57 (C11)	15:38			18		14:49 (C15)	
19	04:52		05:51 (C4)	05:51		06:48 (C6)		08:04 (C8)	06:53			07:54		09:01 (C10)	08:01		08:39 (C11)	08:47					14:30 (C15)	
	21:51	6	05:57 (C4)	20:47	25	07:13 (C6)		08:09 (C8)	19:26	5		18:07	29	17:30 (C13)	16:01	18	08:57 (C11)	15:38			19		14:49 (C15)	
20	04:54			05:53		06:47 (C6)		08:00 (C8)	06:55			07:57		08:59 (C10)	08:03		08:40 (C11)	08:48					14:31 (C15)	
	21:49			20:45	27	07:14 (C6)		08:13 (C8)	19:23	13		18:04	32	17:29 (C13)	15:59	17	08:57 (C11)	15:38			18		14:49 (C15)	
21	04:56			05:55		06:47 (C6)		07:57 (C8)	06:57			07:59		08:56 (C10)	08:05		08:42 (C11)	08:48					14:32 (C15)	
	21:48			20:42	27	07:14 (C6)		08:15 (C8)	19:20	18		18:02	36	17:28 (C13)	15:57	14	08:56 (C11)	15:39			18		14:50 (C15)	
22	04:57			05:57		06:46 (C6)		07:56 (C8)	06:59			08:01		08:55 (C10)	08:07		08:45 (C11)	08:49					14:32 (C15)	
	21:46			20:40	28	07:14 (C6)		08:16 (C8)	19:18	20		17:59	34	17:26 (C13)	15:56	12	08:57 (C11)	15:39			18		14:50 (C15)	
23	04:59			05:59		06:46 (C6)		07:54 (C8)	07:01			08:03		08:54 (C10)	08:09		08:47 (C11)	08:49					14:32 (C15)	
	21:44			20:37	28	07:14 (C6)		08:17 (C8)	19:15	23		17:57	34	17:25 (C13)	15:55	9	08:56 (C11)	15:40			18		14:50 (C15)	
24	05:01			06:01		06:46 (C6)		07:53 (C8)	07:03			08:05		08:53 (C10)	08:11		08:49 (C11)	08:50					14:33 (C15)	
	21:43			20:34	28	07:14 (C6)		08:17 (C8)	19:12	24		17:54	30	17:22 (C13)	15:53	6	08:55 (C11)	15:40			19		14:52 (C15)	
25	05:03			06:03		06:45 (C6)		07:52 (C8)	07:05			07:07		07:53 (C10)	08:13		08:51 (C11)	08:50					14:34 (C15)	
	21:41			20:32	28	07:13 (C6)		08:17 (C8)	19:10	25		16:52	22	08:15 (C10)	15:52	3	08:54 (C11)	15:41			18		14:52 (C15)	
26	05:04			06:05		06:45 (C6)		07:51 (C8)	07:07			07:09		07:53 (C10)	08:15			08:50					14:34 (C15)	
	21:39			20:29	27	07:12 (C6)		08:17 (C8)	19:07	26		16:50	23	08:16 (C10)	15:51			15:42			18		14:52 (C15)	
27	05:06			06:07		06:45 (C6)		07:51 (C8)	07:09			07:12		07:53 (C10)	08:17			08:51					14:34 (C15)	
	21:37			20:27	27	07:12 (C6)		08:17 (C8)	19:04	26		16:47	22	08:15 (C10)	15:49			15:43			19		14:53 (C15)	
28	05:08			06:09		06:46 (C6)		07:51 (C8)	07:11			07:14		07:52 (C10)	08:19			08:51					14:35 (C15)	
	21:36			20:24	25	07:11 (C6)		08:17 (C8)	19:02	26		16:45	23	08:15 (C10)	15:48			15:44			18		14:53 (C15)	
29	05:10			06:11		06:46 (C6)		07:51 (C8)	07:13			07:16		07:53 (C10)	08:21		14:28 (C15)	08:51					14:36 (C15)	
	21:34			20:22	24	07:10 (C6)		08:17 (C8)	18:59	26		16:43	22	08:15 (C10)	15:47	8	14:36 (C15)	15:44			18		14:54 (C15)	
30	05:12			06:13		06:47 (C6)		07:51 (C8)	07:15			07:18		07:53 (C10)	08:22		14:27 (C15)	08:51					14:36 (C15)	
	21:32			20:19	22	07:09 (C6)		08:16 (C8)	18:56	25		16:40	21	08:14 (C10)	15:46									

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Polakas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (52)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:18	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Polakas 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (6)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	04:57 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Polakas 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (53)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Polakas 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (14)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	08:56 (C13) 17:48	07:11 19:53	06:49 20:56	05:33 21:53	04:36 22:09	04:30 21:28	05:16 20:14	06:17 18:54	07:17 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	08:56 (C13) 17:50	07:08 19:55	06:46 20:58	05:30 21:54	04:35 22:09	04:31 21:26	05:18 20:11	06:19 18:51	07:19 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	08:58 (C13) 17:52	07:06 19:57	06:43 21:00	05:28 21:55	04:34 22:08	04:32 21:24	05:20 20:09	06:21 18:48	07:21 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	09:01 (C13) 17:54	07:03 19:59	06:41 21:02	05:26 21:57	04:33 22:08	04:31 21:22	05:21 20:06	06:23 18:46	07:23 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	09:05 (C13) 17:54	07:01 19:59	06:38 21:02	05:23 21:57	04:32 22:08	04:34 21:22	05:23 20:06	06:25 18:46	07:26 16:29	08:31 15:42
6	08:49 15:55	08:05 16:56	08:03 17:58	06:58 19:55	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	08:32 16:25
7	08:48 15:56	08:03 16:59	08:03 17:58	06:55 19:55	06:33 20:03	05:19 21:06	04:30 21:59	04:36 22:06	05:27 21:17	06:29 20:01	07:30 18:40	08:34 16:25
8	08:48 15:58	08:01 17:01	08:01 17:58	06:53 19:58	06:30 20:06	05:17 21:08	04:29 22:00	04:37 22:05	05:29 21:15	06:31 19:58	07:32 18:38	08:35 16:23
9	08:47 15:59	07:58 17:03	07:58 17:58	06:50 19:58	06:28 20:10	05:15 21:10	04:29 22:01	04:38 22:04	05:31 21:13	06:33 19:56	07:34 18:35	08:37 16:21
10	08:46 16:01	07:56 17:05	07:56 17:58	06:48 19:58	06:25 20:12	05:13 21:12	04:28 22:02	04:39 22:04	05:33 21:11	06:35 19:53	07:36 18:33	08:38 16:19
11	08:45 16:03	07:54 17:08	07:54 17:58	06:45 19:58	06:22 20:14	05:11 21:16	04:27 22:03	04:41 22:03	05:35 21:09	06:37 19:50	07:38 18:30	08:39 16:17
12	08:44 16:05	07:52 17:10	07:52 17:58	06:42 19:58	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:01	05:37 21:06	06:39 19:48	07:40 18:27	08:41 16:15
13	08:43 16:06	07:50 17:12	07:50 17:58	06:40 19:58	06:17 20:18	05:07 21:20	04:26 22:06	04:43 22:01	05:39 21:02	06:41 19:45	07:42 18:25	08:42 16:13
14	08:42 16:08	07:47 17:14	07:47 17:58	06:37 19:58	06:15 20:20	05:05 21:22	04:26 22:07	04:45 22:01	05:41 21:02	06:43 19:42	07:44 18:22	08:43 16:11
15	08:41 16:10	07:45 17:17	07:45 17:58	06:34 19:58	06:12 20:22	05:03 21:24	04:26 22:07	04:46 22:01	05:43 21:02	06:45 19:39	07:46 18:20	08:44 16:09
16	08:40 16:12	07:43 17:19	07:43 17:58	06:32 19:58	06:09 20:24	05:01 21:26	04:25 22:08	04:48 22:01	05:45 21:02	06:47 19:37	07:48 18:17	08:45 16:08
17	08:39 16:14	07:40 17:21	07:40 17:58	06:29 19:58	06:07 20:26	04:59 21:28	04:25 22:09	04:49 22:01	05:47 21:02	06:49 19:31	07:50 18:12	08:46 16:04
18	08:38 16:16	07:38 17:23	07:38 17:58	06:26 19:58	06:04 20:28	04:57 21:29	04:25 22:09	04:51 22:01	05:49 21:02	06:51 19:29	07:53 18:09	08:47 16:02
19	08:36 16:18	07:36 17:26	07:36 17:58	06:24 19:58	06:02 20:31	04:55 21:31	04:25 22:10	04:52 22:01	05:51 21:02	06:53 19:26	07:55 18:07	08:47 16:01
20	08:35 16:20	07:33 17:28	07:33 17:58	06:21 19:58	05:59 20:33	04:53 21:33	04:25 22:10	04:54 22:01	05:53 21:02	06:55 19:23	07:57 18:04	08:48 15:59
21	08:33 16:22	07:31 17:30	07:31 17:58	06:18 19:58	05:57 20:35	04:52 21:35	04:25 22:10	04:56 22:01	05:55 21:02	06:57 19:21	07:59 18:02	08:49 15:58
22	08:32 16:24	07:28 17:32	07:28 17:58	06:16 19:58	05:54 20:37	04:50 21:37	04:25 22:10	04:57 22:01	05:57 21:02	06:59 19:18	08:01 18:00	08:49 15:56
23	08:30 16:26	09:04 (C13) 17:34	07:26 17:58	06:13 19:58	05:52 20:39	04:48 21:38	04:26 22:10	04:59 22:01	05:59 21:02	07:01 19:15	08:03 17:57	08:50 15:55
24	08:29 16:28	09:02 (C13) 17:37	07:23 17:58	06:10 19:58	05:49 20:41	04:47 21:40	04:26 22:11	05:01 22:01	06:01 21:02	07:03 19:12	08:05 17:55	08:51 15:53
25	08:27 16:30	09:00 (C13) 17:39	07:21 17:58	06:08 19:58	05:47 20:43	04:45 21:42	04:26 22:11	05:03 22:01	06:03 21:02	07:05 19:10	07:07 16:52	08:50 15:52
26	08:26 16:32	08:58 (C13) 17:41	07:18 17:58	06:05 19:58	05:44 20:45	04:44 21:43	04:27 22:10	05:05 22:01	06:05 21:02	07:07 19:07	07:10 16:50	08:51 15:51
27	08:24 16:34	08:56 (C13) 17:43	07:16 17:58	06:02 19:58	05:42 20:47	04:42 21:45	04:27 22:10	05:06 22:01	06:07 21:02	07:09 19:04	07:12 16:48	08:51 15:49
28	08:22 16:36	08:54 (C13) 17:45	07:13 17:58	06:00 19:58	05:40 20:49	04:41 21:47	04:28 22:10	05:08 22:01	06:09 21:02	07:11 19:02	07:14 16:45	08:51 15:48
29	08:20 16:39	08:54 (C13) 17:45	07:13 17:58	06:57 19:58	05:37 20:51	04:40 21:48	04:29 22:10	05:10 22:01	06:11 21:02	07:13 18:59	07:16 16:43	08:51 15:47
30	08:19 16:41	08:54 (C13) 17:45	07:13 17:58	06:54 19:58	05:35 20:53	04:38 21:50	04:29 22:10	05:12 22:01	06:13 21:02	07:15 18:56	07:18 16:41	08:51 15:46
31	08:17 16:43	08:55 (C13) 17:45	07:13 17:58	06:51 19:58	05:31 21:51	04:37 21:51	05:14 22:10	06:15 22:01	07:20 21:02	07:20 16:38	07:20 16:38	08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case	106	39									147	
Sun reduction	0.13	0.20									0.08	
Oper. time red.	0.98	0.98									0.98	
Wind dir. red.	0.59	0.59									0.59	
Total reduction	0.08	0.12									0.05	
Total, real	8	5									7	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pumpuri - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (199)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:58	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:12	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:39 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:22	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:48 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:51 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:44
30	08:18 16:41		06:54 19:48	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	235	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pumpuri (kad. apz. 56960040091) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (76)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:33	04:36
	15:48	16:45	17:48	19:53	20:56	21:53
2	08:51	08:13	07:08	06:46	05:30	04:35
	15:50	16:48	17:50	19:55	20:58	21:54
3	08:50	08:11	07:06	06:44	05:28	04:34
	15:51	16:50	17:52	19:57	21:00	21:55
4	08:50	08:09	07:03	06:41	05:26	04:33
	15:52	16:52	17:54	19:59	21:02	21:57
5	08:49	08:07	07:01	06:38	05:24	04:32
	15:54	16:54	17:56	20:01	21:04	21:58
6	08:49	08:05	08:34 (C14)	06:36	05:21	04:31
	15:55	16:57	2 08:36 (C14)	20:04	21:06	21:59
7	08:48	08:03	08:32 (C14)	06:33	05:19	04:30
	15:56	16:59	5 08:37 (C14)	20:06	21:08	22:00
8	08:48	08:01	08:30 (C14)	06:30	05:17	04:29
	15:58	17:01	9 08:39 (C14)	20:08	21:10	22:01
9	08:47	07:58	08:27 (C14)	06:28	05:15	04:29
	16:00	17:03	12 08:39 (C14)	20:10	21:12	22:02
10	08:46	07:56	08:25 (C14)	06:25	05:13	04:28
	16:01	17:06	14 08:39 (C14)	20:12	21:14	22:03
11	08:45	07:54	08:23 (C14)	06:22	05:11	04:27
	16:03	17:08	17 08:40 (C14)	20:14	21:16	22:04
12	08:44	07:52	08:22 (C14)	06:20	05:09	04:27
	16:05	17:10	17 08:39 (C14)	20:16	21:18	22:05
13	08:43	07:50	08:22 (C14)	06:17	05:07	04:27
	16:06	17:12	17 08:39 (C14)	20:18	21:20	22:06
14	08:42	07:47	08:22 (C14)	06:15	05:05	04:26
	16:08	17:14	16 08:38 (C14)	20:20	21:22	22:07
15	08:41	07:45	08:24 (C14)	06:12	05:03	04:26
	16:10	17:17	14 08:38 (C14)	4 07:04 (C13)	20:22	21:24
16	08:40	07:43	08:26 (C14)	06:09	05:01	04:26
	16:12	17:19	11 08:37 (C14)	8 07:05 (C13)	20:24	21:26
17	08:39	07:40	08:27 (C14)	06:07	04:59	04:25
	16:14	17:21	7 08:34 (C14)	11 07:05 (C13)	20:26	21:27
18	08:38	07:38	06:26	06:04	04:57	04:25
	16:16	17:23	18:24	13 07:05 (C13)	20:28	21:29
19	08:36	07:36	06:24	06:02	04:55	04:25
	16:18	17:26	18:26	15 07:04 (C13)	20:31	21:31
20	08:35	07:33	06:21	05:59	04:53	04:25
	16:20	17:28	18:28	15 07:03 (C13)	20:33	21:33
21	08:33	07:31	06:18	05:57	04:52	04:25
	16:22	17:30	18:30	13 07:02 (C13)	20:35	21:35
22	08:32	07:28	06:16	05:54	04:50	04:26
	16:24	17:32	18:32	11 07:01 (C13)	20:37	21:37
23	08:30	07:26	06:13	05:52	04:48	04:26
	16:26	17:35	18:34	4 06:57 (C13)	20:39	21:38
24	08:29	07:23	06:10	05:49	04:47	04:26
	16:28	17:37	18:36	20:41	21:40	22:10
25	08:27	07:21	06:08	05:47	04:45	04:27
	16:30	17:39	18:39	20:43	21:42	22:11
26	08:26	07:18	06:05	05:45	04:44	04:27
	16:32	17:41	18:41	20:45	21:43	22:10
27	08:24	07:16	06:02	05:42	04:42	04:27
	16:34	17:43	18:43	20:47	21:45	22:10
28	08:22	07:13	06:00	05:40	04:41	04:28
	16:37	17:45	18:45	20:49	21:47	22:10
29	08:20		06:57	05:37	04:40	04:29
	16:39		19:47	20:51	21:48	22:10
30	08:19		06:54	05:35	04:38	04:29
	16:41		19:49	20:53	21:50	22:09
31	08:17		06:52		04:37	
	16:43		19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		141	94			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.62	0.64			
Total reduction		0.12	0.26			
Total, real		17	24			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pumpuri (kad. apz. 56960040091) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (76)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	07:55 (C14) 08:09 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:09 (C14) 08:08 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:00 (C14) 08:08 (C14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:02 (C14) 08:07 (C14)
5	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:05 (C14) 08:06 (C14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:06 (C14) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:40 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 17:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 17:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 17:46	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:44	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:41	08:23 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		08:19 17:38	08:25 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			94	102	39	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.64	0.62	0.62	
Total reduction			0.27	0.16	0.05	
Total, real			25	16	2	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pumpuri (kad. apz. 76860060095) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (198)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:58	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:12	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:39 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:22	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:48 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:51 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:44
30	08:18 16:41		06:54 19:48	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	235	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Purvini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (20)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:49 19:53	05:32 20:56	04:35 21:53	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:58	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:50	08:11 16:49	07:06 17:52	06:43 19:57	05:28 21:00	04:33 21:56	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:25 21:02	04:32 21:57	04:32 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:50 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:34 16:25	08:33 15:41
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:02	04:37 22:05	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:10	05:14 21:12	04:28 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:28 22:04	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:02	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:20 20:16	05:08 21:18	04:26 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:26 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:08	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:00 21:26	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:07 20:26	04:58 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	08:47 15:38
19	08:36 16:17	07:36 17:25	06:23 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:19	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:34 16:21	07:31 17:30	06:18 18:30	05:57 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:39
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:25 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:40
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:42	04:26 22:11	05:02 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:51 15:41
26	08:26 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:44	04:26 22:11	05:04 21:40	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:50	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:44
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:23 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:17		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Pucsilavas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (193)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:23	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:22 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:43
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:24 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:46 16:00	07:58 17:03	06:50 18:05	06:28 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:15	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:05	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:03	08:46 15:38
19	08:36 16:18	07:35 17:26	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:54 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	08:09 17:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:11 17:47	08:17 15:50	08:50 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	08:14 17:45	08:18 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:22	07:13 18:59	08:16 17:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:51 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Rasas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (94)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	09:10 (C14) 09:14 (C14)	07:11 17:48	07:37 (C13) 07:48 (C13)	06:49 19:53
2	08:51 15:49	08:13 16:48	07:08 17:50	11 07:34 (C13)	19:53 06:46	20:56 05:30
3	08:50 15:51	08:11 16:50	07:06 17:52	14 07:48 (C13)	19:55 06:44	20:58 05:28
4	08:50 15:52	08:09 16:52	07:03 17:54	16 07:32 (C13)	19:57 06:41	21:00 05:26
5	08:49 15:53	08:07 16:54	07:01 17:56	17 07:48 (C13)	19:59 06:38	21:02 05:24
6	08:49 15:55	08:05 16:56	06:58 17:58	16 07:48 (C13)	20:01 06:36	21:04 05:21
7	08:48 15:56	08:03 16:59	06:55 18:01	14 07:46 (C13)	20:04 06:33	21:06 05:19
8	08:48 15:58	08:01 17:01	06:53 18:03	11 07:44 (C13)	20:06 06:30	21:08 05:17
9	08:47 16:00	07:58 17:03	06:50 18:05	7 07:42 (C13)	20:08 06:28	21:10 05:15
10	08:46 16:01	07:56 17:05	06:48 18:07		20:10 06:25	21:12 05:13
11	08:45 16:03	07:54 17:08	06:45 18:09		20:12 06:22	21:14 05:11
12	08:44 16:05	07:52 17:10	06:42 18:11		20:14 06:20	21:16 05:09
13	08:43 16:06	07:50 17:12	06:40 18:13		20:16 06:18	21:18 05:07
14	08:42 16:08	07:47 17:14	06:37 18:16		20:18 06:15	21:20 05:05
15	08:41 16:10	07:45 17:17	06:34 18:18		20:20 06:12	21:22 05:03
16	08:40 16:12	07:43 17:19	06:32 18:20		20:22 06:09	21:24 05:01
17	08:39 16:14	07:40 17:21	06:29 18:22		20:24 06:07	21:26 05:00
18	08:38 16:16	07:38 17:23	06:26 18:24		20:26 06:05	21:27 04:59
19	08:36 16:18	09:12 (C14) 09:14 (C14)	06:24 18:26		20:28 06:02	21:29 04:57
20	08:35 16:20	09:10 (C14) 09:15 (C14)	06:21 18:28		20:30 06:00	21:31 04:55
21	08:33 16:22	09:09 (C14) 09:16 (C14)	06:18 18:30		20:31 05:59	21:33 04:53
22	08:32 16:24	09:07 (C14) 09:17 (C14)	06:16 18:32		20:33 05:57	21:35 04:52
23	08:30 16:26	09:05 (C14) 09:18 (C14)	06:13 18:34		20:35 05:55	21:37 04:50
24	08:29 16:28	09:03 (C14) 09:19 (C14)	06:10 18:36		20:37 05:52	21:39 04:48
25	08:27 16:30	09:02 (C14) 09:17 (C14)	06:08 18:39		20:39 05:49	21:41 04:47
26	08:26 16:32	09:02 (C14) 09:19 (C14)	06:05 18:41		20:41 05:47	21:43 04:45
27	08:24 16:34	09:02 (C14) 09:19 (C14)	06:02 18:43		20:43 05:44	21:45 04:44
28	08:22 16:37	09:03 (C14) 09:19 (C14)	06:00 18:45		20:45 05:42	21:47 04:42
29	08:20 16:39	09:04 (C14) 09:18 (C14)	06:57 19:47		20:47 05:40	21:49 04:41
30	08:19 16:41	09:05 (C14) 09:18 (C14)	06:54 19:49		20:49 05:37	21:51 04:40
31	08:17 16:43	09:07 (C14) 09:17 (C14)	06:52 19:51		20:53 05:35	21:53 04:38
Potential sun hours	235	266	366	426	508	529
Total, worst case	171	15	106			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.58	0.61	0.62			
Total reduction	0.07	0.12	0.25			
Total, real	13	2	26			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Rasas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (94)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30	05:16	06:17	07:17		07:23	08:24
	22:09	21:28	20:14	18:54		16:36	15:45
2	04:31	05:18	06:19	07:19		07:25	08:26
	22:09	21:26	20:11	18:51		16:34	15:44
3	04:32	05:20	06:21	07:21		07:27	08:28
	22:08	21:24	20:09	18:48		16:32	15:43
4	04:33	05:22	06:23	07:23		07:29	08:29
	22:07	21:22	20:06	18:46		16:29	15:42
5	04:34	05:23	06:25	07:26		07:31	08:31
	22:07	21:20	20:04	18:43		16:27	15:42
6	04:35	05:25	06:27	07:28	08:10 (C13)	07:34	08:32
	22:06	21:17	20:01	18:40	10 08:20 (C13)	16:25	15:41
7	04:36	05:27	06:29	07:30	08:08 (C13)	07:36	08:34
	22:05	21:15	19:58	18:38	13 08:21 (C13)	16:23	15:40
8	04:37	05:29	06:31	07:32	08:08 (C13)	07:38	08:35
	22:04	21:13	19:56	18:35	15 08:23 (C13)	16:21	15:40
9	04:38	05:31	06:33	07:34	08:07 (C13)	07:40	08:37
	22:03	21:11	19:53	18:33	16 08:23 (C13)	16:19	15:39
10	04:39	05:33	06:35	07:36	08:06 (C13)	07:42	08:38
	22:02	21:09	19:50	18:30	17 08:23 (C13)	16:17	5 08:45 (C14) 15:39
11	04:41	05:35	06:37	07:38	08:07 (C13)	07:44	08:38 (C14) 08:39
	22:01	21:06	19:48	18:27	15 08:22 (C13)	16:15	10 08:48 (C14) 15:39
12	04:42	05:37	06:39	07:40	08:09 (C13)	07:47	08:36 (C14) 08:41
	22:00	21:04	19:45	18:25	12 08:21 (C13)	16:13	13 08:49 (C14) 15:38
13	04:43	05:39	06:41	07:42	08:11 (C13)	07:49	08:36 (C14) 08:42
	21:59	21:02	19:42	18:22	9 08:20 (C13)	16:11	14 08:50 (C14) 15:38
14	04:45	05:41	06:43	07:44	08:14 (C13)	07:51	08:35 (C14) 08:43
	21:58	20:59	19:39	18:20	6 08:20 (C13)	16:09	16 08:51 (C14) 15:38
15	04:46	05:43	06:45	07:46	08:16 (C13)	07:53	08:36 (C14) 08:44
	21:57	20:57	19:37	18:17	2 08:18 (C13)	16:08	16 08:52 (C14) 15:38
16	04:48	05:45	06:47	07:48		07:55	08:35 (C14) 08:45
	21:55	20:54	19:34	18:15		16:06	17 08:52 (C14) 15:38
17	04:49	05:47	06:49	07:50		07:57	08:35 (C14) 08:46
	21:54	20:52	19:31	18:12		16:04	17 08:52 (C14) 15:38
18	04:51	05:49	06:51	07:53		07:59	08:36 (C14) 08:46
	21:53	20:50	19:29	18:09		16:03	17 08:53 (C14) 15:38
19	04:53	05:51	06:53	07:55		08:01	08:38 (C14) 08:47
	21:51	20:47	19:26	18:07		16:01	15 08:53 (C14) 15:38
20	04:54	05:53	06:55	07:57		08:03	08:40 (C14) 08:48
	21:50	20:45	19:23	18:04		15:59	12 08:52 (C14) 15:39
21	04:56	05:55	06:57	07:59		08:05	08:43 (C14) 08:49
	21:48	20:42	19:21	18:02		15:58	10 08:53 (C14) 15:39
22	04:58	05:57	06:59	08:01		08:07	08:45 (C14) 08:49
	21:46	20:40	19:18	18:00		15:56	7 08:52 (C14) 15:40
23	04:59	05:59	07:01	08:03		08:09	08:47 (C14) 08:50
	21:45	20:37	19:15	17:57		15:55	5 08:52 (C14) 15:40
24	05:01	06:01	07:03	08:05		08:11	08:49 (C14) 08:50
	21:43	20:35	19:12	17:55		15:53	2 08:51 (C14) 15:41
25	05:03	06:03	07:05	07:07		08:13	08:50
	21:41	20:32	19:10	16:52		15:52	15:41
26	05:05	06:05	07:07	07:10		08:15	08:51
	21:39	20:30	19:07	16:50		15:51	15:42
27	05:06	06:07	07:09	07:12		08:17	08:51
	21:38	20:27	19:04	16:48		15:50	15:43
28	05:08	06:09	07:11	07:14		08:19	08:51
	21:36	20:24	19:02	16:45		15:48	15:44
29	05:10	06:11	07:13	07:16		08:21	08:51
	21:34	20:22	18:59	16:43		15:47	15:45
30	05:12	06:13	07:15	07:18		08:23	08:51
	21:32	20:19	18:56	16:41		15:46	15:46
31	05:14	06:15		07:20			08:51
	21:30	20:17		16:38			15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				115		176	
Sun reduction				0.26		0.08	
Oper. time red.				0.98		0.98	
Wind dir. red.				0.62		0.58	
Total reduction				0.16		0.05	
Total, real				18		8	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Rijasvecumi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (206)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:47	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:35	08:24 15:44
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:50	07:24 16:33	08:26 15:43
3	08:50 15:50	08:11 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:50 15:51	08:09 16:51	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:42	07:31 16:27	08:31 15:41
6	08:49 15:54	08:04 16:56	06:57 17:58	06:35 20:03	05:21 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:18 21:07	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:22	08:34 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:09	04:28 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:37 16:20	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:11	04:28 22:02	04:37 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:06	06:24 20:11	05:12 21:13	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:14	08:39 15:38
12	08:44 16:04	07:51 17:09	06:42 18:11	06:19 20:16	05:08 21:17	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:37
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	04:25 22:06	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:16	07:53 16:07	08:43 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:44 15:37
17	08:39 16:13	07:40 17:21	06:28 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:03	08:45 15:37
18	08:37 16:15	07:38 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:24 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:25	06:01 20:30	04:54 21:31	04:24 22:09	04:52 21:51	05:51 20:47	06:53 19:25	07:54 18:06	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:20 18:28	05:59 20:32	04:53 21:33	04:24 22:10	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:29	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:58 18:01	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:55	08:49 15:39
23	08:30 16:25	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:56	08:09 15:54	08:49 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:20 17:38	06:07 18:38	05:46 20:43	04:45 21:41	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:40	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:50 15:41
27	08:24 16:34	07:15 17:43	06:02 18:42	05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:07 21:35	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:10	05:09 21:34	06:11 20:21	07:13 18:58	07:16 16:42	08:20 15:46	08:51 15:44
30	08:18 16:40		06:54 19:48	05:34 20:53	04:38 21:49	04:28 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:51		04:36 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Robež nieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (220)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:49 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:16 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:18 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:13 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:05	07:51 17:10	06:42 18:11	06:20 20:16	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:01 21:25	04:26 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:58	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:57 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:52 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:14 16:45	08:18 15:48	08:50 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Rudzati - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (139)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	07:14 (C14) 20:55	04:36 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	07:11 (C14) 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	07:09 (C14) 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:06 (C14) 21:02	04:33 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	07:05 (C14) 21:04	04:32 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	07:05 (C14) 21:06	04:31 21:59
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	07:04 (C14) 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	07:05 (C14) 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	07:04 (C14) 21:12	04:29 22:02
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	07:04 (C14) 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	07:05 (C14) 21:16	04:28 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	07:06 (C14) 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	07:08 (C14) 21:20	04:27 22:06
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	07:10 (C14) 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:25	04:26 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:28 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09
31	08:17 16:43		06:52 19:51	07:17 (C14) 07:24 (C14)	04:37 21:51	
Potential sun hours	235	266	366	426	508	528
Total, worst case			100	256	145	
Sun reduction			0.41	0.50	0.57	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.65	0.66	0.67	
Total reduction			0.26	0.32	0.37	
Total, real			26	82	54	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Rudzati - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (139)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	05:56 (C13) 20:14	06:17 19:19	07:04 (C14) 18:54	07:17 16:36
2	04:31 22:09	05:18 21:26	05:55 (C13) 20:11	06:19 19:21	07:03 (C14) 18:51	07:19 16:34
3	04:32 22:08	05:20 21:24	05:55 (C13) 20:09	06:21 19:22	07:02 (C14) 18:48	07:21 16:32
4	04:33 22:07	05:22 21:22	05:55 (C13) 20:06	06:23 19:22	07:02 (C14) 18:46	07:23 16:30
5	04:34 22:07	05:24 21:20	05:57 (C13) 20:04	06:25 19:23	07:01 (C14) 18:43	07:26 16:27
6	04:35 22:06	05:26 21:17	05:58 (C13) 20:01	06:27 19:23	07:01 (C14) 18:40	07:28 16:25
7	04:36 22:05	05:27 21:15	06:00 (C13) 19:58	06:29 19:23	07:00 (C14) 18:38	07:30 16:23
8	04:37 22:04	05:29 21:13	06:02 (C13) 19:56	06:31 19:22	07:00 (C14) 18:35	07:32 16:21
9	04:38 22:03	05:31 21:11	06:04 (C13) 19:53	06:33 19:21	07:02 (C14) 18:33	07:34 16:19
10	04:40 22:02	05:33 21:08	06:06 (C13) 19:50	06:35 19:20	07:04 (C14) 18:30	07:36 16:17
11	04:41 22:01	05:35 21:06	06:09 (C13) 19:48	06:37 19:18	07:06 (C14) 18:27	07:38 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:08 (C14) 18:25	07:40 18:25	07:46 16:13
13	04:44 21:59	05:39 21:02	06:41 19:42	07:10 (C14) 18:22	07:42 18:22	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:11 (C14) 18:20	07:44 18:20	07:51 16:10
15	04:46 21:57	05:43 20:57	06:45 19:37	07:28 (C15) 18:17	07:46 18:17	07:53 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:33 (C15) 18:15	07:48 18:15	07:55 16:06
17	04:50 21:54	05:47 20:52	06:49 19:31	07:35 (C15) 18:12	07:50 18:12	07:57 16:04
18	04:51 21:52	05:49 20:50	06:51 19:29	07:37 (C15) 18:10	07:53 18:10	07:59 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	07:39 (C15) 18:07	07:55 18:07	08:01 16:01
20	04:54 21:49	05:53 20:45	06:55 19:23	07:41 (C15) 18:05	07:57 18:05	08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:21	07:43 (C15) 18:02	07:59 18:02	08:05 15:58
22	04:58 21:46	05:57 20:40	06:59 19:18	07:45 (C15) 18:00	08:01 18:00	08:07 15:56
23	04:59 21:45	05:59 20:37	07:01 19:15	07:47 (C15) 17:57	08:03 17:57	08:09 15:55
24	05:01 21:43	06:01 20:35	07:03 19:12	07:49 (C15) 17:55	08:05 17:55	08:11 15:53
25	05:03 21:41	06:03 20:32	07:05 19:10	07:51 (C15) 17:52	08:07 17:52	08:13 15:52
26	05:05 21:39	06:05 20:30	07:07 19:07	07:53 (C15) 17:50	08:09 17:50	08:15 15:51
27	05:06 21:38	06:07 20:27	07:09 19:04	07:55 (C15) 17:48	08:11 17:48	08:17 15:50
28	05:08 21:36	06:09 20:24	07:11 19:02	07:57 (C15) 17:46	08:13 17:46	08:19 15:48
29	05:10 21:34	06:11 20:22	07:13 18:59	07:59 (C15) 17:44	08:15 17:44	08:21 15:47
30	05:12 21:32	06:13 20:19	07:15 18:56	08:01 (C15) 17:42	08:17 17:42	08:23 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	08:03 (C15) 17:40	08:19 17:40	08:25 15:45
Potential sun hours	529	469	385	324	247	216
Total, worst case	30	153	324			
Sun reduction	0.49	0.50	0.43			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.67	0.67	0.66			
Total reduction	0.32	0.32	0.27			
Total, real	10	50	89			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Raceni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (184)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June	
1	08:51		14:16 (C13)	08:15		14:24 (C13)	07:11		06:49		07:15 (C6)	05:32				04:36	
	15:48	26	14:42 (C13)	16:45	30	14:54 (C13)	17:47		19:53	16	07:31 (C6)	20:55				21:53	
2	08:50		14:16 (C13)	08:13		14:25 (C13)	07:08		06:46		07:15 (C6)	05:30				04:35	
	15:49	27	14:43 (C13)	16:47	28	14:53 (C13)	17:50		19:55	15	07:30 (C6)	20:57				21:54	
3	08:50		14:16 (C13)	08:11		14:27 (C13)	07:06		06:43		07:15 (C6)	05:28				04:34	
	15:51	27	14:43 (C13)	16:50	25	14:52 (C13)	17:52		19:57	14	07:29 (C6)	20:59				21:55	
4	08:50		14:16 (C13)	08:09		14:29 (C13)	07:03		06:41		07:16 (C6)	05:26				04:33	
	15:52	28	14:44 (C13)	16:52	22	14:51 (C13)	17:54		19:59	12	07:28 (C6)	21:02				21:57	
5	08:49		14:16 (C13)	08:07		14:31 (C13)	07:00		06:38		07:17 (C6)	05:23				04:32	
	15:53	30	14:46 (C13)	16:54	18	14:49 (C13)	17:56		20:01	9	07:26 (C6)	21:04				21:58	
6	08:49		14:16 (C13)	08:05		14:34 (C13)	06:58		06:35			05:21		05:50 (C2)		04:31	
	15:55	30	14:46 (C13)	16:56	12	14:46 (C13)	17:58		20:03			21:06	4	05:54 (C2)		21:59	
7	08:48		14:16 (C13)	08:03			06:55		06:33			05:19		05:48 (C2)		04:30	
	15:56	31	14:47 (C13)	16:59			18:00		20:05			21:08	7	05:55 (C2)		22:00	
8	08:47		14:16 (C13)	08:00			06:53		07:18 (C8)	06:30		05:17		05:46 (C2)		04:29	
	15:58	32	14:48 (C13)	17:01			18:03	2	07:20 (C8)	20:07		21:10	10	05:56 (C2)		22:01	
9	08:47		14:16 (C13)	07:58			06:50		07:16 (C8)	06:27		06:53 (C4)	05:15	05:44 (C2)		04:28	
	15:59	32	14:48 (C13)	17:03			18:05	6	07:22 (C8)	20:10	8	07:01 (C4)	21:12	12	05:56 (C2)	22:02	
10	08:46		14:16 (C13)	07:56			06:47		07:13 (C8)	06:25		06:50 (C4)	05:13	05:42 (C2)		04:28	
	16:01	33	14:49 (C13)	17:05			18:07	9	07:22 (C8)	20:12	13	07:03 (C4)	21:14	15	05:57 (C2)	22:03	
11	08:45		14:16 (C13)	07:54			06:45		07:10 (C8)	06:22		06:48 (C4)	05:10	05:40 (C2)		04:27	
	16:03	34	14:50 (C13)	17:08			18:09	12	07:22 (C8)	20:14	16	07:04 (C4)	21:16	17	05:57 (C2)	22:04	
12	08:44		14:16 (C13)	07:52			06:42		07:08 (C8)	06:20		06:45 (C4)	05:08	05:39 (C2)		04:27	
	16:04	34	14:50 (C13)	17:10			18:11	15	07:23 (C8)	20:16	19	07:04 (C4)	21:18	18	05:57 (C2)	22:05	
13	08:43		14:16 (C13)	07:49			06:39		07:07 (C8)	06:17		06:44 (C4)	05:06	05:38 (C2)		04:26	
	16:06	35	14:51 (C13)	17:12			18:13	15	07:22 (C8)	20:18	21	07:05 (C4)	21:20	19	05:57 (C2)	22:06	
14	08:42		14:17 (C13)	07:47			06:37		07:07 (C8)	06:14		06:43 (C4)	05:04	05:39 (C2)		04:26	
	16:08	35	14:52 (C13)	17:14			18:15	14	07:21 (C8)	20:20	22	07:05 (C4)	21:22	18	05:57 (C2)	22:07	
15	08:41		14:16 (C13)	07:45			06:34		07:07 (C8)	06:12		06:43 (C4)	05:02	05:39 (C2)		04:26	
	16:10	36	14:52 (C13)	17:17			18:17	12	07:19 (C8)	20:22	22	07:05 (C4)	21:24	18	05:57 (C2)	22:07	
16	08:40		14:17 (C13)	07:43			06:31		07:09 (C8)	06:09		06:42 (C4)	05:01	05:39 (C2)		04:25	
	16:12	36	14:53 (C13)	17:19			18:20	9	07:18 (C8)	20:24	23	07:05 (C4)	21:25	17	05:56 (C2)	22:08	
17	08:39		14:16 (C13)	07:40			06:29			06:07		06:43 (C4)	04:59	05:41 (C2)		04:25	
	16:14	37	14:53 (C13)	17:21			18:22			20:26	22	07:05 (C4)	21:27	15	05:56 (C2)	22:08	
18	08:37		14:17 (C13)	07:38			06:26			06:04		06:42 (C4)	04:57	05:41 (C2)		04:25	
	16:16	37	14:54 (C13)	17:23			18:24			20:28	21	07:03 (C4)	21:29	14	05:55 (C2)	22:09	
19	08:36		14:17 (C13)	07:35			06:23			06:02		06:43 (C4)	04:55	05:41 (C2)		04:25	
	16:18	37	14:54 (C13)	17:25			18:26			20:30	20	07:03 (C4)	21:31	13	05:54 (C2)	22:09	
20	08:35		14:18 (C13)	07:33			06:21			05:59		06:43 (C4)	04:53	05:43 (C2)		04:25	
	16:20	37	14:55 (C13)	17:28			18:28			20:32	18	07:01 (C4)	21:33	10	05:53 (C2)	22:10	
21	08:33		14:18 (C13)	07:31			06:18			05:57		06:44 (C4)	04:52	05:44 (C2)		04:25	
	16:22	38	14:56 (C13)	17:30			18:30			20:35	16	07:00 (C4)	21:35	7	05:51 (C2)	22:10	
22	08:32		14:18 (C13)	07:28			06:15			05:54		06:46 (C4)	04:50			04:25	
	16:24	38	14:56 (C13)	17:32			18:32			20:37	13	06:59 (C4)	21:36			22:10	
23	08:30		14:18 (C13)	07:26			06:13			05:52		06:48 (C4)	04:48			04:26	
	16:26	38	14:56 (C13)	17:34			18:34			20:39	7	06:55 (C4)	21:38			22:10	
24	08:29		14:18 (C13)	07:23			06:10			05:49			04:47			04:26	
	16:28	38	14:56 (C13)	17:37			18:36			20:41			21:40			22:10	
25	08:27		14:19 (C13)	07:21			06:07			05:47			04:45			04:26	
	16:30	38	14:57 (C13)	17:39			18:38			20:43			21:42			22:10	
26	08:25		14:20 (C13)	07:18			06:05			05:44			04:44			04:27	
	16:32	37	14:57 (C13)	17:41			18:40			20:45			21:43			22:10	
27	08:24		14:20 (C13)	07:16			06:02		06:27 (C6)	05:42			04:42			04:27	
	16:34	36	14:56 (C13)	17:43			18:43	2	06:29 (C6)	20:47			21:45			22:10	
28	08:22		14:21 (C13)	07:13			05:59		06:24 (C6)	05:39			04:41			04:28	
	16:36	35	14:56 (C13)	17:45			18:45	6	06:30 (C6)	20:49			21:47			22:10	
29	08:20		14:22 (C13)				06:57		07:22 (C6)	05:37			04:39			04:28	
	16:39	34	14:56 (C13)				19:47	10	07:32 (C6)	20:51			21:48			22:10	
30	08:18		14:23 (C13)				06:54		07:19 (C6)	05:35			04:38			04:29	
	16:41	33	14:56 (C13)				19:49	13	07:32 (C6)	20:53			21:50			22:09	
31	08:17		14:23 (C13)				06:51		07:16 (C6)				04:37				
	16:43	31	14:54 (C13)				19:51	15	07:31 (C6)				21:51				
Potential sun hours	235			266			366			426			508			529	
Total, worst case	1050			135			140			327			214				
Sun reduction	0.13			0.20			0.41			0.50			0.57				
Oper. time red.	0.98			0.98			0.98			0.98			0.98				
Wind dir. red.	0.66			0.66			0.64			0.66			0.67				
Total reduction	0.09			0.13			0.26			0.32			0.37				
Total, real	91			18			36			105			80				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Raceni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (184)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	05:49 (C2)	06:17	06:47 (C4)	07:17
2	22:09	21:28	18 06:07 (C2)	20:14	16 07:03 (C4)	18:54
3	04:31	05:17	05:51 (C2)	06:19	06:49 (C4)	07:19
4	22:08	21:26	16 06:07 (C2)	20:11	12 07:01 (C4)	18:51
5	04:32	05:19	05:53 (C2)	06:21	06:51 (C4)	07:21
6	22:08	21:24	14 06:07 (C2)	20:09	8 06:59 (C4)	18:48
7	04:33	05:21	05:55 (C2)	06:23	07:23	07:52 (C8)
8	22:07	21:22	12 06:07 (C2)	20:06	18:46	8 08:00 (C8)
9	04:34	05:23	05:56 (C2)	06:25	07:25	07:54 (C8)
10	22:07	21:19	9 06:05 (C2)	20:03	18:43	4 07:58 (C8)
11	04:35	05:25	05:58 (C2)	06:27	07:27	07:53
12	22:06	21:17	6 06:04 (C2)	20:01	18:40	16:25
13	04:36	05:27	06:00 (C2)	06:29	07:13 (C6)	07:29
14	22:05	21:15	3 06:03 (C2)	19:58	8 07:21 (C6)	18:38
15	04:37	05:29	06:31	07:11 (C6)	07:32	16:23
16	22:04	21:13	19:55	11 07:22 (C6)	18:35	23 14:21 (C13)
17	04:38	05:31	06:33	07:09 (C6)	07:34	07:38
18	22:03	21:11	19:53	14 07:23 (C6)	18:32	16:21
19	04:39	05:33	06:35	07:08 (C6)	07:36	25 14:23 (C13)
20	22:02	21:08	19:50	16 07:24 (C6)	18:30	07:40
21	04:41	05:35	06:37	07:07 (C6)	07:38	28 14:24 (C13)
22	22:01	21:06	19:47	17 07:24 (C6)	18:27	07:42
23	04:42	05:37	06:39	07:08 (C6)	07:40	30 14:25 (C13)
24	22:00	21:04	19:45	16 07:24 (C6)	18:25	07:44
25	04:43	05:39	06:41	07:10 (C6)	07:42	31 14:26 (C13)
26	21:59	21:01	19:42	13 07:23 (C6)	18:22	07:46
27	04:45	05:41	06:43	07:12 (C6)	07:44	33 14:27 (C13)
28	21:58	20:59	19:39	10 07:22 (C6)	18:19	07:49
29	04:46	05:43	06:45	07:14 (C6)	07:46	34 14:28 (C13)
30	21:57	20:57	19:37	7 07:21 (C6)	18:17	35 14:28 (C13)
31	04:48	05:45	06:47	07:16 (C6)	07:48	36 14:28 (C13)
32	21:55	20:54	19:34	3 07:19 (C6)	18:14	07:55
33	04:49	05:47	06:49	07:19 (C6)	07:50	37 14:29 (C13)
34	21:54	20:52	19:31	07:12 (C6)	18:12	38 14:30 (C13)
35	04:51	05:49	06:51	07:22 (C6)	07:52	39 14:31 (C13)
36	21:52	20:49	19:29	07:14 (C6)	07:46	40 14:32 (C13)
37	04:52	05:51	06:53	07:21 (C6)	07:48	41 14:33 (C13)
38	21:51	20:47	19:26	07:13 (C6)	07:40	42 14:34 (C13)
39	04:54	05:53	06:53 (C4)	06:55	07:57	43 14:35 (C13)
40	21:49	20:45	9 07:02 (C4)	19:23	18:04	44 14:36 (C13)
41	04:56	05:55	06:51 (C4)	06:57	07:59	45 14:37 (C13)
42	21:48	20:42	13 07:04 (C4)	19:20	18:02	46 14:38 (C13)
43	04:57	05:56 (C2)	05:57	06:49 (C4)	06:59	47 14:39 (C13)
44	21:46	5 06:01 (C2)	20:40	16 07:05 (C4)	19:18	48 14:40 (C13)
45	04:59	05:53 (C2)	05:59	06:48 (C4)	07:01	49 14:41 (C13)
46	21:45	9 06:02 (C2)	20:37	18 07:06 (C4)	19:15	50 14:42 (C13)
47	05:01	05:53 (C2)	06:01	06:47 (C4)	07:03	51 14:43 (C13)
48	21:43	11 06:04 (C2)	20:35	20 07:07 (C4)	19:12	52 14:44 (C13)
49	05:03	05:51 (C2)	06:03	06:46 (C4)	07:05	53 14:45 (C13)
50	21:41	14 06:05 (C2)	20:32	21 07:07 (C4)	19:10	54 14:46 (C13)
51	05:04	05:51 (C2)	06:05	06:45 (C4)	07:07	55 14:47 (C13)
52	21:39	15 06:06 (C2)	20:29	21 07:06 (C4)	19:07	56 14:48 (C13)
53	05:06	05:51 (C2)	06:07	06:44 (C4)	07:09	57 14:49 (C13)
54	21:37	16 06:07 (C2)	20:27	22 07:06 (C4)	19:04	58 14:50 (C13)
55	05:08	05:49 (C2)	06:09	06:44 (C4)	07:11	59 14:51 (C13)
56	21:36	17 06:06 (C2)	20:24	22 07:06 (C4)	19:02	60 14:52 (C13)
57	05:10	05:49 (C2)	06:11	06:44 (C4)	07:13	61 14:53 (C13)
58	21:34	18 06:07 (C2)	20:22	22 07:06 (C4)	18:59	62 14:54 (C13)
59	05:12	05:50 (C2)	06:13	06:44 (C4)	07:15	63 14:55 (C13)
60	21:32	18 06:08 (C2)	20:19	21 07:05 (C4)	18:56	64 14:56 (C13)
61	05:14	05:50 (C2)	06:15	06:45 (C4)	07:17	65 14:57 (C13)
62	21:30	18 06:08 (C2)	20:17	19 07:04 (C4)	16:38	66 14:58 (C13)
Potential sun hours	529	469	385	324	247	216
Total, worst case	141	302	199	52	856	787
Sun reduction	0.49	0.50	0.43	0.26	0.08	0.07
Oper. time red.	0.98	0.98	0.98	0.98	0.98	0.98
Wind dir. red.	0.67	0.66	0.65	0.63	0.66	0.66
Total reduction	0.32	0.32	0.27	0.16	0.05	0.05
Total, real	46	97	54	8	46	36

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ruki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (177)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:48 19:53	05:32 20:55	04:35 21:53	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:40 19:59	05:25 21:02	04:32 21:57	04:32 22:07	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:03 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:36 16:23	08:34 15:40
8	08:48 15:57	08:00 17:01	06:53 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:26 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:24	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:22	06:06 20:26	04:58 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:37
18	08:37 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 17:30	06:18 18:30	05:56 20:35	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:49 15:39
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:39
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:39	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:40 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:47	08:51 15:44
30	08:18 16:40		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:17 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Salvija - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (56)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:33	04:36
	15:48	16:45	17:48	19:53	20:56	21:53
2	08:51	08:13	08:43 (C14)	07:08	06:46	05:30
	15:49	16:48	08:46 (C14)	17:50	19:55	20:58
3	08:50	08:11	08:41 (C14)	07:06	06:44	05:28
	15:51	16:50	08:47 (C14)	17:52	19:57	21:00
4	08:50	08:09	08:39 (C14)	07:03	06:41	05:26
	15:52	16:52	08:49 (C14)	17:54	19:59	21:02
5	08:49	08:07	08:37 (C14)	07:01	06:38	05:24
	15:53	16:54	08:50 (C14)	17:56	20:01	21:04
6	08:49	08:05	08:34 (C14)	06:58	06:36	05:21
	15:55	16:57	08:49 (C14)	17:58	20:03	21:06
7	08:48	08:03	08:32 (C14)	06:55	06:33	05:19
	15:56	16:59	08:50 (C14)	18:01	20:06	21:08
8	08:48	08:01	08:32 (C14)	06:53	06:30	05:17
	15:58	17:01	08:51 (C14)	18:03	20:08	21:10
9	08:47	07:58	08:32 (C14)	06:50	06:28	05:15
	16:00	17:03	08:50 (C14)	18:05	20:10	21:12
10	08:46	07:56	08:32 (C14)	06:48	06:25	05:13
	16:01	17:05	08:50 (C14)	18:07	20:12	21:14
11	08:45	07:54	08:33 (C14)	06:45	06:22	05:11
	16:03	17:08	08:50 (C14)	18:09	20:14	21:16
12	08:44	07:52	08:34 (C14)	06:42	06:20	05:09
	16:05	17:10	08:48 (C14)	18:11	20:16	21:18
13	08:43	07:50	08:36 (C14)	06:40	06:17	05:07
	16:06	17:12	08:47 (C14)	18:13	07:05 (C13)	06:17
14	08:42	07:47	08:37 (C14)	06:37	07:10 (C13)	06:18
	16:08	17:14	08:44 (C14)	18:16	07:02 (C13)	06:15
15	08:41	07:45	06:34	06:12	07:10 (C13)	06:20
	16:10	17:17	18:18	11	07:00 (C13)	06:12
16	08:40	07:43	06:32	06:09	07:11 (C13)	06:22
	16:12	17:19	18:20	14	07:00 (C13)	06:12
17	08:39	07:40	06:29	06:07	07:11 (C13)	06:24
	16:14	17:21	18:22	17	07:00 (C13)	06:12
18	08:38	07:38	06:26	06:04	06:54 (C13)	06:07
	16:16	17:23	18:24	17	07:11 (C13)	06:28
19	08:36	07:36	06:24	06:02	06:54 (C13)	06:02
	16:18	17:26	18:26	16	07:10 (C13)	06:31
20	08:35	07:33	06:21	05:59	06:55 (C13)	05:59
	16:20	17:28	18:28	13	07:08 (C13)	06:33
21	08:33	07:31	06:18	05:57	06:56 (C13)	05:57
	16:22	17:30	18:30	10	07:06 (C13)	06:35
22	08:32	07:28	06:16	05:54	05:54	04:50
	16:24	17:32	18:32	20:37	21:37	22:10
23	08:30	07:26	06:13	05:52	05:52	04:48
	16:26	17:34	18:34	20:39	21:38	22:10
24	08:29	07:23	06:10	05:49	05:49	04:47
	16:28	17:37	18:36	20:41	21:40	22:10
25	08:27	07:21	06:08	05:47	05:47	04:45
	16:30	17:39	18:39	20:43	21:42	22:10
26	08:26	07:18	06:05	05:44	05:44	04:44
	16:32	17:41	18:41	20:45	21:43	22:10
27	08:24	07:16	06:02	05:42	05:42	04:42
	16:34	17:43	18:43	20:47	21:45	22:10
28	08:22	07:13	06:00	05:40	05:40	04:41
	16:37	17:45	18:45	20:49	21:47	22:10
29	08:20		06:57	05:37	05:37	04:40
	16:39		19:47	20:51	21:48	22:10
30	08:19		06:54	05:35	05:35	04:38
	16:41		19:49	20:53	21:50	22:09
31	08:17		06:52		04:37	
	16:43		19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		169	111			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.61	0.64			
Total reduction		0.12	0.25			
Total, real		20	28			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Salvija - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (56)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:46 (C13) 07:48 (C13)	08:02 (C14) 08:19 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:01 (C14) 08:19 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:02 (C14) 08:20 (C14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:02 (C14) 08:20 (C14)
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:05 (C14) 08:20 (C14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:07 (C14) 08:19 (C14)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:09 (C14) 08:18 (C14)
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:12 (C14) 08:18 (C14)
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:14 (C14) 08:17 (C14)
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:19 (C14) 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:19 (C14) 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:19 (C14) 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:19 (C14) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:19 (C14) 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:19 (C14) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:19 (C14) 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:19 (C14) 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:19 (C14) 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:19 (C14) 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:19 (C14) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:19 (C14) 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:19 (C14) 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:19 (C14) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:19 (C14) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:19 (C14) 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:15 15:51	08:19 (C14) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 16:48	08:17 15:50	08:19 (C14) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 16:45	08:19 (C14) 15:48	08:19 (C14) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 16:43	08:21 15:47	08:19 (C14) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 16:41	08:23 15:46	08:19 (C14) 15:46
31	05:14 21:30	06:15 20:17		08:19 (C14) 16:38	08:25 15:47	08:19 (C14) 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			112	53	116	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.64	0.61	0.61	
Total reduction			0.26	0.15	0.05	
Total, real			30	8	6	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Sarkani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (179)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	05:50 (C14) 05:52 (C14)	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44	
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43	
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43	
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42	
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41	
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41	
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40	
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40	
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39	
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39	
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:39	
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38	
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38	
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38	
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:42 (C14) 05:48 (C14)	05:45 20:54	07:48 18:15	07:55 16:06	08:45 15:38	
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:42 (C14) 05:50 (C14)	05:47 20:52	07:49 18:12	07:57 16:04	08:46 15:38	
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:40 (C14) 05:51 (C14)	05:49 20:50	07:51 18:10	07:59 16:03	08:46 15:38	
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:39 (C14) 05:52 (C14)	05:51 20:47	07:53 18:07	08:01 16:01	08:47 15:39	
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:26 22:10	04:54 21:49	05:39 (C14) 05:53 (C14)	05:53 20:45	07:55 18:05	08:03 15:59	08:48 15:39	
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:38 (C14) 05:53 (C14)	05:55 20:42	07:59 18:02	08:05 15:58	08:48 15:39	
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:38 (C14) 05:54 (C14)	05:57 20:40	07:59 18:18	08:07 15:56	08:49 15:40	
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:39 (C14) 05:54 (C14)	05:59 20:37	08:03 17:15	08:09 15:55	08:49 15:40	
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	05:38 (C14) 05:54 (C14)	06:01 20:35	08:05 17:13	08:11 15:54	08:50 15:41	
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	05:38 (C14) 05:55 (C14)	06:03 20:32	08:07 17:10	08:13 15:52	08:50 15:42	
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	05:39 (C14) 05:54 (C14)	06:05 20:30	08:07 17:07	08:15 16:50	08:51 15:51	
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	05:41 (C14) 05:54 (C14)	06:07 20:27	08:09 17:11	08:17 16:48	08:51 15:43	
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	05:43 (C14) 05:54 (C14)	06:09 20:24	08:11 17:02	08:19 16:45	08:51 15:44	
29	08:20 16:39	07:10 17:47	06:57 18:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	05:44 (C14) 05:53 (C14)	06:11 20:22	08:13 17:15	08:21 16:43	08:51 15:45	
30	08:19 16:41	07:09 17:49	06:54 18:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	05:46 (C14) 05:53 (C14)	06:13 20:19	08:15 17:18	08:22 16:41	08:51 15:46	
31	08:17 16:43	07:07 17:51	06:52 18:51	05:34 20:51	04:37 21:51	05:14 21:30	05:48 20:17	06:15 20:17	07:20 16:38	08:22 15:41	08:29 15:47	08:51 15:47	
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216	
Total, worst case					192		191	2					
Sun reduction					0.57		0.49	0.50					
Oper. time red.					0.98		0.98	0.98					
Wind dir. red.					0.67		0.67	0.67					
Total reduction					0.37		0.32	0.33					
Total, real					72		62	1					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Sarmas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (154)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	08:46 (C14) 08:55 (C14)	07:11 17:48	06:49 19:53	04:36 21:53
2	08:51 15:49	08:13 16:48	08:43 (C14) 08:55 (C14)	07:08 17:50	06:46 19:55	04:35 21:54
3	08:50 15:51	08:11 16:50	08:41 (C14) 08:56 (C14)	07:06 17:52	06:44 19:57	04:34 21:55
4	08:50 15:52	08:09 16:52	08:39 (C14) 08:56 (C14)	07:03 17:54	06:41 19:59	04:33 21:57
5	08:49 15:53	08:07 16:54	08:39 (C14) 08:56 (C14)	07:01 17:56	06:38 20:01	04:32 21:58
6	08:49 15:55	08:05 16:57	08:39 (C14) 08:55 (C14)	06:58 17:58	06:36 20:04	04:31 21:59
7	08:48 15:56	08:03 16:59	08:40 (C14) 08:55 (C14)	06:55 18:01	06:33 20:06	04:30 22:00
8	08:48 15:58	08:01 17:01	08:41 (C14) 08:55 (C14)	06:53 18:03	06:30 20:08	04:29 22:01
9	08:47 16:00	07:58 17:03	08:42 (C14) 08:53 (C14)	06:50 18:05	06:28 20:10	04:29 22:02
10	08:46 16:01	07:56 17:05	08:44 (C14) 08:52 (C14)	06:48 18:07	06:25 20:12	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 18:11	06:22 20:14	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	06:20 20:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	06:17 20:20	04:26 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	06:15 20:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	06:12 20:24	04:26 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	06:09 20:26	04:26 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	06:07 20:27	04:25 22:09
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	06:04 20:29	04:25 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	06:02 20:31	04:25 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	05:59 20:33	04:25 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	05:57 20:35	04:25 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	05:54 20:37	04:26 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	05:52 20:39	04:26 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	05:49 20:41	04:26 22:11
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	05:47 20:43	04:27 22:11
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	05:45 20:45	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	05:42 20:47	04:27 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	05:40 20:49	04:28 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	05:37 20:51	04:29 22:10
30	08:19 16:41	08:50 (C14) 08:53 (C14)	06:54 19:49	05:35 20:53	05:35 20:53	04:29 22:10
31	08:17 16:43	08:48 (C14) 08:54 (C14)	06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	9	134	96			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.61	0.61	0.62			
Total reduction	0.08	0.12	0.25			
Total, real	1	16	24			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Sarmas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (154)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:48 (C13) 08:03 (C13)	07:23 08:13 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 08:03 (C13)	07:25 08:11 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 08:03 (C13)	07:27 08:11 (C14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 08:02 (C13)	07:29 08:09 (C14)
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 08:01 (C13)	07:31 08:09 (C14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 07:59 (C13)	07:34 08:09 (C14)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 08:09 (C14)	07:36 08:09 (C14)
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	07:38 08:12 (C14)
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	07:40 08:14 (C14)
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	07:42 08:17 (C14)
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	07:44 08:19 (C14)
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	07:47 08:21 (C14)
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	07:49 08:23 (C14)
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	07:51 08:26 (C14)
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	07:53 08:26 (C14)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	07:55 08:26 (C14)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	07:57 08:26 (C14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	07:59 08:26 (C14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:01 08:26 (C14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:03 08:26 (C14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:05 08:26 (C14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:07 08:26 (C14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:09 08:26 (C14)
24	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:11 08:26 (C14)
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:13 08:26 (C14)
26	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:15 08:26 (C14)
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:17 08:26 (C14)
28	05:08 21:36	06:09 20:25	07:11 19:02	07:14 16:45	08:19 15:48	08:19 08:26 (C14)
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:21 08:26 (C14)
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:23 15:46	08:23 08:26 (C14)
31	05:14 21:30	06:15 20:17		07:20 16:38		08:25 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			36	63	144	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.62	0.62	0.61	
Total reduction			0.26	0.16	0.05	
Total, real			9	10	7	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Saulkrasti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (112)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	09:19 (C13) 17:48	07:11 19:53	06:49 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	09:20 (C13) 17:50	07:08 19:55	06:46 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	09:22 (C13) 17:52	07:06 19:57	06:43 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	09:24 (C13) 17:54	07:03 19:59	06:41 21:02	04:33 21:57	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	09:29 (C13) 17:56	07:01 19:59	06:38 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	09:31 (C13) 17:58	07:01 19:58	06:35 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	09:33 (C13) 17:59	07:03 19:58	06:33 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 20:01	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	09:35 (C13) 18:01	07:03 19:58	06:30 21:08	04:29 22:00	04:37 22:05	05:29 21:15	06:31 20:01	07:32 18:38	07:38 16:23	08:35 15:40
9	08:47 15:59	07:58 17:03	09:37 (C13) 18:03	07:03 19:58	06:28 21:10	04:29 22:01	04:38 22:04	05:31 21:13	06:33 20:01	07:34 18:35	07:40 16:21	08:37 15:40
10	08:46 16:01	07:56 17:05	09:39 (C13) 18:05	07:03 19:58	06:25 21:12	04:28 22:02	04:39 22:03	05:33 21:11	06:35 20:01	07:36 18:32	07:42 16:19	08:38 15:39
11	08:45 16:03	07:54 17:08	09:41 (C13) 18:09	07:03 19:58	06:22 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 20:01	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:05	07:52 17:10	09:43 (C13) 18:11	07:03 19:58	06:20 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 20:01	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:50 17:12	09:45 (C13) 18:13	07:03 19:58	06:17 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 20:01	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	09:47 (C13) 18:15	07:03 19:58	06:15 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 20:01	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	09:49 (C13) 18:17	07:03 19:58	06:12 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 20:01	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	09:51 (C13) 18:19	07:03 19:58	06:10 21:26	04:25 22:08	04:48 21:55	05:45 20:54	06:47 20:01	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	09:53 (C13) 18:21	07:03 19:58	06:07 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 20:01	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	09:55 (C13) 18:23	07:03 19:58	06:04 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 20:01	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:36 17:26	09:57 (C13) 18:25	07:03 19:58	06:02 21:31	04:25 22:10	04:52 21:51	05:51 20:47	06:53 20:01	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	09:59 (C13) 18:27	07:03 19:58	05:59 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 20:01	07:57 18:04	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	10:01 (C13) 18:29	07:03 19:58	05:57 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 20:01	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	10:03 (C13) 18:31	07:03 19:58	05:54 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 20:01	08:01 17:59	08:07 15:56	08:51 15:39
23	08:30 16:26	07:26 17:34	10:05 (C13) 18:33	07:03 19:58	05:52 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 20:01	08:03 17:57	08:09 15:55	08:52 15:40
24	08:29 16:28	07:23 17:37	10:07 (C13) 18:35	07:03 19:58	05:49 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 20:01	08:05 17:55	08:11 15:53	08:53 15:41
25	08:27 16:30	07:21 17:39	10:09 (C13) 18:37	07:03 19:58	05:47 21:42	04:26 22:10	05:03 21:41	06:03 20:32	07:05 20:01	08:07 17:52	08:13 15:52	08:54 15:41
26	08:26 16:32	07:18 17:41	10:11 (C13) 18:39	07:03 19:58	05:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 20:01	08:09 17:50	08:15 15:51	08:55 15:42
27	08:24 16:34	07:16 17:43	10:13 (C13) 18:41	07:03 19:58	05:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 20:01	08:12 17:47	08:17 15:49	08:56 15:43
28	08:22 16:36	07:13 17:45	10:15 (C13) 18:43	07:03 19:58	05:40 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 20:01	08:14 17:44	08:19 15:48	08:58 15:44
29	08:20 16:39	07:13 17:48	10:17 (C13) 18:45	07:03 19:58	05:37 21:50	04:29 22:10	05:10 21:34	06:11 20:22	07:13 20:01	08:16 17:43	08:21 15:47	09:00 15:45
30	08:19 16:41	07:13 17:50	10:19 (C13) 18:47	07:03 19:58	05:35 21:52	04:30 22:10	05:12 21:32	06:13 20:19	07:15 20:01	08:18 17:41	08:22 15:46	09:02 15:46
31	08:17 16:43	07:13 17:52	10:21 (C13) 18:49	07:03 19:58	05:33 21:54	04:31 22:10	05:14 21:30	06:15 20:17	07:17 20:01	08:20 17:38	08:24 15:47	09:04 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case	407	66									477	
Sun reduction	0.13	0.20									0.08	
Oper. time red.	0.98	0.98									0.98	
Wind dir. red.	0.60	0.60									0.60	
Total reduction	0.08	0.12									0.05	
Total, real	32	8									23	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Saulites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (136)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:37 (C15) 07:42 (C15)	06:49 19:53	05:33 20:55
2	08:50 15:50	08:13 16:48	07:08 17:50	07:34 (C14) 07:42 (C15)	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	07:06 17:52	07:32 (C14) 07:43 (C15)	06:44 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	07:03 17:54	07:29 (C14) 07:43 (C14)	06:41 19:59	05:26 21:02
5	08:49 15:54	08:07 16:54	07:01 17:56	07:26 (C14) 07:44 (C14)	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:57	06:58 17:58	07:24 (C14) 07:45 (C14)	06:36 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	06:55 18:01	07:21 (C14) 07:45 (C14)	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	06:53 18:03	07:20 (C14) 07:45 (C14)	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	06:50 18:05	07:20 (C14) 07:46 (C14)	06:28 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	06:48 18:07	07:19 (C14) 07:46 (C14)	06:25 20:12	05:13 21:14
11	08:45 16:03	07:54 17:08	06:45 18:09	07:19 (C14) 07:45 (C14)	06:22 20:14	05:11 21:16
12	08:44 16:05	07:52 17:10	06:42 18:11	07:19 (C14) 07:45 (C14)	06:20 20:16	05:09 21:18
13	08:43 16:06	07:50 17:12	06:40 18:13	07:19 (C14) 07:44 (C14)	06:17 20:18	05:07 21:20
14	08:42 16:08	07:47 17:14	06:37 18:15	07:19 (C14) 07:43 (C14)	06:15 20:20	05:05 21:22
15	08:41 16:10	07:45 17:17	06:34 18:18	07:21 (C14) 07:43 (C14)	06:12 20:22	05:03 21:24
16	08:40 16:12	07:43 17:19	06:32 18:20	07:21 (C14) 07:41 (C14)	06:09 20:24	05:01 21:26
17	08:39 16:14	07:40 17:21	06:29 18:22	07:22 (C14) 07:38 (C14)	06:07 20:26	04:59 21:27
18	08:38 16:16	07:38 17:23	06:26 18:24	07:25 (C14) 07:35 (C14)	06:04 20:28	04:57 21:29
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	06:02 20:31	04:55 21:31
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	06:26 (C13) 06:43 (C13)	04:54 21:33
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:23 (C13) 06:43 (C13)	04:52 21:35
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	06:23 (C13) 06:43 (C13)	04:50 21:37
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	06:22 (C13) 06:41 (C13)	04:48 21:38
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	06:23 (C13) 06:41 (C13)	04:47 21:40
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	06:23 (C13) 06:41 (C13)	04:45 21:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	06:24 (C13) 06:39 (C13)	04:44 21:43
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:25 (C13) 06:37 (C13)	04:42 21:45
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	06:27 (C13) 06:35 (C13)	04:41 21:47
29	08:20 16:39		05:57 19:47	05:37 20:51		04:40 21:48
30	08:19 16:41		06:54 19:49	05:35 20:53		04:38 21:50
31	08:17 16:43		06:52 19:51			04:37 21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		1	348		190	
Sun reduction		0.20	0.41		0.50	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.62	0.62		0.65	
Total reduction		0.12	0.25		0.32	
Total, real		0	87		60	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Saulites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (136)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:59 (C14)	07:23
	22:09	21:28	20:14	18:54	25	08:24 (C14)
2	04:31	05:18	06:19	07:19	07:58 (C14)	07:25
	22:09	21:26	20:11	18:51	26	08:24 (C14)
3	04:32	05:20	06:21	07:21	07:57 (C14)	07:27
	22:08	21:24	20:09	18:48	27	08:24 (C14)
4	04:33	05:22	06:23	07:23	07:57 (C14)	07:29
	22:07	21:22	20:06	18:46	26	08:23 (C14)
5	04:34	05:24	06:25	07:25	07:57 (C14)	07:31
	22:07	21:20	20:04	18:43	26	08:23 (C14)
6	04:35	05:25	06:27	07:28	07:57 (C14)	07:33
	22:06	21:17	20:01	18:40	25	08:22 (C14)
7	04:36	05:27	06:29	07:30	07:58 (C14)	07:36
	22:05	21:15	19:58	18:38	23	08:21 (C14)
8	04:37	05:29	06:31	07:32	08:00 (C14)	07:38
	22:04	21:13	19:56	18:35	19	08:19 (C14)
9	04:38	05:31	06:33	07:34	08:03 (C14)	07:40
	22:03	21:11	19:53	18:33	16	08:19 (C14)
10	04:40	05:33	06:35	07:36	08:05 (C14)	07:42
	22:02	21:08	19:50	18:30	13	08:18 (C15)
11	04:41	05:35	06:37	07:38	08:07 (C14)	07:44
	22:01	21:06	19:48	18:27	10	08:17 (C15)
12	04:42	05:37	06:39	07:40	08:09 (C15)	07:46
	22:00	21:04	19:45	18:25	7	08:16 (C15)
13	04:44	05:39	06:41	07:42	08:11 (C15)	07:49
	21:59	21:02	19:42	18:22	4	08:15 (C15)
14	04:45	05:41	06:43	07:44		07:51
	21:58	20:59	19:39	18:20		16:10
15	04:46	05:43	06:45	07:46		07:53
	21:57	20:57	9 06:43 (C13)	18:17		16:08
16	04:48	05:45	06:47	07:48		07:55
	21:55	20:54	13 06:45 (C13)	18:15		16:06
17	04:49	05:47	06:49	07:50		07:57
	21:54	20:52	15 06:46 (C13)	18:12		16:04
18	04:51	05:49	06:51	07:52		07:59
	21:52	20:50	17 06:47 (C13)	18:09		16:03
19	04:53	05:51	06:53	07:55		08:01
	21:51	20:47	19 06:47 (C13)	18:07		16:01
20	04:54	05:53	06:55	07:57		08:03
	21:49	20:45	19 06:47 (C13)	18:04		15:59
21	04:56	05:55	06:57	07:59		08:05
	21:48	20:42	20 06:47 (C13)	18:02		15:58
22	04:58	05:57	06:59	08:01		08:07
	21:46	20:40	19 06:47 (C13)	18:00		15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	17 06:47 (C13)	17:57		15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	14 06:46 (C13)	17:55		15:53
25	05:03	06:03	07:05	08:10 (C14)		08:13
	21:41	20:32	12 06:46 (C13)	7 08:17 (C14)		15:52
26	05:05	06:05	07:07	08:06 (C14)		08:15
	21:39	20:30	9 06:45 (C13)	14 08:20 (C14)		15:51
27	05:06	06:07	07:09	08:04 (C14)		08:17
	21:38	20:27	5 06:43 (C13)	18 08:22 (C14)		15:50
28	05:08	06:09	07:11	08:02 (C14)		08:19
	21:36	20:24	1 06:40 (C13)	21 08:23 (C14)		15:48
29	05:10	06:11	07:13	08:01 (C14)		08:21
	21:34	20:22	18:59	23 08:24 (C14)		15:47
30	05:12	06:13	07:15	07:59 (C14)		08:22
	21:32	20:19	18:56	25 08:24 (C14)		15:46
31	05:14	06:15		07:20		08:51
	21:30	20:17		16:38		15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		189	108		247	
Sun reduction		0.50	0.43		0.26	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.65	0.62		0.62	
Total reduction		0.32	0.26		0.16	
Total, real		60	28		39	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Seglini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (79)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:33	04:36
	15:48	16:45	17:48	19:53	20:55	21:53
2	08:50	08:13	07:08	07:34 (C15)	06:46	05:30
	15:50	16:48	17:50	1 07:35 (C15)	19:55	20:58
3	08:50	08:11	07:06	07:32 (C15)	06:44	05:28
	15:51	16:50	17:52	5 07:37 (C15)	19:57	21:00
4	08:50	08:09	07:03	07:29 (C15)	06:41	05:26
	15:52	16:52	17:54	8 07:37 (C15)	19:59	21:02
5	08:49	08:07	07:01	07:26 (C14)	06:38	05:24
	15:54	16:54	17:56	11 07:37 (C15)	20:01	21:04
6	08:49	08:05	06:58	07:24 (C14)	06:36	05:21
	15:55	16:57	17:58	14 07:38 (C15)	20:03	21:06
7	08:48	08:03	06:55	07:21 (C14)	06:33	05:19
	15:56	16:59	18:01	16 07:37 (C15)	20:06	21:08
8	08:48	08:01	06:53	07:18 (C14)	06:30	05:17
	15:58	17:01	18:03	18 07:36 (C15)	20:08	21:10
9	08:47	07:58	06:50	07:16 (C14)	06:28	05:15
	16:00	17:03	18:05	20 07:36 (C14)	20:10	21:12
10	08:46	07:56	06:48	07:13 (C14)	06:25	05:13
	16:01	17:05	18:07	24 07:37 (C14)	20:12	21:14
11	08:45	07:54	06:45	07:12 (C14)	06:22	05:11
	16:03	17:08	18:09	25 07:37 (C14)	20:14	21:16
12	08:44	07:52	06:42	07:12 (C14)	06:20	05:09
	16:05	17:10	18:11	25 07:37 (C14)	20:16	21:18
13	08:43	07:50	06:40	07:11 (C14)	06:17	05:07
	16:06	17:12	18:13	26 07:37 (C14)	20:18	21:20
14	08:42	07:47	06:37	07:11 (C14)	06:15	05:05
	16:08	17:14	18:16	25 07:36 (C14)	20:20	21:22
15	08:41	07:45	06:34	07:11 (C14)	06:12	05:03
	16:10	17:17	18:18	25 07:36 (C14)	20:22	21:24
16	08:40	07:43	06:32	07:11 (C14)	06:09	05:01
	16:12	17:19	18:20	24 07:35 (C14)	20:24	21:26
17	08:39	07:40	06:29	07:11 (C14)	06:07	04:59
	16:14	17:21	18:22	23 07:34 (C14)	20:26	4 06:33 (C13)
18	08:38	07:38	06:26	07:12 (C14)	06:04	06:30 (C13)
	16:16	17:23	18:24	20 07:32 (C14)	20:28	7 06:37 (C13)
19	08:36	07:36	06:24	07:13 (C14)	06:02	06:28 (C13)
	16:18	17:26	18:26	18 07:31 (C14)	20:31	10 06:38 (C13)
20	08:35	07:33	06:21	07:15 (C14)	05:59	06:26 (C13)
	16:20	17:28	18:28	14 07:29 (C14)	20:33	13 06:39 (C13)
21	08:33	07:31	06:18	07:18 (C14)	05:57	06:23 (C13)
	16:22	17:30	18:30	6 07:24 (C14)	20:35	16 06:39 (C13)
22	08:32	07:28	06:16		05:54	06:21 (C13)
	16:24	17:32	18:32		20:37	18 06:39 (C13)
23	08:30	07:26	06:13		05:52	06:19 (C13)
	16:26	17:34	18:34		20:39	19 06:38 (C13)
24	08:29	07:23	06:10		05:49	06:19 (C13)
	16:28	17:37	18:36		20:41	19 06:38 (C13)
25	08:27	07:21	06:08		05:47	06:20 (C13)
	16:30	17:39	18:39		20:43	18 06:38 (C13)
26	08:26	07:18	06:05		05:45	06:19 (C13)
	16:32	17:41	18:41		20:45	17 06:36 (C13)
27	08:24	07:16	06:02		05:42	06:20 (C13)
	16:34	17:43	18:43		20:47	15 06:35 (C13)
28	08:22	07:13	06:00		05:40	06:22 (C13)
	16:37	17:45	18:45		20:49	12 06:34 (C13)
29	08:20		06:57		05:37	06:24 (C13)
	16:39		19:47		20:51	8 06:32 (C13)
30	08:19		06:54		05:35	
	16:41		19:49		20:53	
31	08:17		06:52			
	16:43		19:51			
Potential sun hours	235	266	366	426	508	528
Total, worst case			348		176	
Sun reduction			0.41		0.50	
Oper. time red.			0.98		0.98	
Wind dir. red.			0.62		0.65	
Total reduction			0.25		0.32	
Total, real			87		56	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Seglini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (79)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:51 (C14) 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:50 (C14) 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:51 (C14) 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:52 (C14) 16:30	08:29 15:43
5	04:34 22:07	05:24 21:20	06:25 20:04	07:25 18:43	07:54 (C14) 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:56 (C14) 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:58 (C14) 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:00 (C14) 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:03 (C15) 16:19	08:37 15:39
10	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:05 (C15) 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	08:07 (C15) 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 (C13) 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 (C13) 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 (C13) 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 (C13) 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:51 (C13) 19:29	07:53 18:09	07:59 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 (C13) 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:55 (C13) 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 (C13) 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 (C13) 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 (C13) 19:15	08:03 (C14) 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 (C13) 19:12	08:05 (C14) 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 (C13) 19:10	08:14 (C14) 17:52	08:13 15:52	08:51 15:41
26	05:05 21:39	06:05 20:30	07:07 (C13) 19:07	08:16 (C14) 17:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:17 (C14) 17:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:19 (C14) 17:46	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:21 (C14) 17:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:23 (C14) 17:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	08:25 (C14) 17:39	08:24 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		177	170	179		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.65	0.62	0.62		
Total reduction		0.32	0.26	0.16		
Total, real		56	44	28		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Senlici - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (140)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:01 (C13) 06:22 (C13)
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	06:02 (C13) 06:22 (C13)
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	06:02 (C13) 06:21 (C13)
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	06:02 (C13) 06:21 (C13)
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	06:03 (C13) 06:20 (C13)
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	06:04 (C13) 06:19 (C13)
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	06:05 (C13) 06:18 (C13)
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	06:06 (C13) 06:16 (C13)
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	06:10 (C13) 06:12 (C13)
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	06:12 (C13) 06:14 (C13)
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	06:14 (C13) 06:16 (C13)
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	06:16 (C13) 06:18 (C13)
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	06:18 (C13) 06:20 (C13)
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	06:20 (C13) 06:22 (C13)
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	06:22 (C13) 06:24 (C13)
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:25	06:24 (C13) 06:26 (C13)
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	06:26 (C13) 06:28 (C13)
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	06:28 (C13) 06:30 (C13)
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	06:30 (C13) 06:32 (C13)
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	06:32 (C13) 06:34 (C13)
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	06:34 (C13) 06:36 (C13)
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	06:36 (C13) 06:38 (C13)
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	06:38 (C13) 06:40 (C13)
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	06:40 (C13) 06:42 (C13)
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	06:42 (C13) 06:44 (C13)
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	06:44 (C13) 06:46 (C13)
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	06:46 (C13) 06:48 (C13)
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	06:48 (C13) 06:50 (C13)
29	08:20 16:39	07:11 19:47	06:57 19:47	05:37 20:51	04:40 21:48	06:50 (C13) 06:52 (C13)
30	08:19 16:41	07:10 19:49	06:54 19:49	05:35 20:53	04:38 21:50	06:52 (C13) 06:54 (C13)
31	08:17 16:43	07:09 19:51	06:52 19:51	05:33 20:55	04:37 21:51	06:54 (C13) 06:56 (C13)
Potential sun hours	235	266	366	426	508	528
Total, worst case			485		136	
Sun reduction			0.41		0.57	
Oper. time red.			0.98		0.98	
Wind dir. red.			0.63		0.66	
Total reduction			0.25		0.37	
Total, real			123	27	50	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Senlici - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (140)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:46 (C14)	07:23
	22:09	21:28	20:14	18:54	21	08:07 (C15)
2	04:31	05:18	06:19	07:19	07:48 (C14)	07:25
	22:09	21:26	20:11	18:51	19	08:07 (C15)
3	04:32	05:20	06:21	07:21	07:50 (C15)	07:27
	22:08	21:24	20:09	18:48	17	08:07 (C15)
4	04:33	05:22	06:18 (C13)	07:23	07:52 (C15)	07:29
	22:07	21:22	6	18:46	14	08:06 (C15)
5	04:34	05:24	06:16 (C13)	07:25	07:54 (C15)	07:31
	22:07	21:20	11	18:43	12	08:06 (C15)
6	04:35	05:25	06:14 (C13)	07:28	07:56 (C15)	07:33
	22:06	21:17	14	18:40	9	08:05 (C15)
7	04:36	05:27	06:13 (C13)	07:30	07:58 (C15)	07:36
	22:05	21:15	16	18:38	5	08:03 (C15)
8	04:37	05:29	06:12 (C13)	07:32	08:00 (C15)	07:38
	22:04	21:13	18	18:35	1	08:01 (C15)
9	04:38	05:31	06:12 (C13)	07:34		07:40
	22:03	21:11	18	18:33		16:19
10	04:40	05:33	06:11 (C13)	07:36		07:42
	22:02	21:08	20	18:30		16:17
11	04:41	05:35	06:11 (C13)	07:38		07:44
	22:01	21:06	20	18:27		16:15
12	04:42	05:37	06:10 (C13)	07:40		07:46
	22:00	21:04	20	18:25		16:13
13	04:44	05:39	06:11 (C13)	07:42		07:49
	21:59	21:02	19	18:22		16:11
14	04:45	05:41	06:13 (C13)	07:55 (C14)	07:44	07:51
	21:58	20:59	17	07:58 (C14)	18:20	16:10
15	04:46	05:43	06:15 (C13)	07:50 (C14)	07:46	07:53
	21:57	20:57	15	08:03 (C14)	18:17	16:08
16	04:48	05:45	06:17 (C13)	07:47 (C14)	07:48	07:55
	21:55	20:54	12	08:05 (C14)	18:15	16:06
17	04:49	05:47	06:19 (C13)	07:45 (C14)	07:50	07:57
	21:54	20:52	9	08:06 (C14)	18:12	16:04
18	04:51	05:49	06:21 (C13)	07:44 (C14)	07:52	07:59
	21:52	20:50	6	08:07 (C14)	18:09	16:03
19	04:53	05:51	06:22 (C13)	07:42 (C14)	07:55	08:01
	21:51	20:47	2	08:08 (C14)	18:07	16:01
20	04:54	05:53	06:55	07:41 (C14)	07:57	08:03
	21:49	20:45	19:23	08:08 (C14)	18:04	15:59
21	04:56	05:55	06:57	07:41 (C14)	07:59	08:05
	21:48	20:42	19:21	08:08 (C14)	18:02	15:58
22	04:58	05:57	06:59	07:40 (C14)	08:01	08:07
	21:46	20:40	19:18	08:08 (C14)	18:00	15:56
23	04:59	05:59	07:01	07:40 (C14)	08:03	08:09
	21:45	20:37	19:15	08:08 (C14)	17:57	15:55
24	05:01	06:01	07:03	07:39 (C14)	08:05	08:11
	21:43	20:35	19:12	08:07 (C14)	17:55	15:53
25	05:03	06:03	07:05	07:39 (C14)	07:07	08:13
	21:41	20:32	19:10	08:07 (C14)	16:52	15:52
26	05:05	06:05	07:07	07:39 (C14)	07:10	08:15
	21:39	20:30	19:07	08:06 (C14)	16:50	15:51
27	05:06	06:07	07:09	07:39 (C14)	07:12	08:17
	21:38	20:27	19:04	08:05 (C14)	16:48	15:50
28	05:08	06:09	07:11	07:40 (C14)	07:14	08:19
	21:36	20:24	19:02	08:04 (C14)	16:45	15:48
29	05:10	06:11	07:13	07:42 (C14)	07:16	08:21
	21:34	20:22	18:59	08:06 (C15)	16:43	15:47
30	05:12	06:13	07:15	07:44 (C14)	07:18	08:22
	21:32	20:19	18:56	08:07 (C15)	16:41	15:46
31	05:14	06:15			07:20	08:51
	21:30	20:17			16:38	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		223	394		98	
Sun reduction		0.50	0.43		0.26	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.66	0.63		0.62	
Total reduction		0.32	0.26		0.16	
Total, real		72	104		15	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Silavinas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (224)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:11 17:47	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:50	08:12 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:23	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:22 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:43
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:24 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:46 16:00	07:58 17:03	06:50 18:05	06:28 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:15	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:05	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:52 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:03	08:46 15:38
19	08:36 16:18	07:35 17:26	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:54 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:26 22:10	04:56 21:47	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	08:09 17:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:11 17:47	08:17 15:50	08:50 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	08:14 17:45	08:18 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:22	07:13 18:59	08:16 17:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	08:18 17:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Skola (kad. apz. 56960040345001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (152)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March	April	May	June		
1	08:51		10:03 (C13)	08:15		10:08 (C13)	07:11	06:49	05:33		04:36	
	15:48	30	10:33 (C13)	16:45	39	10:47 (C13)	17:48	19:53	20:55		21:53	
2	08:50		10:04 (C13)	08:13		10:09 (C13)	07:08	06:46	05:30		04:35	
	15:49	30	10:34 (C13)	16:47	38	10:47 (C13)	17:50	19:55	20:57		21:54	
3	08:50		10:03 (C13)	08:11		10:10 (C13)	07:06	06:43	05:28	05:56 (C1)	04:34	
	15:51	31	10:34 (C13)	16:50	36	10:46 (C13)	17:52	19:57	21:00	06:00 (C1)	21:55	
4	08:50		10:03 (C13)	08:09		10:12 (C13)	07:03	06:41	05:26	05:54 (C1)	04:33	
	15:52	32	10:35 (C13)	16:52	34	10:46 (C13)	17:54	19:59	21:02	06:01 (C1)	21:57	
5	08:49		10:04 (C13)	08:07		10:13 (C13)	07:00	06:38	05:23	05:52 (C1)	04:32	
	15:53	32	10:36 (C13)	16:54	32	10:45 (C13)	17:56	20:01	21:04	06:02 (C1)	21:58	
6	08:49		10:04 (C13)	08:05		10:14 (C13)	06:58	06:35	05:21	05:50 (C1)	04:31	
	15:55	33	10:37 (C13)	16:56	29	10:43 (C13)	17:58	20:03	21:06	06:03 (C1)	21:59	
7	08:48		10:04 (C13)	08:03		10:16 (C13)	06:55	06:33	05:19	05:48 (C1)	04:30	
	15:56	34	10:38 (C13)	16:59	26	10:42 (C13)	18:00	20:05	21:08	06:04 (C1)	22:00	
8	08:48		10:03 (C13)	08:01		10:18 (C13)	06:53	06:30	05:17	05:46 (C1)	04:29	
	15:58	36	10:39 (C13)	17:01	22	10:40 (C13)	18:03	20:08	21:10	06:04 (C1)	22:01	
9	08:47		10:03 (C13)	07:58		10:20 (C13)	06:50	06:28	05:15	05:45 (C1)	04:29	
	15:59	36	10:39 (C13)	17:03	17	10:37 (C13)	18:05	20:10	21:12	06:04 (C1)	22:02	
10	08:46		10:04 (C13)	07:56		10:25 (C13)	06:47	06:25	05:13	05:44 (C1)	04:28	
	16:01	36	10:40 (C13)	17:05	7	10:32 (C13)	18:07	20:12	21:14	06:04 (C1)	22:03	
11	08:45		10:04 (C13)	07:54			06:45	06:22	05:11	05:44 (C1)	04:27	
	16:03	37	10:41 (C13)	17:08			18:09	20:14	21:16	06:04 (C1)	22:04	
12	08:44		10:04 (C13)	07:52			06:42	06:20	05:08	05:44 (C1)	04:27	
	16:04	38	10:42 (C13)	17:10			18:11	20:16	21:18	06:03 (C1)	22:05	
13	08:43		10:03 (C13)	07:49			06:40	06:17	05:06	05:44 (C1)	04:26	
	16:06	39	10:42 (C13)	17:12			18:13	20:18	21:20	06:03 (C1)	22:06	
14	08:42		10:04 (C13)	07:47			06:37	06:14	05:04	05:45 (C1)	04:26	
	16:08	39	10:43 (C13)	17:14			18:15	20:20	21:22	06:03 (C1)	22:07	
15	08:41		10:03 (C13)	07:45			06:34	06:12	05:03	05:46 (C1)	04:26	
	16:10	40	10:43 (C13)	17:17			18:18	20:22	21:24	06:03 (C1)	22:07	
16	08:40		10:04 (C13)	07:43			06:32	06:09	05:01	05:46 (C1)	04:25	
	16:12	41	10:45 (C13)	17:19			18:20	20:24	21:25	06:02 (C1)	22:08	
17	08:39		10:04 (C13)	07:40			06:29	06:07	04:59	05:47 (C1)	04:25	
	16:14	42	10:46 (C13)	17:21			18:22	20:26	21:27	06:01 (C1)	22:08	
18	08:37		10:04 (C13)	07:38			06:26	06:04	04:57	05:48 (C1)	04:25	
	16:16	42	10:46 (C13)	17:23			18:24	20:28	21:29	06:00 (C1)	22:09	
19	08:36		10:04 (C13)	07:36			06:24	06:02	04:55	05:49 (C1)	04:25	
	16:18	42	10:46 (C13)	17:26			18:26	20:30	21:31	05:58 (C1)	22:09	
20	08:35		10:04 (C13)	07:33			06:21	05:59	04:53	05:53 (C1)	04:25	
	16:20	43	10:47 (C13)	17:28			18:28	20:33	21:33	05:56 (C1)	22:10	
21	08:33		10:04 (C13)	07:31			06:18	05:57	04:52		04:25	
	16:22	43	10:47 (C13)	17:30			18:30	20:35	21:35		22:10	
22	08:32		10:04 (C13)	07:28			06:16	05:54	04:50		04:25	
	16:24	43	10:47 (C13)	17:32			18:32	20:37	21:37		22:10	
23	08:30		10:04 (C13)	07:26			06:13	05:52	04:48		04:26	
	16:26	43	10:47 (C13)	17:34			18:34	20:39	21:38		22:10	
24	08:29		10:05 (C13)	07:23			06:10	05:49	04:47		04:26	
	16:28	44	10:49 (C13)	17:37			18:36	20:41	21:40		22:10	
25	08:27		10:06 (C13)	07:21			06:07	05:47	04:45		04:26	
	16:30	43	10:49 (C13)	17:39			18:38	20:43	21:42		22:10	
26	08:26		10:06 (C13)	07:18			06:05	05:44	04:44		04:27	
	16:32	43	10:49 (C13)	17:41			18:41	20:45	21:43		22:10	
27	08:24		10:06 (C13)	07:16			06:02	05:42	04:42		04:27	
	16:34	43	10:49 (C13)	17:43			18:43	20:47	21:45		22:10	
28	08:22		10:07 (C13)	07:13			05:59	05:40	04:41		04:28	
	16:36	42	10:49 (C13)	17:45			18:45	20:49	21:47		22:10	
29	08:20		10:07 (C13)				06:57	05:37	04:40		04:29	
	16:39	42	10:49 (C13)				19:47	20:51	21:48		22:10	
30	08:18		10:08 (C13)				06:54	05:35	04:38		04:29	
	16:41	41	10:49 (C13)				19:49	20:53	21:50		22:09	
31	08:17		10:09 (C13)				06:51		04:37			
	16:43	39	10:48 (C13)				19:51		21:51			
Potential sun hours	235			266			366	426	508		529	
Total, worst case	1199			280					254			
Sun reduction	0.13			0.20					0.57			
Oper. time red.	0.98			0.98					0.98			
Wind dir. red.	0.61			0.61					0.67			
Total reduction	0.08			0.12					0.36			
Total, real	93			33					92			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Skola (kad. apz. 56960040345001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (152)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	05:54 (C1)	06:17	07:17	07:23
2	22:09	21:28	20	06:14 (C1)	20:14	18:54
3	04:31	05:18	05:55 (C1)	06:19	07:19	07:25
4	22:09	21:26	19	06:14 (C1)	20:11	18:51
5	04:32	05:19	05:55 (C1)	06:21	07:21	07:27
6	22:08	21:24	19	06:14 (C1)	20:09	18:48
7	04:33	05:21	05:55 (C1)	06:23	07:23	07:29
8	22:07	21:22	19	06:14 (C1)	20:06	18:46
9	04:34	05:23	05:56 (C1)	06:25	07:25	07:31
10	22:07	21:20	17	06:13 (C1)	20:03	18:43
11	04:35	05:25	05:58 (C1)	06:27	07:27	07:33
12	22:06	21:17	15	06:13 (C1)	20:01	18:40
13	04:36	05:27	06:00 (C1)	06:29	07:30	07:36
14	22:05	21:15	12	06:12 (C1)	19:58	18:38
15	04:37	05:29	06:02 (C1)	06:31	07:32	07:38
16	22:04	21:13	9	06:11 (C1)	19:55	18:35
17	04:38	05:31	06:04 (C1)	06:33	07:34	07:40
18	22:03	21:11	6	06:10 (C1)	19:53	18:32
19	04:39	05:33	06:06 (C1)	06:35	07:36	07:42
20	22:02	21:08	2	06:08 (C1)	19:50	18:30
21	04:41	05:35	06:37	07:38	07:44	07:50
22	22:01	21:06	19:47	18:27	16:15	40
23	04:42	05:37	06:39	07:40	07:46	07:52
24	22:00	21:04	19:45	18:25	16:13	40
25	04:43	05:39	06:41	07:42	07:49	07:55
26	21:59	21:02	19:42	18:22	16:11	42
27	04:45	05:41	06:43	07:44	07:51	07:57
28	21:58	20:59	19:39	18:19	16:09	42
29	04:46	05:43	06:45	07:46	07:53	07:59
30	21:57	20:57	19:37	18:17	16:08	43
31	04:48	05:45	06:47	07:48	07:55	08:01
32	21:55	20:54	19:34	18:14	16:06	43
33	04:49	05:47	06:49	07:50	07:57	08:03
34	21:54	20:52	19:31	18:12	16:04	43
35	04:51	05:49	06:51	07:52	07:59	08:05
36	21:52	20:50	19:29	18:09	16:02	44
37	04:52	05:51	06:53	07:55	08:01	08:07
38	21:51	20:47	19:26	18:07	16:01	43
39	04:54	05:53	06:55	07:57	08:03	08:09
40	21:49	20:45	19:23	18:04	15:59	43
41	04:56	05:55	06:57	07:59	08:05	08:11
42	21:48	20:42	19:20	18:02	15:58	43
43	04:57	05:57	06:59	08:01	08:07	08:13
44	21:46	20:40	19:18	17:59	15:56	43
45	04:59	05:59	07:01	08:03	08:09	08:15
46	21:45	20:37	19:15	17:57	15:55	42
47	05:01	06:01 (C1)	07:03	08:05	08:11	08:17
48	21:43	7	06:08 (C1)	20:35	19:12	17:55
49	05:03	06:00 (C1)	06:03	07:05	07:07	08:13
50	21:41	10	06:10 (C1)	20:32	19:10	16:52
51	05:04	05:58 (C1)	06:05	07:07	07:10	08:15
52	21:39	13	06:11 (C1)	20:30	19:07	16:50
53	05:06	05:57 (C1)	06:07	07:09	07:12	08:17
54	21:38	15	06:12 (C1)	20:27	19:04	16:47
55	05:08	05:56 (C1)	06:09	07:11	07:14	08:19
56	21:36	16	06:12 (C1)	20:24	19:02	16:45
57	05:10	05:56 (C1)	06:11	07:13	07:16	08:21
58	21:34	17	06:13 (C1)	20:22	18:59	16:43
59	05:12	05:56 (C1)	06:13	07:15	07:18	08:22
60	21:32	18	06:14 (C1)	20:19	18:56	16:40
61	05:14	05:55 (C1)	06:15	07:20	07:23	08:28
62	21:30	19	06:14 (C1)	20:17	16:38	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	115	138			1120	891
Sun reduction	0.49	0.50			0.08	0.07
Oper. time red.	0.98	0.98			0.98	0.98
Wind dir. red.	0.67	0.67			0.61	0.61
Total reduction	0.31	0.32			0.05	0.04
Total, real	36	44			54	37

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Skola (kad. apz. 56960040345002) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (144)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

January			February			March			April			May			June		
1	08:51		10:07 (C13)	08:15		10:12 (C13)	07:11		06:49		05:33				04:36		
	15:48	31	10:38 (C13)	16:45	41	10:53 (C13)	17:48		19:53		20:55				21:53		
2	08:50		10:08 (C13)	08:13		10:13 (C13)	07:08		06:46		05:30				04:35		
	15:49	31	10:39 (C13)	16:47	40	10:53 (C13)	17:50		19:55		20:57				21:54		
3	08:50		10:07 (C13)	08:11		10:14 (C13)	07:06		06:43		05:28				04:34		
	15:51	33	10:40 (C13)	16:50	38	10:52 (C13)	17:52		19:57		21:00				21:55		
4	08:50		10:07 (C13)	08:09		10:15 (C13)	07:03		06:41		05:26				04:33		
	15:52	33	10:40 (C13)	16:52	37	10:52 (C13)	17:54		19:59		21:02				21:57		
5	08:49		10:08 (C13)	08:07		10:16 (C13)	07:00		06:38		05:23		05:52 (C1)		04:32		
	15:53	34	10:42 (C13)	16:54	35	10:51 (C13)	17:56		20:01		21:04		4	05:56 (C1)	21:58		
6	08:49		10:08 (C13)	08:05		10:17 (C13)	06:58		06:35		05:21				04:31		
	15:55	35	10:43 (C13)	16:56	32	10:49 (C13)	17:58		20:03		21:06		8	05:58 (C1)	21:59		
7	08:48		10:07 (C13)	08:03		10:18 (C13)	06:55		06:33		05:19				04:30		
	15:56	36	10:43 (C13)	16:59	30	10:48 (C13)	18:00		20:05		21:08		11	05:59 (C1)	22:00		
8	08:48		10:07 (C13)	08:01		10:20 (C13)	06:53		06:30		05:17				04:29		
	15:58	37	10:44 (C13)	17:01	27	10:47 (C13)	18:03		20:08		21:10		13	05:59 (C1)	22:01		
9	08:47		10:07 (C13)	07:58		10:22 (C13)	06:50		06:28		05:15				04:29		
	15:59	38	10:45 (C13)	17:03	22	10:44 (C13)	18:05		20:10		21:12		16	06:00 (C1)	22:02		
10	08:46		10:07 (C13)	07:56		10:25 (C13)	06:47		06:25		05:13				04:28		
	16:01	39	10:46 (C13)	17:05	17	10:42 (C13)	18:07		20:12		21:14		18	06:00 (C1)	22:03		
11	08:45		10:08 (C13)	07:54		10:31 (C13)	06:45		06:22		05:11				04:27		
	16:03	39	10:47 (C13)	17:08	5	10:36 (C13)	18:09		20:14		21:16		19	06:00 (C1)	22:04		
12	08:44		10:08 (C13)	07:52			06:42		06:20		05:08				04:27		
	16:04	40	10:48 (C13)	17:10			18:11		20:16		21:18		20	06:00 (C1)	22:05		
13	08:43		10:07 (C13)	07:49			06:40		06:17		05:06				04:26		
	16:06	41	10:48 (C13)	17:12			18:13		20:18		21:20		20	06:00 (C1)	22:06		
14	08:42		10:08 (C13)	07:47			06:37		06:14		05:04				04:26		
	16:08	41	10:49 (C13)	17:14			18:15		20:20		21:22		19	06:00 (C1)	22:07		
15	08:41		10:07 (C13)	07:45			06:34		06:12		05:03				04:26		
	16:10	42	10:49 (C13)	17:17			18:18		20:22		21:24		19	06:00 (C1)	22:07		
16	08:40		10:07 (C13)	07:43			06:32		06:09		05:01				04:25		
	16:12	43	10:50 (C13)	17:19			18:20		20:24		21:25		18	05:59 (C1)	22:08		
17	08:39		10:08 (C13)	07:40			06:29		06:07		04:59				04:25		
	16:14	43	10:51 (C13)	17:21			18:22		20:26		21:27		18	06:00 (C1)	22:08		
18	08:37		10:08 (C13)	07:38			06:26		06:04		04:57				04:25		
	16:16	43	10:51 (C13)	17:23			18:24		20:28		21:29		17	05:59 (C1)	22:09		
19	08:36		10:07 (C13)	07:36			06:24		06:02		04:55				04:25		
	16:18	44	10:51 (C13)	17:26			18:26		20:30		21:31		16	05:58 (C1)	22:09		
20	08:35		10:08 (C13)	07:33			06:21		05:59		04:53				04:25		
	16:20	45	10:53 (C13)	17:28			18:28		20:33		21:33		13	05:57 (C1)	22:10		
21	08:33		10:08 (C13)	07:31			06:18		05:57		04:52				04:25		
	16:22	45	10:53 (C13)	17:30			18:30		20:35		21:35		12	05:56 (C1)	22:10		
22	08:32		10:08 (C13)	07:28			06:16		05:54		04:50				04:25		
	16:24	45	10:53 (C13)	17:32			18:32		20:37		21:37		9	05:55 (C1)	22:10		
23	08:30		10:08 (C13)	07:26			06:13		05:52		04:48				04:26		
	16:26	45	10:53 (C13)	17:34			18:34		20:39		21:38		3	05:53 (C1)	22:10		
24	08:29		10:09 (C13)	07:23			06:10		05:49		04:47				04:26		
	16:28	45	10:54 (C13)	17:37			18:36		20:41		21:40				22:10		
25	08:27		10:09 (C13)	07:21			06:07		05:47		04:45				04:26		
	16:30	45	10:54 (C13)	17:39			18:38		20:43		21:42				22:10		
26	08:26		10:10 (C13)	07:18			06:05		05:44		04:44				04:27		
	16:32	44	10:54 (C13)	17:41			18:41		20:45		21:43				22:10		
27	08:24		10:10 (C13)	07:16			06:02		05:42		04:42				04:27		
	16:34	44	10:54 (C13)	17:43			18:43		20:47		21:45				22:10		
28	08:22		10:10 (C13)	07:13			05:59		05:40		04:41				04:28		
	16:36	44	10:54 (C13)	17:45			18:45		20:49		21:47				22:10		
29	08:20		10:11 (C13)				06:57		05:37		04:40				04:29		
	16:39	43	10:54 (C13)				19:47		20:51		21:48				22:10		
30	08:18		10:11 (C13)				06:54		05:35		04:38				04:29		
	16:41	43	10:54 (C13)				19:49		20:53		21:50				22:09		
31	08:17		10:12 (C13)				06:51				04:37						
	16:43	42	10:54 (C13)				19:51				21:51						
Potential sun hours	235			266			366		426		508				529		
Total, worst case	1253			324							273						
Sun reduction	0.13			0.20							0.57						
Oper. time red.	0.98			0.98							0.98						
Wind dir. red.	0.61			0.61							0.67						
Total reduction	0.08			0.12							0.36						
Total, real	97			38							99						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Skola (kad. apz. 56960040345002) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (144)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December	
1	04:30	05:16	05:51 (C1)	06:17	07:17	07:23	09:54 (C13)	08:24	09:50 (C13)		
	22:09	21:28	19 06:10 (C1)	20:14	18:54	16:36	18	10:12 (C13)	15:45	39	10:29 (C13)
2	04:31	05:18	05:51 (C1)	06:19	07:19	07:25	09:51 (C13)	08:26	09:51 (C13)		
	22:09	21:26	19 06:10 (C1)	20:11	18:51	16:34	23	10:14 (C13)	15:44	38	10:29 (C13)
3	04:32	05:19	05:53 (C1)	06:21	07:21	07:27	09:50 (C13)	08:28	09:50 (C13)		
	22:08	21:24	17 06:10 (C1)	20:09	18:48	16:32	27	10:17 (C13)	15:43	38	10:28 (C13)
4	04:33	05:21	05:55 (C1)	06:23	07:23	07:29	09:48 (C13)	08:29	09:51 (C13)		
	22:07	21:22	15 06:10 (C1)	20:06	18:46	16:29	30	10:18 (C13)	15:42	37	10:28 (C13)
5	04:34	05:23	05:56 (C1)	06:25	07:25	07:31	09:46 (C13)	08:31	09:52 (C13)		
	22:07	21:20	12 06:08 (C1)	20:03	18:43	16:27	33	10:19 (C13)	15:42	36	10:28 (C13)
6	04:35	05:25	05:58 (C1)	06:27	07:27	07:33	09:46 (C13)	08:32	09:54 (C13)		
	22:06	21:17	10 06:08 (C1)	20:01	18:40	16:25	35	10:21 (C13)	15:41	35	10:29 (C13)
7	04:36	05:27	06:00 (C1)	06:29	07:30	07:36	09:45 (C13)	08:34	09:54 (C13)		
	22:05	21:15	7 06:07 (C1)	19:58	18:38	16:23	37	10:22 (C13)	15:40	34	10:28 (C13)
8	04:37	05:29	06:02 (C1)	06:31	07:32	07:38	09:44 (C13)	08:35	09:55 (C13)		
	22:04	21:13	3 06:05 (C1)	19:55	18:35	16:21	39	10:23 (C13)	15:40	34	10:29 (C13)
9	04:38	05:31		06:33	07:34	07:40	09:43 (C13)	08:37	09:55 (C13)		
	22:03	21:11		19:53	18:32	16:19	41	10:24 (C13)	15:39	33	10:28 (C13)
10	04:39	05:33		06:35	07:36	07:42	09:44 (C13)	08:38	09:57 (C13)		
	22:02	21:08		19:50	18:30	16:17	41	10:25 (C13)	15:39	32	10:29 (C13)
11	04:41	05:35		06:37	07:38	07:44	09:43 (C13)	08:39	09:57 (C13)		
	22:01	21:06		19:47	18:27	16:15	42	10:25 (C13)	15:38	31	10:28 (C13)
12	04:42	05:37		06:39	07:40	07:46	09:42 (C13)	08:40	09:59 (C13)		
	22:00	21:04		19:45	18:25	16:13	43	10:25 (C13)	15:38	30	10:29 (C13)
13	04:43	05:39		06:41	07:42	07:49	09:43 (C13)	08:42	09:59 (C13)		
	21:59	21:02		19:42	18:22	16:11	43	10:26 (C13)	15:38	30	10:29 (C13)
14	04:45	05:41		06:43	07:44	07:51	09:42 (C13)	08:43	10:00 (C13)		
	21:58	20:59		19:39	18:19	16:09	44	10:26 (C13)	15:38	29	10:29 (C13)
15	04:46	05:43		06:45	07:46	07:53	09:42 (C13)	08:44	10:01 (C13)		
	21:57	20:57		19:37	18:17	16:08	44	10:26 (C13)	15:38	28	10:29 (C13)
16	04:48	05:45		06:47	07:48	07:55	09:43 (C13)	08:45	10:01 (C13)		
	21:55	20:54		19:34	18:14	16:06	44	10:27 (C13)	15:38	28	10:29 (C13)
17	04:49	05:47		06:49	07:50	07:57	09:42 (C13)	08:46	10:02 (C13)		
	21:54	20:52		19:31	18:12	16:04	45	10:27 (C13)	15:38	27	10:29 (C13)
18	04:51	05:49		06:51	07:52	07:59	09:43 (C13)	08:46	10:03 (C13)		
	21:52	20:50		19:29	18:09	16:02	45	10:28 (C13)	15:38	27	10:30 (C13)
19	04:52	05:51		06:53	07:55	08:01	09:43 (C13)	08:47	10:03 (C13)		
	21:51	20:47		19:26	18:07	16:01	45	10:28 (C13)	15:38	27	10:30 (C13)
20	04:54	05:53		06:55	07:57	08:03	09:43 (C13)	08:48	10:04 (C13)		
	21:49	20:45		19:23	18:04	15:59	45	10:28 (C13)	15:39	26	10:30 (C13)
21	04:56	05:57 (C1)	05:55	06:57	07:59	08:05	09:43 (C13)	08:48	10:05 (C13)		
	21:48	6 06:03 (C1)	20:42	19:20	18:02	15:58	45	10:28 (C13)	15:39	26	10:31 (C13)
22	04:57	05:56 (C1)	05:57	06:59	08:01	08:07	09:44 (C13)	08:49	10:05 (C13)		
	21:46	10 06:06 (C1)	20:40	19:18	17:59	15:56	45	10:29 (C13)	15:39	26	10:31 (C13)
23	04:59	05:54 (C1)	05:59	07:01	08:03	08:09	09:45 (C13)	08:50	10:06 (C13)		
	21:45	13 06:07 (C1)	20:37	19:15	17:57	15:55	43	10:28 (C13)	15:40	26	10:32 (C13)
24	05:01	05:54 (C1)	06:01	07:03	08:05	08:11	09:45 (C13)	08:50	10:06 (C13)		
	21:43	14 06:08 (C1)	20:35	19:12	17:55	15:53	43	10:28 (C13)	15:41	26	10:32 (C13)
25	05:03	05:53 (C1)	06:03	07:05	07:07	08:13	09:45 (C13)	08:50	10:06 (C13)		
	21:41	16 06:09 (C1)	20:32	19:10	16:52	15:52	43	10:28 (C13)	15:41	27	10:33 (C13)
26	05:04	05:52 (C1)	06:05	07:07	07:10	08:15	09:46 (C13)	08:51	10:06 (C13)		
	21:39	17 06:09 (C1)	20:30	19:07	16:50	15:51	42	10:28 (C13)	15:42	27	10:33 (C13)
27	05:06	05:52 (C1)	06:07	07:09	07:12	08:17	09:47 (C13)	08:51	10:06 (C13)		
	21:38	18 06:10 (C1)	20:27	19:04	16:47	15:49	42	10:29 (C13)	15:43	28	10:34 (C13)
28	05:08	05:51 (C1)	06:09	07:11	07:14	08:19	09:48 (C13)	08:51	10:06 (C13)		
	21:36	19 06:10 (C1)	20:24	19:02	16:45	15:48	41	10:29 (C13)	15:44	29	10:35 (C13)
29	05:10	05:51 (C1)	06:11	07:13	07:16	08:21	09:48 (C13)	08:51	10:07 (C13)		
	21:34	19 06:10 (C1)	20:22	18:59	16:43	15:47	41	10:29 (C13)	15:45	29	10:36 (C13)
30	05:12	05:51 (C1)	06:13	07:15	07:18	08:22	09:49 (C13)	08:51	10:07 (C13)		
	21:32	20 06:11 (C1)	20:19	18:56	16:40	15:46	40	10:29 (C13)	15:46	30	10:37 (C13)
31	05:14	05:51 (C1)	06:15		07:20	09:58 (C13)		08:51	10:07 (C13)		
	21:30	20 06:11 (C1)	20:17		16:38	9 10:07 (C13)		15:47	31 10:38 (C13)		
Potential sun hours	529		469		385		324		247		216
Total, worst case	172		102				9		1189		944
Sun reduction	0.49		0.50				0.26		0.08		0.07
Oper. time red.	0.98		0.98				0.98		0.98		0.98
Wind dir. red.	0.67		0.67				0.61		0.61		0.61
Total reduction	0.31		0.32				0.15		0.05		0.04
Total, real	54		32				1		57		39

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Skola (kad. apz. 56960040345005) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (143)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March	April	May	June		
1	08:51	10:12 (C13)	08:15	10:20 (C13)	07:11	06:49	05:33				04:36	
	15:48	35	10:47 (C13)	16:45	38	10:58 (C13)	17:48	19:53	20:55		21:53	
2	08:50	10:13 (C13)	08:13	10:21 (C13)	07:08	06:46	05:30				04:35	
	15:49	35	10:48 (C13)	16:47	37	10:58 (C13)	17:50	19:55	20:57		21:54	
3	08:50	10:12 (C13)	08:11	10:22 (C13)	07:06	06:43	05:28				04:34	
	15:51	36	10:48 (C13)	16:50	35	10:57 (C13)	17:52	19:57	21:00		21:55	
4	08:50	10:12 (C13)	08:09	10:23 (C13)	07:03	06:41	05:26		05:54 (C1)		04:33	
	15:52	37	10:49 (C13)	16:52	34	10:57 (C13)	17:54	19:59	21:02	1	05:55 (C1)	21:57
5	08:49	10:13 (C13)	08:07	10:25 (C13)	07:00	06:38	05:23		05:52 (C1)		04:32	
	15:53	37	10:50 (C13)	16:54	31	10:56 (C13)	17:56	20:01	21:04	6	05:58 (C1)	21:58
6	08:49	10:13 (C13)	08:05	10:26 (C13)	06:58	06:35	05:21		05:50 (C1)		04:31	
	15:55	38	10:51 (C13)	16:56	27	10:53 (C13)	17:58	20:03	21:06	9	05:59 (C1)	21:59
7	08:48	10:13 (C13)	08:03	10:28 (C13)	06:55	06:33	05:19		05:48 (C1)		04:30	
	15:56	38	10:51 (C13)	16:59	24	10:52 (C13)	18:00	20:05	21:08	12	06:00 (C1)	22:00
8	08:48	10:13 (C13)	08:01	10:31 (C13)	06:53	06:30	05:17		05:46 (C1)		04:29	
	15:58	39	10:52 (C13)	17:01	18	10:49 (C13)	18:03	20:08	21:10	14	06:00 (C1)	22:01
9	08:47	10:13 (C13)	07:58	10:35 (C13)	06:50	06:28	05:15		05:44 (C1)		04:28	
	15:59	40	10:53 (C13)	17:03	10	10:45 (C13)	18:05	20:10	21:12	17	06:01 (C1)	22:02
10	08:46	10:13 (C13)	07:56			06:47	06:25	05:13		05:42 (C1)	04:28	
	16:01	41	10:54 (C13)	17:05		18:07	20:12	21:14		19	06:01 (C1)	22:03
11	08:45	10:13 (C13)	07:54			06:45	06:22	05:11		05:41 (C1)	04:27	
	16:03	41	10:54 (C13)	17:08		18:09	20:14	21:16		20	06:01 (C1)	22:04
12	08:44	10:14 (C13)	07:52			06:42	06:20	05:08		05:41 (C1)	04:27	
	16:04	41	10:55 (C13)	17:10		18:11	20:16	21:18		20	06:01 (C1)	22:05
13	08:43	10:13 (C13)	07:49			06:40	06:17	05:06		05:41 (C1)	04:26	
	16:06	42	10:55 (C13)	17:12		18:13	20:18	21:20		20	06:01 (C1)	22:06
14	08:42	10:14 (C13)	07:47			06:37	06:14	05:04		05:42 (C1)	04:26	
	16:08	42	10:56 (C13)	17:14		18:15	20:20	21:22		19	06:01 (C1)	22:07
15	08:41	10:13 (C13)	07:45			06:34	06:12	05:03		05:42 (C1)	04:26	
	16:10	43	10:56 (C13)	17:17		18:18	20:22	21:24		19	06:01 (C1)	22:07
16	08:40	10:14 (C13)	07:43			06:32	06:09	05:01		05:42 (C1)	04:25	
	16:12	43	10:57 (C13)	17:19		18:20	20:24	21:25		18	06:00 (C1)	22:08
17	08:39	10:14 (C13)	07:40			06:29	06:07	04:59		05:43 (C1)	04:25	
	16:14	44	10:58 (C13)	17:21		18:22	20:26	21:27		17	06:00 (C1)	22:08
18	08:37	10:14 (C13)	07:38			06:26	06:04	04:57		05:43 (C1)	04:25	
	16:16	44	10:58 (C13)	17:23		18:24	20:28	21:29		17	06:00 (C1)	22:09
19	08:36	10:14 (C13)	07:35			06:24	06:02	04:55		05:43 (C1)	04:25	
	16:18	44	10:58 (C13)	17:26		18:26	20:30	21:31		15	05:58 (C1)	22:09
20	08:35	10:15 (C13)	07:33			06:21	05:59	04:53		05:45 (C1)	04:25	
	16:20	44	10:59 (C13)	17:28		18:28	20:33	21:33		13	05:58 (C1)	22:10
21	08:33	10:15 (C13)	07:31			06:18	05:57	04:52		05:45 (C1)	04:25	
	16:22	44	10:59 (C13)	17:30		18:30	20:35	21:35		11	05:56 (C1)	22:10
22	08:32	10:15 (C13)	07:28			06:16	05:54	04:50		05:47 (C1)	04:25	
	16:24	45	11:00 (C13)	17:32		18:32	20:37	21:37		8	05:55 (C1)	22:10
23	08:30	10:15 (C13)	07:26			06:13	05:52	04:48		05:51 (C1)	04:26	
	16:26	45	11:00 (C13)	17:34		18:34	20:39	21:38		1	05:52 (C1)	22:10
24	08:29	10:16 (C13)	07:23			06:10	05:49	04:47			04:26	
	16:28	45	11:01 (C13)	17:37		18:36	20:41	21:40			22:10	
25	08:27	10:16 (C13)	07:21			06:07	05:47	04:45			04:26	
	16:30	45	11:01 (C13)	17:39		18:38	20:43	21:42			22:10	
26	08:26	10:17 (C13)	07:18			06:05	05:44	04:44			04:27	
	16:32	44	11:01 (C13)	17:41		18:41	20:45	21:43			22:10	
27	08:24	10:17 (C13)	07:16			06:02	05:42	04:42			04:27	
	16:34	44	11:01 (C13)	17:43		18:43	20:47	21:45			22:10	
28	08:22	10:18 (C13)	07:13			05:59	05:40	04:41			04:28	
	16:36	42	11:00 (C13)	17:45		18:45	20:49	21:47			22:10	
29	08:20	10:18 (C13)				06:57	05:37	04:40			04:29	
	16:39	42	11:00 (C13)			19:47	20:51	21:48			22:10	
30	08:18	10:19 (C13)				06:54	05:35	04:38			04:29	
	16:41	41	11:00 (C13)			19:49	20:53	21:50			22:09	
31	08:17	10:20 (C13)				06:51		04:37				
	16:43	40	11:00 (C13)			19:51		21:51				
Potential sun hours	235		266			366	426	508			529	
Total, worst case	1281		254					276				
Sun reduction	0.13		0.20					0.57				
Oper. time red.	0.98		0.98					0.98				
Wind dir. red.	0.61		0.61					0.67				
Total reduction	0.08		0.12					0.36				
Total, real	99		30					100				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Skola (kad. apz. 56960040345005) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (143)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July			August			September	October	November			December			
1	04:30			05:16		05:51 (C1)	06:17	07:17	07:23				08:24		09:55 (C13)
	22:09			21:28	20	06:11 (C1)	20:14	18:54	16:36				15:45	42	10:37 (C13)
2	04:31			05:18		05:52 (C1)	06:19	07:19	07:25			10:03 (C13)	08:26		09:56 (C13)
	22:09			21:26	19	06:11 (C1)	20:11	18:51	16:34	12		10:15 (C13)	15:44	41	10:37 (C13)
3	04:32			05:19		05:53 (C1)	06:21	07:21	07:27			10:00 (C13)	08:28		09:56 (C13)
	22:08			21:24	18	06:11 (C1)	20:09	18:48	16:32	20		10:20 (C13)	15:43	40	10:36 (C13)
4	04:33			05:21		05:55 (C1)	06:23	07:23	07:29			09:58 (C13)	08:29		09:57 (C13)
	22:07			21:22	16	06:11 (C1)	20:06	18:46	16:29	24		10:22 (C13)	15:42	39	10:36 (C13)
5	04:34			05:23		05:56 (C1)	06:25	07:25	07:31			09:55 (C13)	08:31		09:58 (C13)
	22:07			21:20	14	06:10 (C1)	20:03	18:43	16:27	28		10:23 (C13)	15:42	38	10:36 (C13)
6	04:35			05:25		05:58 (C1)	06:27	07:27	07:33			09:55 (C13)	08:32		09:59 (C13)
	22:06			21:17	11	06:09 (C1)	20:01	18:40	16:25	30		10:25 (C13)	15:41	38	10:37 (C13)
7	04:36			05:27		06:00 (C1)	06:29	07:30	07:36			09:53 (C13)	08:34		09:59 (C13)
	22:05			21:15	8	06:08 (C1)	19:58	18:38	16:23	33		10:26 (C13)	15:40	37	10:36 (C13)
8	04:37			05:29		06:02 (C1)	06:31	07:32	07:38			09:53 (C13)	08:35		10:00 (C13)
	22:04			21:13	4	06:06 (C1)	19:55	18:35	16:21	35		10:28 (C13)	15:40	37	10:37 (C13)
9	04:38			05:31			06:33	07:34	07:40			09:52 (C13)	08:37		10:00 (C13)
	22:03			21:11			19:53	18:32	16:19	37		10:29 (C13)	15:39	36	10:36 (C13)
10	04:39			05:33			06:35	07:36	07:42			09:52 (C13)	08:38		10:02 (C13)
	22:02			21:08			19:50	18:30	16:17	38		10:30 (C13)	15:39	35	10:37 (C13)
11	04:41			05:35			06:37	07:38	07:44			09:51 (C13)	08:39		10:02 (C13)
	22:01			21:06			19:47	18:27	16:15	40		10:31 (C13)	15:38	35	10:37 (C13)
12	04:42			05:37			06:39	07:40	07:46			09:50 (C13)	08:40		10:03 (C13)
	22:00			21:04			19:45	18:25	16:13	41		10:31 (C13)	15:38	35	10:38 (C13)
13	04:43			05:39			06:41	07:42	07:49			09:50 (C13)	08:42		10:04 (C13)
	21:59			21:02			19:42	18:22	16:11	42		10:32 (C13)	15:38	34	10:38 (C13)
14	04:45			05:41			06:43	07:44	07:51			09:50 (C13)	08:43		10:04 (C13)
	21:58			20:59			19:39	18:19	16:09	42		10:32 (C13)	15:38	34	10:38 (C13)
15	04:46			05:43			06:45	07:46	07:53			09:49 (C13)	08:44		10:05 (C13)
	21:57			20:57			19:37	18:17	16:08	43		10:32 (C13)	15:38	33	10:38 (C13)
16	04:48			05:45			06:47	07:48	07:55			09:50 (C13)	08:45		10:06 (C13)
	21:55			20:54			19:34	18:14	16:06	44		10:34 (C13)	15:38	32	10:38 (C13)
17	04:49			05:47			06:49	07:50	07:57			09:49 (C13)	08:46		10:06 (C13)
	21:54			20:52			19:31	18:12	16:04	45		10:34 (C13)	15:38	33	10:39 (C13)
18	04:51			05:49			06:51	07:52	07:59			09:50 (C13)	08:46		10:07 (C13)
	21:52			20:50			19:29	18:09	16:02	45		10:35 (C13)	15:38	32	10:39 (C13)
19	04:52			05:51			06:53	07:55	08:01			09:50 (C13)	08:47		10:07 (C13)
	21:51			20:47			19:26	18:07	16:01	45		10:35 (C13)	15:38	32	10:39 (C13)
20	04:54			05:53			06:55	07:57	08:03			09:50 (C13)	08:48		10:08 (C13)
	21:49			20:45			19:23	18:04	15:59	45		10:35 (C13)	15:39	31	10:39 (C13)
21	04:56		05:58 (C1)	05:55			06:57	07:59	08:05			09:50 (C13)	08:48		10:09 (C13)
	21:48	6	06:04 (C1)	20:42			19:20	18:02	15:58	45		10:35 (C13)	15:39	31	10:40 (C13)
22	04:57		05:57 (C1)	05:57			06:59	08:01	08:07			09:51 (C13)	08:49		10:09 (C13)
	21:46	10	06:07 (C1)	20:40			19:18	17:59	15:56	44		10:35 (C13)	15:39	31	10:40 (C13)
23	04:59		05:55 (C1)	05:59			07:01	08:03	08:09			09:51 (C13)	08:50		10:10 (C13)
	21:45	12	06:07 (C1)	20:37			19:15	17:57	15:55	44		10:35 (C13)	15:40	31	10:41 (C13)
24	05:01		05:55 (C1)	06:01			07:03	08:05	08:11			09:51 (C13)	08:50		10:10 (C13)
	21:43	14	06:09 (C1)	20:35			19:12	17:55	15:53	44		10:35 (C13)	15:41	31	10:41 (C13)
25	05:03		05:54 (C1)	06:03			07:05	07:07	08:13			09:51 (C13)	08:50		10:10 (C13)
	21:41	16	06:10 (C1)	20:32			19:10	16:52	15:52	44		10:35 (C13)	15:41	32	10:42 (C13)
26	05:04		05:53 (C1)	06:05			07:07	07:10	08:15			09:52 (C13)	08:51		10:10 (C13)
	21:39	17	06:10 (C1)	20:30			19:07	16:50	15:51	43		10:35 (C13)	15:42	32	10:42 (C13)
27	05:06		05:53 (C1)	06:07			07:09	07:12	08:17			09:53 (C13)	08:51		10:11 (C13)
	21:38	18	06:11 (C1)	20:27			19:04	16:47	15:49	43		10:36 (C13)	15:43	32	10:43 (C13)
28	05:08		05:52 (C1)	06:09			07:11	07:14	08:19			09:54 (C13)	08:51		10:11 (C13)
	21:36	19	06:11 (C1)	20:24			19:02	16:45	15:48	42		10:36 (C13)	15:44	33	10:44 (C13)
29	05:10		05:52 (C1)	06:11			07:13	07:16	08:21			09:54 (C13)	08:51		10:11 (C13)
	21:34	19	06:11 (C1)	20:22			18:59	16:43	15:47	42		10:36 (C13)	15:45	33	10:44 (C13)
30	05:12		05:52 (C1)	06:13			07:15	07:18	08:22			09:55 (C13)	08:51		10:12 (C13)
	21:32	20	06:12 (C1)	20:19			18:56	16:40	15:46	41		10:36 (C13)	15:46	33	10:45 (C13)
31	05:14		05:52 (C1)	06:15				07:20					08:51		10:12 (C13)
	21:30	20	06:12 (C1)	20:17				16:38					15:47	34	10:46 (C13)
Potential sun hours	529			469				385	324	247			216		
Total, worst case		171				110				1121				1067	
Sun reduction		0.49				0.50				0.08				0.07	
Oper. time red.		0.98				0.98				0.98				0.98	
Wind dir. red.		0.67				0.67				0.61				0.61	
Total reduction		0.31				0.32				0.05				0.04	
Total, real		54				35				54				44	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Anna / anna@environment.lv  
Calculated:  
10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Smelceja - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (216)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December			
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	20:04 (C12) 20:21 (C12)	04:36 21:52	04:30 22:08	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45		
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	20:04 (C12) 20:21 (C12)	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:33	08:25 15:44		
3	08:50 15:50	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	20:05 (C12) 20:21 (C12)	04:33 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43		
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	20:06 (C12) 20:20 (C12)	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42		
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	20:07 (C12) 20:19 (C12)	04:32 21:57	04:33 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41		
6	08:48 15:55	08:04 16:56	06:57 17:58	06:35 20:03	05:21 21:05	20:08 (C12) 20:17 (C12)	04:31 21:58	04:34 22:05	05:25 21:17	20:19 (C12) 20:25 (C12)	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41	
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:19 21:07	20:11 (C12) 20:14 (C12)	04:30 22:00	04:36 22:05	05:27 21:15	20:17 (C12) 20:27 (C12)	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40	
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	20:14 (C12)	04:29	04:37	05:29	10	20:16 (C12) 20:29 (C12)	06:31 19:55	07:31 18:35	08:35 16:21	15:40
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:11	04:28	04:38	05:31	21:12	13	20:14 (C12) 20:28 (C12)	06:33 19:52	07:33 18:32	07:39 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28	04:39	05:33	21:10	14	20:13 (C12) 20:29 (C12)	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27	04:40	05:35	21:08	16	20:13 (C12) 20:30 (C12)	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27	04:42	05:37	21:06	17	20:13 (C12) 20:30 (C12)	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26	04:43	05:39	21:03	17	20:13 (C12) 20:29 (C12)	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	04:26	04:45	05:41	21:01	16	20:13 (C12) 20:27 (C12)	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26	04:46	05:43	20:59	14	20:13 (C12) 20:25 (C12)	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25	04:48	05:45	20:54	12	20:12 (C12) 20:22 (C12)	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:13	07:40 17:21	06:29 18:21	06:06 20:26	04:59 21:27	04:25	04:49	05:47	20:52	10	20:13 (C12) 20:19 (C12)	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:15	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	04:25	04:51	05:49	20:49	6	20:15 (C12) 20:17 (C12)	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25	04:52	05:51	20:47	2	20:17 (C12)	06:53 19:25	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	04:25	04:54	05:53	20:47			06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	04:25	04:56	05:55	20:42			06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25	04:57	05:57	20:39			06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	04:26	04:59	05:59	20:37			07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26	05:01	06:01	20:34			07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:38	06:07 18:38	05:47 20:43	20:08 (C12) 21:41	04:26	05:02	06:03	20:32			07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	20:07 (C12) 21:43	04:27	05:04	06:05	20:29			07:07 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	20:06 (C12) 21:44	04:27	05:06	06:07	20:27			07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	20:05 (C12) 21:46	04:28	05:08	06:09	20:24			07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	20:04 (C12) 21:48	04:28	05:10	06:11	20:21			07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:44
30	08:18 16:41		06:54 19:48	05:35 20:53	20:04 (C12) 21:49	04:29	05:12	06:13	20:19			07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16				07:20 16:38		08:50 15:46	
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216			
Total, worst case				63	88			153							
Sun reduction				0.50	0.57			0.50							
Oper. time red.				0.98	0.98			0.98							
Wind dir. red.				0.63	0.63			0.63							
Total reduction				0.31	0.35			0.30							
Total, real				19	31			47							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Smelceju majas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (197)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:16 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:58	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:12	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:01 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:37 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:56 20:34	04:52 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:58	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:48 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:52 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:45
30	08:18 16:41		06:54 19:48	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Spridiš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (82)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	09:16 (C13) 09:53 (C13)	07:11 17:48	06:49 19:53	05:33 20:55
2	08:50 15:49	08:13 16:47	09:15 (C13) 09:54 (C13)	07:08 17:50	06:46 19:55	05:30 20:57
3	08:50 15:51	08:11 16:50	09:15 (C13) 09:55 (C13)	07:06 17:52	06:43 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	09:15 (C13) 09:56 (C13)	07:03 17:54	06:41 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	09:15 (C13) 09:56 (C13)	07:00 17:56	06:38 20:01	05:23 21:04
6	08:49 15:55	08:05 16:56	09:15 (C13) 09:56 (C13)	06:58 17:58	06:35 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	09:15 (C13) 09:57 (C13)	06:55 18:01	06:33 20:05	05:19 21:08
8	08:48 15:58	08:01 17:01	09:15 (C13) 09:57 (C13)	06:53 18:03	06:30 20:08	05:17 21:10
9	08:47 15:59	07:58 17:03	09:15 (C13) 09:56 (C13)	06:50 18:05	06:28 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	09:15 (C13) 09:57 (C13)	06:47 18:07	06:25 20:12	05:13 21:14
11	08:45 16:03	07:54 17:08	09:16 (C13) 09:57 (C13)	06:45 18:09	06:22 20:14	05:11 21:16
12	08:44 16:05	07:52 17:10	09:15 (C13) 09:56 (C13)	06:42 18:11	06:20 20:16	05:08 21:18
13	08:43 16:06	07:50 17:12	09:16 (C13) 09:56 (C13)	06:40 18:13	06:17 20:18	05:06 21:20
14	08:42 16:08	07:47 17:14	09:16 (C13) 09:55 (C13)	06:37 18:15	06:15 20:20	05:04 21:22
15	08:41 16:10	07:45 17:17	09:17 (C13) 09:55 (C13)	06:34 18:18	06:12 20:22	05:03 21:24
16	08:40 16:12	07:43 17:19	09:17 (C13) 09:53 (C13)	06:32 18:20	06:09 20:24	05:01 21:25
17	08:39 16:14	07:40 17:21	09:19 (C13) 09:53 (C13)	06:29 18:22	06:07 20:26	05:00 21:27
18	08:37 16:16	07:38 17:23	09:19 (C13) 09:51 (C13)	06:26 18:24	06:04 20:28	05:00 21:29
19	08:36 16:18	07:36 17:26	09:21 (C13) 09:50 (C13)	06:24 18:26	06:02 20:30	05:00 21:31
20	08:35 16:20	07:33 17:28	09:22 (C13) 09:48 (C13)	06:21 18:28	05:59 20:33	05:00 21:33
21	08:33 16:22	07:31 17:30	09:25 (C13) 09:46 (C13)	06:18 18:30	05:57 20:35	05:00 21:35
22	08:32 16:24	09:27 (C13) 09:38 (C13)	07:28 17:32	06:16 18:32	05:54 20:37	05:00 21:37
23	08:30 16:26	09:24 (C13) 09:41 (C13)	07:26 17:34	06:13 18:34	05:52 20:39	05:00 21:38
24	08:29 16:28	09:23 (C13) 09:44 (C13)	07:23 17:37	06:10 18:36	05:49 20:41	05:00 21:40
25	08:27 16:30	09:22 (C13) 09:46 (C13)	07:21 17:39	06:07 18:38	05:47 20:43	05:00 21:42
26	08:26 16:32	09:20 (C13) 09:48 (C13)	07:18 17:41	06:05 18:41	05:44 20:45	05:00 21:43
27	08:24 16:34	09:20 (C13) 09:49 (C13)	07:16 17:43	06:02 18:43	05:42 20:47	05:00 21:45
28	08:22 16:36	09:19 (C13) 09:50 (C13)	07:13 17:45	05:59 18:45	05:40 20:49	05:00 21:47
29	08:20 16:39	09:18 (C13) 09:51 (C13)	07:11 17:47	05:57 19:47	05:37 20:51	05:00 21:48
30	08:18 16:41	09:17 (C13) 09:52 (C13)	07:09 17:49	05:54 19:49	05:35 20:53	05:00 21:50
31	08:17 16:43	09:17 (C13) 09:53 (C13)	07:07 17:51	05:51 19:51	05:33 21:51	05:00 21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case	265	798			189	
Sun reduction	0.13	0.20			0.57	
Oper. time red.	0.98	0.98			0.98	
Wind dir. red.	0.59	0.59			0.67	
Total reduction	0.08	0.11			0.36	
Total, real	20	91			69	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Spridiš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (82)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	05:51 (C1) 20:14	07:17 18:54	07:23 16:36	08:45 (C13) 15:45
2	04:31 22:09	05:18 21:26	05:51 (C1) 20:11	07:19 18:51	07:25 16:34	08:44 (C13) 15:44
3	04:32 22:08	05:19 21:24	05:53 (C1) 20:09	07:21 18:48	07:27 16:32	08:45 (C13) 15:43
4	04:33 22:07	05:21 21:22	05:55 (C1) 20:06	07:23 18:46	07:29 16:29	08:44 (C13) 15:42
5	04:34 22:07	05:23 21:20	05:56 (C1) 20:03	07:25 18:43	07:31 16:27	08:44 (C13) 15:42
6	04:35 22:06	05:25 21:17	05:58 (C1) 20:01	07:27 18:40	07:33 16:25	08:45 (C13) 15:41
7	04:36 22:05	05:27 21:15	06:00 (C1) 19:58	07:30 18:38	07:36 16:23	08:45 (C13) 15:40
8	04:37 22:04	05:29 21:13	06:02 (C1) 19:55	07:32 18:35	07:38 16:21	08:46 (C13) 15:40
9	04:38 22:03	05:31 21:11	06:03 19:53	07:34 18:32	07:40 16:19	08:46 (C13) 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:48 (C13) 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:48 (C13) 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:48 (C13) 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:50 (C13) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:51 (C13) 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:51 (C13) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:53 (C13) 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:55 (C13) 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	08:57 (C13) 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:59 (C13) 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	09:02 (C13) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:50 15:41
26	05:04 21:39	06:05 (C1) 20:30	07:07 19:07	08:09 16:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 (C1) 20:27	07:09 19:04	08:12 16:47	08:17 15:49	08:51 15:43
28	05:08 21:36	06:09 (C1) 20:24	07:11 19:02	08:14 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 (C1) 20:22	07:13 18:59	08:16 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 (C1) 20:19	07:15 18:56	08:18 16:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 (C1) 20:17	07:17 16:38	08:20 16:38	08:23 15:47	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	92	99		407	672	68
Sun reduction	0.49	0.50		0.26	0.08	0.07
Oper. time red.	0.98	0.98		0.98	0.98	0.98
Wind dir. red.	0.67	0.67		0.59	0.59	0.61
Total reduction	0.31	0.32		0.15	0.05	0.04
Total, real	29	32		60	31	3

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Spares - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (203)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:11 17:47	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:23	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:22 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:43
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:46 16:00	07:58 17:03	06:50 18:05	06:28 20:09	05:15 21:11	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:15	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:05	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:05 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:03	08:46 15:38
19	08:36 16:18	07:35 17:26	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	08:09 17:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:11 17:47	08:17 15:50	08:50 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	08:14 17:45	08:18 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:33	06:11 20:22	07:13 18:59	08:16 17:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	08:18 17:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Stacija Trepe 2 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (3)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:46	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:08	05:18 21:26	06:20 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:21 18:48	07:27 16:32	08:28 15:44
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:24 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:26 20:04	07:26 18:43	07:31 16:28	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:41	07:34 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 20:04	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 20:06	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:32 21:11	06:33 20:06	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 20:06	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:23 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 20:06	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 20:06	07:40 18:25	07:46 16:13	08:40 15:39
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 20:06	07:42 18:22	07:49 16:12	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 20:06	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 20:06	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 20:06	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 20:06	07:50 18:12	07:57 16:04	08:46 15:38
18	08:37 16:16	07:38 17:24	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 20:06	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:26 22:09	04:53 21:51	05:51 20:47	06:53 20:06	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:26 22:10	04:54 21:49	05:53 20:45	06:55 20:06	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 20:06	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 20:06	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	05:00 21:45	05:59 20:37	07:01 20:06	08:03 18:00	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:50 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 20:06	08:05 18:00	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 20:06	08:07 18:00	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:06 20:30	07:07 20:06	08:08 18:00	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:08 20:27	07:09 20:06	08:10 18:00	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:10 20:24	07:11 20:06	08:11 18:00	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:12 20:22	07:13 20:06	08:12 18:00	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 20:06	08:13 18:00	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:16 20:17		07:20 18:00		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Starumeni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (121)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:25 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:38	05:47 20:43	04:45 21:42	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:15 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:17 17:48	08:17 15:49	08:51 15:43
28	08:22 16:36	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	08:19 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39	07:10 17:48	05:57 18:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:21 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41	07:07 17:50	05:54 18:49	05:35 20:53	04:38 21:50	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:22 17:41	08:22 15:46	08:51 15:46
31	08:17 16:43	07:05 17:51	05:51 19:51	04:37 21:51	04:37 21:51	05:14 21:30	06:15 20:17	07:20 16:38	08:23 15:42	08:23 15:42	08:23 15:42	08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		326									247	163
Sun reduction		0.20									0.08	0.07
Oper. time red.		0.98									0.98	0.98
Wind dir. red.		0.61									0.61	0.61
Total reduction		0.12									0.05	0.04
Total, real		39									4	7

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Stepi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (166)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	08:46 (C14) 17:48	07:11 19:53	06:49 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:12 (C14) 15:45
2	08:51 15:49	08:13 16:48	08:43 (C14) 17:50	07:08 19:55	06:46 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:19 (C14) 15:44
3	08:50 15:51	08:11 16:50	08:41 (C14) 17:52	07:06 19:57	06:44 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:22 (C14) 15:43
4	08:50 15:52	08:09 16:52	08:39 (C14) 17:54	07:03 19:59	06:41 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:08 (C14) 15:42
5	08:49 15:53	08:07 16:54	08:38 (C14) 17:56	07:01 20:01	06:38 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:24 (C14) 15:42
6	08:49 15:55	08:05 16:57	08:38 (C14) 17:58	06:58 20:04	06:36 21:06	05:21 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:24 (C14) 15:41
7	08:48 15:56	08:03 16:59	08:39 (C14) 18:01	06:55 20:06	06:33 21:08	05:19 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:24 (C14) 15:40
8	08:48 15:58	08:01 17:01	08:40 (C14) 18:03	06:53 20:08	06:30 21:10	05:17 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:24 (C14) 15:40
9	08:47 16:00	07:58 17:03	08:41 (C14) 18:05	06:50 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:24 (C14) 15:39
10	08:46 16:01	07:56 17:05	08:51 (C14) 18:05	06:48 20:10	05:13 21:12	04:28 22:02	04:39 22:03	05:33 21:11	06:35 19:53	07:36 18:33	07:42 16:19	08:24 (C14) 15:39
11	08:45 16:03	07:54 17:08	08:49 (C14) 18:07	06:45 20:12	05:11 21:14	04:27 22:03	04:41 22:03	05:35 21:09	06:37 19:50	07:38 18:30	07:44 16:17	08:24 (C14) 15:39
12	08:44 16:05	07:52 17:10	08:48 (C14) 18:09	06:42 20:14	05:09 21:16	04:27 22:04	04:42 22:01	05:37 21:06	06:39 19:48	07:40 18:27	07:47 16:15	08:22 (C14) 15:39
13	08:43 16:06	07:50 17:12	08:47 (C14) 18:13	06:40 20:18	05:07 21:18	04:26 22:05	04:44 22:01	05:39 21:04	06:41 19:45	07:42 18:25	07:49 16:13	08:22 (C14) 15:38
14	08:42 16:08	07:47 17:14	08:46 (C14) 18:16	06:37 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:22 (C14) 15:38
15	08:41 16:10	07:45 17:17	08:45 (C14) 18:18	06:34 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:22 (C14) 15:38
16	08:40 16:12	07:43 17:19	08:44 (C14) 18:20	06:32 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:22 (C14) 15:38
17	08:39 16:14	07:40 17:21	08:43 (C14) 18:22	06:29 20:26	04:59 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:22 (C14) 15:38
18	08:38 16:16	07:38 17:23	08:42 (C14) 18:24	06:26 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:22 (C14) 15:38
19	08:36 16:18	07:36 17:26	08:41 (C14) 18:26	06:24 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:22 (C14) 15:38
20	08:35 16:20	07:33 17:28	08:40 (C14) 18:28	06:21 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:22 (C14) 15:39
21	08:33 16:22	07:31 17:30	08:39 (C14) 18:30	06:18 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:22 (C14) 15:39
22	08:32 16:24	07:28 17:32	08:38 (C14) 18:32	06:16 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:22 (C14) 15:40
23	08:30 16:26	07:26 17:35	08:36 (C14) 18:34	06:13 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:22 (C14) 15:40
24	08:29 16:28	07:23 17:37	08:35 (C14) 18:36	06:10 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:22 (C14) 15:41
25	08:27 16:30	07:21 17:39	08:33 (C14) 18:39	06:08 20:43	04:45 21:42	04:27 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:22 (C14) 15:41
26	08:26 16:32	07:18 17:41	08:32 (C14) 18:41	06:05 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:15 15:51	08:22 (C14) 15:42
27	08:24 16:34	07:16 17:43	08:30 (C14) 18:43	06:02 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17 15:50	08:22 (C14) 15:43
28	08:22 16:37	07:13 17:45	08:28 (C14) 18:45	06:00 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 16:45	08:19 15:48	08:22 (C14) 15:44
29	08:20 16:39	07:11 17:51	08:26 (C14) 18:52	05:57 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:21 15:47	08:22 (C14) 15:45
30	08:19 16:41	07:09 17:59	08:25 (C14) 19:04	05:54 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:17 16:41	08:23 15:46	08:22 (C14) 15:46
31	08:17 16:43	08:48 (C14) 08:52 (C14)	08:23 (C14) 19:05	06:52 21:51	04:37 21:51	05:14 21:30	06:15 20:17	07:21 16:38	08:24 15:47	08:25 15:47	08:26 15:47	08:22 (C14) 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case	4	118									124	
Sun reduction	0.13	0.20									0.08	
Oper. time red.	0.98	0.98									0.98	
Wind dir. red.	0.61	0.61									0.61	
Total reduction	0.08	0.12									0.05	
Total, real	0	14									6	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Straumenini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (11)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March	April			May			June		
1	08:51		10:12 (C13)	08:15		07:11	06:49				05:33		06:22 (C1)	04:36		
	15:48	33	10:45 (C13)	16:45		17:48	19:53				20:55	9	06:31 (C1)	21:53		
2	08:51		10:13 (C13)	08:13		07:08	06:46				05:30			04:35		
	15:49	33	10:46 (C13)	16:47		17:50	19:55				20:58			21:54		
3	08:50		10:13 (C13)	08:11		07:06	06:43				05:28			04:34		
	15:51	33	10:46 (C13)	16:50		17:52	19:57				21:00			21:55		
4	08:50		10:13 (C13)	08:09		07:03	06:41				05:26			04:33		
	15:52	34	10:47 (C13)	16:52		17:54	19:59				21:02			21:57		
5	08:49		10:14 (C13)	08:07		07:00	06:38				05:23			04:32		
	15:53	34	10:48 (C13)	16:54		17:56	20:01				21:04			21:58		
6	08:49		10:15 (C13)	08:05		06:58	06:35				05:21			04:31		
	15:55	33	10:48 (C13)	16:56		17:58	20:03				21:06			21:59		
7	08:48		10:15 (C13)	08:03		06:55	06:33				05:19			04:30		
	15:56	33	10:48 (C13)	16:59		18:00	20:05				21:08			22:00		
8	08:48		10:15 (C13)	08:01		06:53	06:30				05:17			04:29		
	15:58	33	10:48 (C13)	17:01		18:03	20:08				21:10			22:01		
9	08:47		10:16 (C13)	07:58		06:50	06:28				05:15			04:28		
	15:59	33	10:49 (C13)	17:03		18:05	20:10				21:12			22:02		
10	08:46		10:17 (C13)	07:56		06:47	06:25				05:13			04:28		
	16:01	32	10:49 (C13)	17:05		18:07	20:12				21:14			22:03		
11	08:45		10:17 (C13)	07:54		06:45	06:22				05:11			04:27		
	16:03	33	10:50 (C13)	17:08		18:09	20:14				21:16			22:04		
12	08:44		10:18 (C13)	07:52		06:42	06:20				05:08			04:27		
	16:04	32	10:50 (C13)	17:10		18:11	20:16				21:18			22:05		
13	08:43		10:18 (C13)	07:50		06:40	06:17				05:06			04:26		
	16:06	31	10:49 (C13)	17:12		18:13	20:18				21:20			22:06		
14	08:42		10:19 (C13)	07:47		06:37	06:14				05:04			04:26		
	16:08	31	10:50 (C13)	17:14		18:15	20:20				21:22			22:07		
15	08:41		10:20 (C13)	07:45		06:34	06:12				05:03			04:26		
	16:10	30	10:50 (C13)	17:17		18:18	20:22				21:24			22:07		
16	08:40		10:20 (C13)	07:43		06:32	06:09				05:01			04:25		
	16:12	30	10:50 (C13)	17:19		18:20	20:24				21:26			22:08		
17	08:39		10:21 (C13)	07:40		06:29	06:07				04:59			04:25		
	16:14	29	10:50 (C13)	17:21		18:22	20:26				21:27			22:08		
18	08:38		10:22 (C13)	07:38		06:26	06:04			06:30 (C1)	04:57			04:25		
	16:16	28	10:50 (C13)	17:23		18:24	20:28	3		06:33 (C1)	21:29			22:09		
19	08:36		10:22 (C13)	07:36		06:24	06:02			06:28 (C1)	04:55			04:25		
	16:18	27	10:49 (C13)	17:26		18:26	20:30	7		06:35 (C1)	21:31			22:09		
20	08:35		10:24 (C13)	07:33		06:21	05:59			06:25 (C1)	04:53			04:25		
	16:20	25	10:49 (C13)	17:28		18:28	20:33	11		06:36 (C1)	21:33			22:10		
21	08:33		10:25 (C13)	07:31		06:18	05:57			06:23 (C1)	04:52			04:25		
	16:22	23	10:48 (C13)	17:30		18:30	20:35	14		06:37 (C1)	21:35			22:10		
22	08:32		10:26 (C13)	07:28		06:16	05:54			06:21 (C1)	04:50			04:25		
	16:24	21	10:47 (C13)	17:32		18:32	20:37	17		06:38 (C1)	21:37			22:10		
23	08:30		10:28 (C13)	07:26		06:13	05:52			06:18 (C1)	04:48			04:26		
	16:26	18	10:46 (C13)	17:34		18:34	20:39	19		06:37 (C1)	21:38			22:10		
24	08:29		10:30 (C13)	07:23		06:10	05:49			06:18 (C1)	04:47			04:26		
	16:28	15	10:45 (C13)	17:37		18:36	20:41	19		06:37 (C1)	21:40			22:10		
25	08:27		10:33 (C13)	07:21		06:07	05:47			06:18 (C1)	04:45			04:26		
	16:30	9	10:42 (C13)	17:39		18:38	20:43	19		06:37 (C1)	21:42			22:10		
26	08:26			07:18		06:05	05:44			06:17 (C1)	04:44			04:27		
	16:32			17:41		18:41	20:45	19		06:36 (C1)	21:43			22:10		
27	08:24			07:16		06:02	05:42			06:18 (C1)	04:42			04:27		
	16:34			17:43		18:43	20:47	18		06:36 (C1)	21:45			22:10		
28	08:22			07:13		05:59	05:40			06:19 (C1)	04:41			04:28		
	16:36			17:45		18:45	20:49	16		06:35 (C1)	21:47			22:10		
29	08:20					06:57	05:37			06:20 (C1)	04:40			04:29		
	16:39					19:47	20:51	15		06:35 (C1)	21:48			22:10		
30	08:18					06:54	05:35			06:20 (C1)	04:38			04:29		
	16:41					19:49	20:53	12		06:32 (C1)	21:50			22:09		
31	08:17					06:51					04:37					
	16:43					19:51					21:51					
Potential sun hours	235			266		366		426			508			529		
Total, worst case		713						189			9					
Sun reduction		0.13						0.50			0.57					
Oper. time red.		0.98						0.98			0.98					
Wind dir. red.		0.61						0.65			0.65					
Total reduction		0.08						0.31			0.35					
Total, real		56						59			3					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Straumenini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (11)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45 33 10:32 (C13)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44 32 10:32 (C13)
3	04:32 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43 33 10:32 (C13)
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42 33 10:33 (C13)
5	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42 33 10:33 (C13)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41 33 10:34 (C13)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40 33 10:34 (C13)
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	08:35 15:40 34 10:35 (C13)
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:37 15:39 34 10:35 (C13)
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39 33 10:35 (C13)
11	04:41 22:01	05:35 21:06	06:37 (C1) 19:47	07:38 18:27	07:44 16:15	08:39 15:38 33 10:35 (C13)
12	04:42 22:00	05:37 21:04	06:29 (C1) 19:45	07:40 18:25	07:46 16:13	08:40 15:38 33 10:37 (C13)
13	04:43 21:59	05:39 21:02	06:28 (C1) 19:41	07:42 18:22	07:49 16:11	08:42 15:38 33 10:37 (C13)
14	04:45 21:58	05:41 20:59	06:27 (C1) 19:39	07:44 18:19	07:51 16:09	08:43 15:38 33 10:37 (C13)
15	04:46 21:57	05:43 20:57	06:26 (C1) 19:37	07:46 18:17	07:53 16:08	08:44 15:38 32 10:37 (C13)
16	04:48 21:55	05:45 20:54	06:25 (C1) 19:34	07:48 18:14	07:55 16:06	08:45 15:38 33 10:38 (C13)
17	04:49 21:54	05:47 20:52	06:25 (C1) 19:31	07:50 18:12	07:57 10:06 (C13) 16:04	08:46 15:38 32 10:38 (C13)
18	04:51 21:52	05:49 20:50	06:24 (C1) 19:29	07:52 18:09	07:59 10:04 (C13) 16:02	08:46 15:38 33 10:39 (C13)
19	04:52 21:51	05:51 20:47	06:24 (C1) 19:26	07:55 18:07	08:01 10:03 (C13) 16:01	08:47 15:38 33 10:40 (C13)
20	04:54 21:49	05:53 20:45	06:24 (C1) 19:23	07:57 18:04	08:03 10:01 (C13) 16:00	08:48 15:39 32 10:39 (C13)
21	04:56 21:48	05:55 20:42	06:26 (C1) 19:20	07:59 18:02	08:05 10:00 (C13) 15:58	08:49 15:39 32 10:40 (C13)
22	04:57 21:46	05:57 20:40	06:28 (C1) 19:18	08:01 17:59	08:07 10:00 (C13) 15:56	08:49 15:39 32 10:40 (C13)
23	04:59 21:45	05:59 20:37	06:30 (C1) 19:15	08:03 17:57	08:09 09:59 (C13) 15:55	08:50 15:40 32 10:41 (C13)
24	05:01 21:43	06:01 20:35	06:32 (C1) 19:12	08:05 17:55	08:11 10:26 (C13) 15:53	08:50 15:41 33 10:42 (C13)
25	05:03 21:41	06:03 20:32	06:34 (C1) 19:10	08:13 16:52	08:19 09:58 (C13) 15:52	08:50 15:41 33 10:42 (C13)
26	05:04 21:39	06:05 20:30	06:36 (C1) 19:07	08:15 16:50	08:21 09:59 (C13) 15:51	08:51 15:42 32 10:42 (C13)
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 09:59 (C13) 15:49	08:51 15:43 33 10:43 (C13)
28	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 09:59 (C13) 15:48	08:51 15:44 33 10:43 (C13)
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 09:59 (C13) 15:47	08:51 15:45 33 10:44 (C13)
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 09:59 (C13) 15:46	08:51 15:46 32 10:44 (C13)
31	05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47 33 10:45 (C13)
Potential sun hours	529	469	385	324	247	216
Total, worst case		203			350	1016
Sun reduction		0.50			0.08	0.07
Oper. time red.		0.98			0.98	0.98
Wind dir. red.		0.65			0.61	0.61
Total reduction		0.31			0.05	0.04
Total, real		63			17	42

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Strauti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (57)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March	April	May	June		
1	08:51		10:17 (C13)	08:15		10:30 (C13)	07:11	06:49	05:33		06:00 (C1)	04:36
	15:48	36	10:53 (C13)	16:45	29	10:59 (C13)	17:48	19:53	20:55	4	06:04 (C1)	21:53
2	08:50		10:18 (C13)	08:13		10:32 (C13)	07:08	06:46	05:30		05:58 (C1)	04:35
	15:49	36	10:54 (C13)	16:47	26	10:58 (C13)	17:50	19:55	20:57	8	06:06 (C1)	21:54
3	08:50		10:17 (C13)	08:11		10:34 (C13)	07:06	06:43	05:28		05:56 (C1)	04:34
	15:51	38	10:55 (C13)	16:50	22	10:56 (C13)	17:52	19:57	21:00	11	06:07 (C1)	21:55
4	08:50		10:17 (C13)	08:09		10:37 (C13)	07:03	06:41	05:26		05:54 (C1)	04:33
	15:52	38	10:55 (C13)	16:52	17	10:54 (C13)	17:54	19:59	21:02	14	06:08 (C1)	21:57
5	08:49		10:18 (C13)	08:07		10:41 (C13)	07:00	06:38	05:23		05:52 (C1)	04:32
	15:53	38	10:56 (C13)	16:54	10	10:51 (C13)	17:56	20:01	21:04	17	06:09 (C1)	21:58
6	08:49		10:18 (C13)	08:05			06:58	06:35	05:21		05:50 (C1)	04:31
	15:55	39	10:57 (C13)	16:56			17:58	20:03	21:06	19	06:09 (C1)	21:59
7	08:48		10:18 (C13)	08:03			06:55	06:33	05:19		05:50 (C1)	04:30
	15:56	39	10:57 (C13)	16:59			18:00	20:05	21:08	19	06:09 (C1)	22:00
8	08:48		10:19 (C13)	08:01			06:53	06:30	05:17		05:49 (C1)	04:29
	15:58	39	10:58 (C13)	17:01			18:03	20:08	21:10	20	06:09 (C1)	22:01
9	08:47		10:19 (C13)	07:58			06:50	06:28	05:15		05:49 (C1)	04:28
	15:59	39	10:58 (C13)	17:03			18:05	20:10	21:12	20	06:09 (C1)	22:02
10	08:46		10:19 (C13)	07:56			06:47	06:25	05:13		05:49 (C1)	04:28
	16:01	40	10:59 (C13)	17:05			18:07	20:12	21:14	20	06:09 (C1)	22:03
11	08:45		10:19 (C13)	07:54			06:45	06:22	05:11		05:49 (C1)	04:27
	16:03	41	11:00 (C13)	17:08			18:09	20:14	21:16	20	06:09 (C1)	22:04
12	08:44		10:20 (C13)	07:52			06:42	06:20	05:08		05:49 (C1)	04:27
	16:04	41	11:01 (C13)	17:10			18:11	20:16	21:18	19	06:08 (C1)	22:05
13	08:43		10:19 (C13)	07:49			06:40	06:17	05:06		05:49 (C1)	04:26
	16:06	41	11:00 (C13)	17:12			18:13	20:18	21:20	18	06:07 (C1)	22:06
14	08:42		10:20 (C13)	07:47			06:37	06:14	05:04		05:51 (C1)	04:26
	16:08	41	11:01 (C13)	17:14			18:15	20:20	21:22	17	06:08 (C1)	22:07
15	08:41		10:20 (C13)	07:45			06:34	06:12	05:03		05:51 (C1)	04:26
	16:10	41	11:01 (C13)	17:17			18:18	20:22	21:24	16	06:07 (C1)	22:07
16	08:40		10:20 (C13)	07:43			06:32	06:09	05:01		05:52 (C1)	04:25
	16:12	42	11:02 (C13)	17:19			18:20	20:24	21:25	13	06:05 (C1)	22:08
17	08:39		10:21 (C13)	07:40			06:29	06:07	04:59		05:54 (C1)	04:25
	16:14	42	11:03 (C13)	17:21			18:22	20:26	21:27	11	06:05 (C1)	22:08
18	08:37		10:21 (C13)	07:38			06:26	06:04	04:57		05:55 (C1)	04:25
	16:16	42	11:03 (C13)	17:23			18:24	20:28	21:29	7	06:02 (C1)	22:09
19	08:36		10:21 (C13)	07:36			06:24	06:02	04:55		04:25	
	16:18	42	11:03 (C13)	17:26			18:26	20:30	21:31		22:09	
20	08:35		10:22 (C13)	07:33			06:21	05:59	04:53		04:25	
	16:20	42	11:04 (C13)	17:28			18:28	20:33	21:33		22:10	
21	08:33		10:22 (C13)	07:31			06:18	05:57	04:52		04:25	
	16:22	42	11:04 (C13)	17:30			18:30	20:35	21:35		22:10	
22	08:32		10:22 (C13)	07:28			06:16	05:54	04:50		04:25	
	16:24	41	11:03 (C13)	17:32			18:32	20:37	21:37		22:10	
23	08:30		10:23 (C13)	07:26			06:13	05:52	04:48		04:26	
	16:26	40	11:03 (C13)	17:34			18:34	20:39	21:38		22:10	
24	08:29		10:24 (C13)	07:23			06:10	05:49	04:47		04:26	
	16:28	40	11:04 (C13)	17:37			18:36	20:41	21:40		22:10	
25	08:27		10:25 (C13)	07:21			06:07	05:47	04:45		04:26	
	16:30	39	11:04 (C13)	17:39			18:38	20:43	21:42		22:10	
26	08:26		10:25 (C13)	07:18			06:05	05:44	04:44		04:27	
	16:32	39	11:04 (C13)	17:41			18:41	20:45	21:43		22:10	
27	08:24		10:26 (C13)	07:16			06:02	05:42	04:42		04:27	
	16:34	37	11:03 (C13)	17:43			18:43	20:47	21:45		22:10	
28	08:22		10:27 (C13)	07:13			05:59	05:40	04:41		04:28	
	16:36	36	11:03 (C13)	17:45			18:45	20:49	21:47		22:10	
29	08:20		10:28 (C13)				06:57	05:37	04:40		04:29	
	16:39	34	11:02 (C13)				19:47	20:51	21:48		22:10	
30	08:18		10:29 (C13)				06:54	05:35	04:38		04:29	
	16:41	33	11:02 (C13)				19:49	20:53	21:50		22:09	
31	08:17		10:30 (C13)				06:51		04:37			
	16:43	31	11:01 (C13)				19:51		21:51			
Potential sun hours	235			266			366	426	508			529
Total, worst case	1209			104					273			
Sun reduction	0.13			0.20					0.57			
Oper. time red.	0.98			0.98					0.98			
Wind dir. red.	0.61			0.61					0.67			
Total reduction	0.08			0.12					0.36			
Total, real	94			12					98			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Strauti - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (57)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	05:59 (C1) 20:14	06:17 18:54	07:17 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 (C1) 20:11	06:19 18:51	07:25 16:34	08:26 15:44
3	04:32 22:08	05:19 21:24	06:19 (C1) 20:09	06:21 18:48	07:27 16:32	08:28 15:43
4	04:33 22:07	05:21 21:22	06:23 20:06	06:23 18:46	07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:03	06:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	06:27 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	06:29 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	06:31 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	06:33 18:32	07:40 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	06:35 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	06:37 18:27	07:44 16:15	08:39 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	06:39 18:25	07:46 16:13	08:40 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	06:41 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	06:43 18:19	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	06:45 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	06:47 18:14	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	06:49 18:12	07:57 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	06:51 18:09	07:59 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	06:53 18:07	08:01 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	06:55 18:04	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:20	06:57 18:02	08:05 15:58	08:48 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	06:59 17:59	08:07 15:56	08:49 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	07:01 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	07:03 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:05 16:52	08:13 15:52	08:50 15:41
26	05:04 21:39	06:05 20:30	07:07 19:07	07:07 16:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:09 16:47	08:17 15:49	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:11 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:13 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:15 16:40	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	89	187			894	1114
Sun reduction	0.49	0.50			0.08	0.07
Oper. time red.	0.98	0.98			0.98	0.98
Wind dir. red.	0.67	0.67			0.61	0.61
Total reduction	0.31	0.32			0.05	0.04
Total, real	28	59			43	45

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Strautini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (36)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January		February		March	April	May	June
1	08:51	09:43 (C13)	08:15	07:11	06:49		05:33	04:36
	15:48	24 10:07 (C13)	16:45	17:48	19:53		20:55	21:53
2	08:51	09:44 (C13)	08:13	07:08	06:46		05:30	04:35
	15:49	25 10:09 (C13)	16:47	17:50	19:55		20:58	21:54
3	08:50	09:44 (C13)	08:11	07:06	06:43		05:28	04:34
	15:51	25 10:09 (C13)	16:50	17:52	19:57		21:00	21:55
4	08:50	09:43 (C13)	08:09	07:03	06:41		05:26	04:33
	15:52	26 10:09 (C13)	16:52	17:54	19:59		21:02	21:57
5	08:49	09:44 (C13)	08:07	07:01	06:38		05:23	04:32
	15:53	27 10:11 (C13)	16:54	17:56	20:01		21:04	21:58
6	08:49	09:44 (C13)	08:05	06:58	06:35		05:21	04:31
	15:55	27 10:11 (C13)	16:56	17:58	20:03		21:06	21:59
7	08:48	09:44 (C13)	08:03	06:55	06:33		05:19	04:30
	15:56	28 10:12 (C13)	16:59	18:01	20:05		21:08	22:00
8	08:48	09:45 (C13)	08:01	06:53	06:30		05:17	04:29
	15:58	27 10:12 (C13)	17:01	18:03	20:08		21:10	22:01
9	08:47	09:45 (C13)	07:58	06:50	06:28		05:15	04:28
	15:59	28 10:13 (C13)	17:03	18:05	20:10		21:12	22:02
10	08:46	09:45 (C13)	07:56	06:47	06:25		05:13	04:28
	16:01	28 10:13 (C13)	17:05	18:07	20:12		21:14	22:03
11	08:45	09:46 (C13)	07:54	06:45	06:22		05:11	04:27
	16:03	28 10:14 (C13)	17:08	18:09	20:14		21:16	22:04
12	08:44	09:46 (C13)	07:52	06:42	06:20		05:08	04:27
	16:04	29 10:15 (C13)	17:10	18:11	20:16		21:18	22:05
13	08:43	09:46 (C13)	07:50	06:40	06:17		05:06	04:26
	16:06	29 10:15 (C13)	17:12	18:13	20:18		21:20	22:06
14	08:42	09:46 (C13)	07:47	06:37	06:15	06:40 (C1)	05:04	04:26
	16:08	29 10:15 (C13)	17:14	18:15	20:20	5 06:45 (C1)	21:22	22:07
15	08:41	09:47 (C13)	07:45	06:34	06:12	06:38 (C1)	05:03	04:26
	16:10	29 10:16 (C13)	17:17	18:18	20:22	8 06:46 (C1)	21:24	22:07
16	08:40	09:47 (C13)	07:43	06:32	06:09	06:35 (C1)	05:01	04:25
	16:12	29 10:16 (C13)	17:19	18:20	20:24	11 06:46 (C1)	21:26	22:08
17	08:39	09:48 (C13)	07:40	06:29	06:07	06:33 (C1)	04:59	04:25
	16:14	29 10:17 (C13)	17:21	18:22	20:26	14 06:47 (C1)	21:27	22:09
18	08:38	09:48 (C13)	07:38	06:26	06:04	06:30 (C1)	04:57	04:25
	16:16	29 10:17 (C13)	17:23	18:24	20:28	17 06:47 (C1)	21:29	22:09
19	08:36	09:48 (C13)	07:36	06:24	06:02	06:29 (C1)	04:55	04:25
	16:18	28 10:16 (C13)	17:26	18:26	20:30	18 06:47 (C1)	21:31	22:09
20	08:35	09:49 (C13)	07:33	06:21	05:59	06:29 (C1)	04:53	04:25
	16:20	28 10:17 (C13)	17:28	18:28	20:33	17 06:46 (C1)	21:33	22:10
21	08:33	09:49 (C13)	07:31	06:18	05:57	06:29 (C1)	04:52	04:25
	16:22	28 10:17 (C13)	17:30	18:30	20:35	16 06:45 (C1)	21:35	22:10
22	08:32	09:50 (C13)	07:28	06:16	05:54	06:30 (C1)	04:50	04:25
	16:24	26 10:16 (C13)	17:32	18:32	20:37	15 06:45 (C1)	21:37	22:10
23	08:30	09:51 (C13)	07:26	06:13	05:52	06:31 (C1)	04:48	04:26
	16:26	25 10:16 (C13)	17:34	18:34	20:39	12 06:43 (C1)	21:38	22:10
24	08:29	09:52 (C13)	07:23	06:10	05:49	06:32 (C1)	04:47	04:26
	16:28	24 10:16 (C13)	17:37	18:36	20:41	9 06:41 (C1)	21:40	22:10
25	08:27	09:53 (C13)	07:21	06:07	05:47		04:45	04:26
	16:30	23 10:16 (C13)	17:39	18:38	20:43		21:42	22:10
26	08:26	09:54 (C13)	07:18	06:05	05:44		04:44	04:27
	16:32	21 10:15 (C13)	17:41	18:41	20:45		21:43	22:10
27	08:24	09:56 (C13)	07:16	06:02	05:42		04:42	04:27
	16:34	18 10:14 (C13)	17:43	18:43	20:47		21:45	22:10
28	08:22	09:58 (C13)	07:13	05:59	05:40		04:41	04:28
	16:36	14 10:12 (C13)	17:45	18:45	20:49		21:47	22:10
29	08:20	10:00 (C13)		06:57	05:37		04:40	04:29
	16:39	10 10:10 (C13)		19:47	20:51		21:48	22:10
30	08:19			06:54	05:35		04:38	04:29
	16:41			19:49	20:53		21:50	22:09
31	08:17			06:51			04:37	
	16:43			19:51			21:51	
Potential sun hours	235		266	366	426		508	529
Total, worst case	741				142			
Sun reduction	0.13				0.50			
Oper. time red.	0.98				0.98			
Wind dir. red.	0.61				0.65			
Total reduction	0.08				0.31			
Total, real	58				44			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Strautini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (36)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	09:28 (C13) 15:44
3	04:32 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:32	09:29 (C13) 15:43
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	09:29 (C13) 15:42
5	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	09:30 (C13) 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	09:30 (C13) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	09:30 (C13) 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	09:32 (C13) 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	09:33 (C13) 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	09:33 (C13) 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	09:33 (C13) 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	09:35 (C13) 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	09:35 (C13) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	09:36 (C13) 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	09:36 (C13) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	09:37 (C13) 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	09:37 (C13) 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	09:38 (C13) 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	09:39 (C13) 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	09:39 (C13) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	09:40 (C13) 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	09:40 (C13) 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	09:41 (C13) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	09:41 (C13) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	09:41 (C13) 15:41
26	05:04 21:39	06:05 20:30	07:07 19:07	08:15 17:50	08:15 15:51	09:41 (C13) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:17 17:47	08:17 15:49	09:42 (C13) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:19 17:45	08:19 15:48	09:42 (C13) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:21 17:43	08:21 15:47	09:42 (C13) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:22 17:41	08:22 15:46	09:43 (C13) 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38		09:43 (C13) 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		143			448	736
Sun reduction		0.50			0.08	0.07
Oper. time red.		0.98			0.98	0.98
Wind dir. red.		0.65			0.61	0.61
Total reduction		0.31			0.05	0.04
Total, real		45			22	30

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Suš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (10)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:51 15:48 41	10:51 (C17) 11:32 (C17) 16:45	08:15 07:11 17:47	06:49 19:53 20:55	05:32 20:55 21:53	04:35 21:53 22:09	04:30 21:28 20:14	05:15 21:28 20:14	06:17 18:53 16:36	07:17 18:53 16:36	07:23 18:53 16:36	08:24 15:45 11:18 (C17)	
2	08:51 15:49 41	10:52 (C17) 11:33 (C17) 16:47	08:13 07:08 17:50	06:46 19:55 20:57	05:30 20:57 21:54	04:34 21:54 22:09	04:30 21:26 20:11	05:17 20:11 18:51	06:19 18:51 16:34	07:19 18:51 16:34	07:25 18:51 16:34	08:26 15:44 11:19 (C17)	
3	08:50 15:50 41	10:52 (C17) 11:33 (C17) 16:49	08:11 07:06 17:52	06:43 19:57 21:00	05:28 20:57 21:55	04:33 21:55 22:08	04:31 21:24 20:09	05:19 20:09 18:48	06:21 18:48 16:31	07:21 18:48 16:31	07:27 18:48 16:31	08:28 15:43 11:19 (C17)	
4	08:50 15:52 41	10:52 (C17) 11:33 (C17) 16:52	08:09 07:03 17:54	06:41 19:59 21:02	05:25 21:02 21:57	04:32 21:57 22:07	04:32 21:22 20:06	05:21 20:06 18:45	06:23 18:45 16:29	07:23 18:45 16:29	07:29 18:45 16:29	08:29 15:42 11:19 (C17)	
5	08:49 15:53 41	10:53 (C17) 11:34 (C17) 16:54	08:07 07:00 17:56	06:38 20:01 21:04	05:23 21:04 21:58	04:31 21:58 22:07	04:33 21:19 20:03	05:23 20:03 18:43	06:25 18:43 16:27	07:25 18:43 16:27	07:31 18:43 16:27	08:31 15:41 11:20 (C17)	
6	08:49 15:54 41	10:53 (C17) 11:34 (C17) 16:56	08:05 07:58 17:58	06:35 21:06 21:59	05:21 21:06 21:59	04:30 21:59 22:06	04:34 21:17 20:01	05:25 20:01 18:40	06:27 18:40 16:25	07:27 18:40 16:25	07:33 18:40 16:25	08:32 15:41 11:20 (C17)	
7	08:48 15:56 40	10:54 (C17) 11:34 (C17) 16:58	08:03 07:51 18:00	06:33 20:05 21:08	05:19 21:08 22:00	04:30 22:00 22:05	04:35 21:15 20:01	05:27 20:01 18:38	06:29 18:38 16:23	07:29 18:38 16:23	07:36 18:38 16:23	08:34 15:40 11:20 (C17)	
8	08:48 15:58 41	10:54 (C17) 11:35 (C17) 17:01	08:00 07:50 18:02	06:30 20:07 21:10	05:17 21:10 22:01	04:29 22:01 22:04	04:37 21:13 20:01	05:29 20:01 18:35	06:31 18:35 16:21	07:31 18:35 16:21	07:38 18:35 16:21	08:35 15:39 11:21 (C17)	
9	08:47 15:59 40	10:55 (C17) 11:35 (C17) 17:03	07:58 07:42 18:05	06:27 20:10 21:12	05:14 21:12 22:02	04:28 22:02 22:03	04:38 21:11 20:01	05:31 20:01 18:32	06:33 18:32 16:19	07:34 18:32 16:19	07:40 18:32 16:19	08:37 15:39 11:22 (C17)	
10	08:46 16:01 40	10:55 (C17) 11:35 (C17) 17:05	07:56 07:49 18:07	06:25 20:10 21:14	05:12 21:14 22:03	04:28 22:03 22:02	04:39 21:11 20:01	05:33 20:01 18:30	06:35 18:30 16:17	07:36 18:30 16:17	07:42 18:30 16:17	08:38 15:38 11:22 (C17)	
11	08:45 16:02 40	10:56 (C17) 11:36 (C17) 17:07	07:54 07:47 18:09	06:25 20:14 21:16	05:10 21:16 22:04	04:27 22:04 22:01	04:40 21:08 20:01	05:35 20:01 18:30	06:37 18:30 16:17	07:38 18:30 16:17	07:44 18:30 16:17	08:39 15:38 11:22 (C17)	
12	08:44 16:04 39	10:57 (C17) 11:36 (C17) 17:10	07:52 07:49 18:11	06:19 20:14 21:18	05:08 21:18 22:05	04:26 22:05 22:01	04:42 21:06 20:01	05:37 20:01 18:30	06:39 18:30 16:17	07:40 18:30 16:17	07:46 18:30 16:17	08:40 15:38 11:22 (C17)	
13	08:43 16:06 39	10:57 (C17) 11:36 (C17) 17:12	07:49 07:42 18:13	06:17 20:18 21:20	05:06 21:20 22:06	04:26 22:06 21:59	04:43 21:01 20:01	05:39 20:01 18:30	06:41 18:30 16:17	07:42 18:30 16:17	07:49 18:30 16:17	08:42 15:38 11:23 (C17)	
14	08:42 16:08 38	10:58 (C17) 11:36 (C17) 17:14	07:47 07:38 18:15	06:14 20:20 21:22	05:04 21:22 22:07	04:26 22:07 21:58	04:44 21:01 20:01	05:41 20:01 18:30	06:43 18:30 16:17	07:44 18:30 16:17	07:51 18:30 16:17	08:43 15:38 11:23 (C17)	
15	08:41 16:10 38	10:59 (C17) 11:37 (C17) 17:16	07:45 07:36 18:17	06:12 20:22 21:24	05:02 21:24 22:07	04:25 22:07 21:57	04:46 21:01 20:01	05:43 20:01 18:30	06:45 18:30 16:17	07:46 18:30 16:17	07:53 18:30 16:17	08:44 15:37 11:24 (C17)	
16	08:40 16:12 37	10:59 (C17) 11:36 (C17) 17:19	07:43 07:36 18:19	06:09 20:24 21:25	05:00 21:25 22:08	04:25 22:08 21:55	04:47 21:01 20:01	05:45 20:01 18:30	06:47 18:30 16:17	07:48 18:30 16:17	07:55 18:30 16:17	08:45 15:37 11:24 (C17)	
17	08:39 16:13 36	11:00 (C17) 11:36 (C17) 17:21	07:40 07:33 18:22	06:07 20:26 21:27	04:58 21:27 22:09	04:25 22:09 21:54	04:49 21:01 20:01	05:47 20:01 18:30	06:49 18:30 16:17	07:50 18:30 16:17	07:57 18:30 16:17	08:46 15:37 11:25 (C17)	
18	08:37 16:15 36	11:00 (C17) 11:36 (C17) 17:23	07:38 07:31 18:24	06:04 20:28 21:29	04:57 21:29 22:09	04:25 22:09 21:52	04:51 21:01 20:01	05:49 20:01 18:30	06:51 18:30 16:17	07:52 18:30 16:17	07:59 18:30 16:17	08:46 15:37 11:26 (C17)	
19	08:36 16:17 34	11:01 (C17) 11:35 (C17) 17:25	07:35 07:28 18:26	06:01 20:30 21:31	04:55 21:31 22:09	04:25 22:09 21:51	04:52 21:01 20:01	05:51 20:01 18:30	06:53 18:30 16:17	07:54 18:30 16:17	08:01 18:30 16:17	08:47 15:37 11:26 (C17)	
20	08:35 16:19 32	11:03 (C17) 11:35 (C17) 17:28	07:33 07:26 18:28	06:01 20:32 21:33	04:59 21:33 22:10	04:25 22:10 21:49	04:54 21:01 20:01	05:53 20:01 18:30	06:55 18:30 16:17	07:57 18:30 16:17	08:03 18:30 16:17	08:48 15:37 11:26 (C17)	
21	08:33 16:21 32	11:03 (C17) 11:35 (C17) 17:30	07:31 07:24 18:30	05:56 20:35 21:35	04:51 21:35 22:10	04:25 22:10 21:48	04:55 21:01 20:01	05:55 20:01 18:30	06:57 18:30 16:17	07:59 18:30 16:17	08:05 18:30 16:17	08:49 15:37 11:27 (C17)	
22	08:32 16:23 30	11:04 (C17) 11:34 (C17) 17:32	07:28 07:21 18:32	05:54 20:37 21:37	04:50 21:37 22:10	04:25 22:10 21:46	04:57 21:01 20:01	05:57 20:01 18:30	06:59 18:30 16:17	08:01 18:30 16:17	08:07 18:30 16:17	08:49 15:37 11:27 (C17)	
23	08:30 16:26 28	11:05 (C17) 11:33 (C17) 17:34	07:26 07:19 18:34	05:51 20:39 21:38	04:48 21:38 22:10	04:25 22:10 21:45	04:59 21:01 20:01	05:59 20:01 18:30	07:01 18:30 16:17	08:03 18:30 16:17	08:09 18:30 16:17	08:50 15:37 11:28 (C17)	
24	08:29 16:28 25	11:08 (C17) 11:33 (C17) 17:36	07:23 07:16 18:36	05:49 20:41 21:40	04:46 21:40 22:10	04:26 22:10 21:43	05:01 21:01 20:01	06:01 20:01 18:30	07:03 18:30 16:17	08:05 18:30 16:17	08:11 18:30 16:17	08:51 15:37 11:28 (C17)	
25	08:27 16:30 21	11:10 (C17) 11:31 (C17) 17:39	07:21 07:14 18:38	05:47 20:43 21:42	04:45 21:42 22:10	04:26 22:10 21:41	05:02 21:01 20:01	06:03 20:01 18:30	07:05 18:30 16:17	08:07 18:30 16:17	08:13 18:30 16:17	08:52 15:37 11:29 (C17)	
26	08:26 16:32 17	11:12 (C17) 11:29 (C17) 17:41	07:18 07:11 18:40	05:44 20:45 21:43	04:43 21:43 22:10	04:26 22:10 21:39	05:04 21:01 20:01	06:05 20:01 18:30	07:07 18:30 16:17	08:09 18:30 16:17	08:15 18:30 16:17	08:53 15:37 11:29 (C17)	
27	08:24 16:34 11	11:15 (C17) 11:26 (C17) 17:43	07:16 07:09 18:42	05:42 20:47 21:45	04:42 21:45 22:10	04:27 22:10 21:38	05:06 21:01 20:01	06:07 20:01 18:30	07:09 18:30 16:17	08:11 18:30 16:17	08:17 18:30 16:17	08:54 15:37 11:29 (C17)	
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43	09:49 11:30 (C17)
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:44	09:49 11:30 (C17)
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45	09:50 11:31 (C17)
31	08:17 16:43		06:51 19:51	05:37 21:51	04:37 21:51	04:37 21:51	05:13 21:30	06:15 20:17	07:20 16:38	07:20 16:38	08:20 15:46	08:51 15:46	09:51 11:32 (C17)
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216	
Total, worst case	940									494		1270	
Sun reduction	0.13									0.08		0.07	
Oper. time red.	0.98									0.98		0.98	
Wind dir. red.	0.60									0.60		0.60	
Total reduction	0.08									0.05		0.04	
Total, real	73									24		52	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Sipolini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (86)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	07:20 (C15) 20:55	04:36 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	07:21 (C15) 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	07:23 (C15) 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:32 (C15) 21:02	04:33 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	21:04	04:32 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	04:31 21:59
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	06:53 (C14) 21:12	04:29 22:02
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	06:50 (C14) 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	06:48 (C14) 21:16	04:28 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	06:45 (C14) 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	06:44 (C14) 21:20	04:27 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	06:43 (C14) 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	06:42 (C14) 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	06:41 (C14) 21:25	04:26 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	06:41 (C14) 21:27	04:26 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	06:40 (C14) 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	06:41 (C14) 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	06:41 (C14) 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:41 (C14) 21:35	04:26 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	06:42 (C14) 21:37	04:26 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	06:42 (C14) 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	06:43 (C14) 21:40	04:26 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	06:45 (C14) 21:42	04:27 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	06:59 (C14) 21:44	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:48 (C14) 21:46	04:27 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	06:56 (C14) 21:48	04:27 22:10
29	08:20 16:39	07:11 17:47	05:57 18:47	05:37 20:51	06:57 (C14) 21:50	04:27 22:10
30	08:19 16:41	07:09 17:49	05:54 18:49	05:35 20:53	06:58 (C14) 21:52	04:27 22:10
31	08:17 16:43	07:07 17:51	05:52 18:51	05:33 20:55	06:59 (C14) 21:54	04:27 22:10
Potential sun hours	235	266	366	426	508	528
Total, worst case			83	393	219	
Sun reduction			0.41	0.50	0.57	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.66	0.66	0.67	
Total reduction			0.26	0.32	0.37	
Total, real			22	126	82	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Sipolini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (86)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	06:47 (C14) 16 07:03 (C14)	07:17 18:54	08:24 15:45
2	04:31 22:08	05:18 21:26	06:19 20:11	06:49 (C14) 12 07:01 (C14)	07:19 18:51	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	06:51 (C14) 6 06:57 (C14)	07:21 18:48	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	06:57 (C14) 07:23	07:29 18:46	08:29 15:43
5	04:34 22:07	05:24 21:20	06:25 20:04	07:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:16 (C15) 9 07:25 (C15)	07:34 18:33	08:37 15:39
10	04:40 22:02	05:33 21:08	06:35 19:50	07:14 (C15) 13 07:27 (C15)	07:36 18:30	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:13 (C15) 15 07:28 (C15)	07:38 18:27	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:12 (C15) 16 07:28 (C15)	07:40 18:25	08:40 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:11 (C15) 17 07:28 (C15)	07:42 18:22	08:42 15:38
14	04:45 21:58	05:41 (C13) 05:46 (C13)	06:43 20:59	07:12 (C15) 16 07:28 (C15)	07:44 18:20	08:43 15:38
15	04:46 21:57	05:40 (C13) 05:49 (C13)	06:45 20:57	07:14 (C15) 13 07:27 (C15)	07:46 18:17	08:44 15:38
16	04:48 21:55	05:39 (C13) 05:50 (C13)	06:47 20:54	07:16 (C15) 11 07:27 (C15)	07:48 18:15	08:45 15:38
17	04:50 21:54	05:38 (C13) 05:52 (C13)	06:49 20:52	07:18 (C15) 7 07:25 (C15)	07:50 18:12	08:46 15:38
18	04:51 21:52	05:38 (C13) 05:51 (C13)	06:51 (C14) 15 07:06 (C14)	07:20 (C15) 4 07:24 (C15)	07:52 18:09	08:46 15:38
19	04:53 21:51	05:37 (C13) 05:52 (C13)	06:53 20:47	07:22 (C15) 17 07:06 (C14)	07:55 18:07	08:47 15:38
20	04:54 21:49	05:37 (C13) 05:53 (C13)	06:55 20:45	07:24 (C15) 21 07:08 (C14)	07:57 18:05	08:48 15:39
21	04:56 21:48	05:36 (C13) 05:53 (C13)	06:57 20:42	07:26 (C15) 22 07:08 (C14)	07:59 18:02	08:48 15:39
22	04:58 21:46	05:37 (C13) 05:53 (C13)	06:59 20:40	07:28 (C15) 23 07:09 (C14)	08:01 18:00	08:49 15:40
23	04:59 21:45	05:36 (C13) 05:53 (C13)	07:01 20:37	07:30 (C15) 24 07:09 (C14)	08:03 17:57	08:50 15:40
24	05:01 21:43	05:36 (C13) 05:54 (C13)	07:03 20:35	07:32 (C15) 25 07:10 (C14)	08:05 17:55	08:51 15:41
25	05:03 21:41	05:38 (C13) 05:54 (C13)	07:05 20:32	07:34 (C15) 26 07:10 (C14)	08:07 16:52	08:51 15:41
26	05:05 21:39	05:39 (C13) 05:53 (C13)	07:07 20:30	07:36 (C15) 25 07:09 (C14)	08:09 16:50	08:51 15:42
27	05:06 21:38	05:41 (C13) 05:54 (C13)	07:09 20:27	07:38 (C15) 25 07:09 (C14)	08:11 16:48	08:51 15:43
28	05:08 21:36	05:43 (C13) 05:54 (C13)	07:11 20:24	07:40 (C15) 25 07:08 (C14)	08:13 16:45	08:51 15:44
29	05:10 21:34	05:44 (C13) 05:52 (C13)	07:13 20:22	07:42 (C15) 24 07:07 (C14)	08:15 16:43	08:51 15:45
30	05:12 21:32	05:46 (C13) 05:52 (C13)	07:15 20:19	07:44 (C15) 22 07:06 (C14)	08:17 16:41	08:51 15:46
31	05:14 21:30	05:48 (C13) 05:51 (C13)	07:17 20:17	07:46 (C15) 20 07:05 (C14)	08:19 16:38	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	220	324	155			
Sun reduction	0.49	0.50	0.43			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.67	0.66	0.66			
Total reduction	0.32	0.32	0.27			
Total, real	71	104	42			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Turaiki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (162)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April	May	June
1	08:51		09:46 (C14)	08:15		09:08 (C15)	07:11			06:49	05:33	04:36
	15:48	28	10:14 (C14)	16:45	13	09:21 (C15)	17:48			19:53	20:55	21:53
2	08:50		09:47 (C14)	08:13		09:10 (C15)	07:08			06:46	05:30	04:35
	15:49	28	10:15 (C14)	16:48	9	09:19 (C15)	17:50			19:55	20:58	21:54
3	08:50		09:47 (C14)	08:11			07:06			06:43	05:28	04:34
	15:51	28	10:15 (C14)	16:50			17:52			19:57	21:00	21:55
4	08:50		09:47 (C14)	08:09			07:03			06:41	05:26	04:33
	15:52	28	10:15 (C14)	16:52			17:54			19:59	21:02	21:57
5	08:49		09:48 (C14)	08:07			07:01			06:38	05:23	04:32
	15:53	29	10:17 (C14)	16:54			17:56			20:01	21:04	21:58
6	08:49		09:48 (C14)	08:05			06:58			06:36	05:21	04:31
	15:55	29	10:17 (C14)	16:56			17:58			20:03	21:06	21:59
7	08:48		09:48 (C14)	08:03			06:55			06:33	05:19	04:30
	15:56	29	10:17 (C14)	16:59			18:01			20:06	21:08	22:00
8	08:48		09:49 (C14)	08:01			06:53			06:30	05:17	04:29
	15:58	29	10:18 (C14)	17:01			18:03			20:08	21:10	22:01
9	08:47		09:49 (C14)	07:58			06:50		07:21 (C13)	06:28	05:15	04:29
	16:00	29	10:18 (C14)	17:03			18:05	10	07:31 (C13)	20:10	21:12	22:02
10	08:46		09:50 (C14)	07:56			06:47		07:17 (C13)	06:25	05:13	04:28
	16:01	29	10:19 (C14)	17:05			18:07	16	07:33 (C13)	20:12	21:14	22:03
11	08:45		09:50 (C14)	07:54			06:45		07:14 (C13)	06:22	05:11	04:27
	16:03	29	10:19 (C14)	17:08			18:09	21	07:35 (C13)	20:14	21:16	22:04
12	08:44		09:51 (C14)	07:52			06:42		07:13 (C13)	06:20	05:09	04:27
	16:05	29	10:20 (C14)	17:10			18:11	24	07:37 (C13)	20:16	21:18	22:05
13	08:43		09:50 (C14)	07:50			06:40		07:12 (C13)	06:17	05:07	04:26
	16:06	30	10:20 (C14)	17:12			18:13	25	07:37 (C13)	20:18	21:20	22:06
14	08:42		09:51 (C14)	07:47			06:37		07:10 (C13)	06:15	05:05	04:26
	16:08	29	10:20 (C14)	17:14			18:15	28	07:38 (C13)	20:20	21:22	22:07
15	08:41		09:52 (C14)	07:45			06:34		07:10 (C13)	06:12	05:03	04:26
	16:10	29	10:21 (C14)	17:17			18:18	29	07:39 (C13)	20:22	21:24	22:07
16	08:40		09:52 (C14)	07:43			06:32		07:09 (C13)	06:09	05:01	04:26
	16:12	28	10:20 (C14)	17:19			18:20	29	07:38 (C13)	20:24	21:26	22:08
17	08:39		09:14 (C15)	07:40			06:29		07:08 (C13)	06:07	04:59	04:25
	16:14	31	10:21 (C14)	17:21			18:22	30	07:38 (C13)	20:26	21:27	22:08
18	08:38		09:12 (C15)	07:38			06:26		07:07 (C13)	06:04	04:57	04:25
	16:16	34	10:21 (C14)	17:23			18:24	31	07:38 (C13)	20:28	21:29	22:09
19	08:36		09:10 (C15)	07:36			06:24		07:08 (C13)	06:02	04:55	04:25
	16:18	35	10:20 (C14)	17:26			18:26	30	07:38 (C13)	20:31	21:31	22:09
20	08:35		09:09 (C15)	07:33			06:21		07:07 (C13)	05:59	04:53	04:25
	16:20	37	10:21 (C14)	17:28			18:28	30	07:37 (C13)	20:33	21:33	22:10
21	08:33		09:07 (C15)	07:31			06:18		07:07 (C13)	05:57	04:52	04:25
	16:22	38	10:20 (C14)	17:30			18:30	29	07:36 (C13)	20:35	21:35	22:10
22	08:32		09:05 (C15)	07:28			06:16		07:08 (C13)	05:54	04:50	04:26
	16:24	38	10:19 (C14)	17:32			18:32	28	07:36 (C13)	20:37	21:37	22:10
23	08:30		09:03 (C15)	07:26			06:13		07:09 (C13)	05:52	04:48	04:26
	16:26	41	10:19 (C14)	17:34			18:34	25	07:34 (C13)	20:39	21:38	22:10
24	08:29		09:04 (C15)	07:23			06:10		07:09 (C13)	05:49	04:47	04:26
	16:28	38	10:19 (C14)	17:37			18:36	23	07:32 (C13)	20:41	21:40	22:10
25	08:27		09:04 (C15)	07:21			06:08		07:11 (C13)	05:47	04:45	04:26
	16:30	35	10:17 (C14)	17:39			18:38	20	07:31 (C13)	20:43	21:42	22:10
26	08:26		09:04 (C15)	07:18			06:05		07:12 (C13)	05:44	04:44	04:27
	16:32	33	10:16 (C14)	17:41			18:41	16	07:28 (C13)	20:45	21:43	22:10
27	08:24		09:04 (C15)	07:16			06:02		07:15 (C13)	05:42	04:42	04:27
	16:34	25	10:12 (C14)	17:43			18:43	9	07:24 (C13)	20:47	21:45	22:10
28	08:22		09:05 (C15)	07:13			05:59			05:40	04:41	04:28
	16:37	19	09:24 (C15)	17:45			18:45			20:49	21:47	22:10
29	08:20		09:06 (C15)				06:57			05:37	04:40	04:29
	16:39	17	09:23 (C15)				19:47			20:51	21:48	22:10
30	08:19		09:06 (C15)				06:54			05:35	04:38	04:29
	16:41	17	09:23 (C15)				19:49			20:53	21:50	22:09
31	08:17		09:08 (C15)				06:51				04:37	
	16:43	15	09:23 (C15)				19:51				21:51	
Potential sun hours	235			266			366			426	508	529
Total, worst case	913			22			453					
Sun reduction	0.13			0.20			0.41					
Oper. time red.	0.98			0.98			0.98					
Wind dir. red.	0.61			0.59			0.62					
Total reduction	0.08			0.11			0.25					
Total, real	71			3			113					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Turaiki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (162)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:52 (C13)	07:23
	22:09	21:28	20:14	18:54	24 08:16 (C13)	16:36
2	04:31	05:18	06:19	07:19	07:53 (C13)	07:25
	22:09	21:26	20:11	18:51	22 08:15 (C13)	16:34
3	04:32	05:20	06:21	07:21	07:54 (C13)	07:27
	22:08	21:24	20:09	18:48	18 08:12 (C13)	16:32
4	04:33	05:21	06:23	07:23	07:56 (C13)	07:29
	22:07	21:22	20:06	18:46	14 08:10 (C13)	16:29
5	04:34	05:23	06:25	07:25	08:01 (C13)	07:31
	22:07	21:20	20:03	18:43	3 08:04 (C13)	16:27
6	04:35	05:25	06:27	07:28		07:33
	22:06	21:17	20:01	18:40		16:25
7	04:36	05:27	06:29	07:30		07:36
	22:05	21:15	19:58	18:38		16:23
8	04:37	05:29	06:31	07:32		07:38
	22:04	21:13	19:56	18:35		16:21
9	04:38	05:31	06:33	07:34		07:40
	22:03	21:11	19:53	18:32		16:19
10	04:39	05:33	06:35	07:36		07:42
	22:02	21:08	19:50	18:30		16:17
11	04:41	05:35	06:37	07:38		07:44
	22:01	21:06	19:47	18:27		16:15
12	04:42	05:37	06:39	07:40		07:46
	22:00	21:04	19:45	18:25		16:13
13	04:43	05:39	06:41	07:42		07:49
	21:59	21:02	19:42	18:22		16:11
14	04:45	05:41	06:43	07:44		07:51
	21:58	20:59	19:39	18:20		16:09
15	04:46	05:43	06:45	07:46		07:53
	21:57	20:57	19:37	18:17		16:08
16	04:48	05:45	06:47	07:48		07:55
	21:55	20:54	19:34	8 08:13 (C13)		16:06
17	04:49	05:47	06:49	07:50		07:57
	21:54	20:52	19:31	15 08:16 (C13)		16:04
18	04:51	05:49	06:51	07:52		07:59
	21:52	20:50	19:29	19 08:18 (C13)		16:02
19	04:53	05:51	06:53	07:55		08:01
	21:51	20:47	19:26	23 08:20 (C13)		16:01
20	04:54	05:53	06:55	07:57		08:03
	21:49	20:45	19:23	25 08:20 (C13)		15:59
21	04:56	05:55	06:57	07:59		08:05
	21:48	20:42	19:21	27 08:21 (C13)		15:58
22	04:58	05:57	06:59	08:01		08:07
	21:46	20:40	19:18	28 08:21 (C13)		15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	19:15	30 08:22 (C13)		15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	19:12	30 08:22 (C13)		15:53
25	05:03	06:03	07:05	07:57		08:13
	21:41	20:32	19:10	30 08:21 (C13)		15:52
26	05:05	06:05	07:07	07:59		08:15
	21:39	20:30	19:07	30 08:21 (C13)		15:51
27	05:06	06:07	07:09	07:51		08:17
	21:38	20:27	19:04	29 08:20 (C13)		15:49
28	05:08	06:09	07:11	07:51		08:19
	21:36	20:24	19:02	29 08:20 (C13)		15:48
29	05:10	06:11	07:13	07:51		08:21
	21:34	20:22	18:59	28 08:19 (C13)		15:47
30	05:12	06:13	07:15	07:51		08:22
	21:32	20:19	18:56	27 08:18 (C13)		15:46
31	05:14	06:15		07:20		
	21:30	20:17		16:38		
Potential sun hours	529	469	385	324	247	216
Total, worst case			378		626	835
Sun reduction			0.43		0.08	0.07
Oper. time red.			0.98		0.98	0.98
Wind dir. red.			0.62		0.60	0.61
Total reduction			0.26		0.05	0.04
Total, real			98	13	30	35

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Tireli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (99)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:00 (C15) 21:52
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	06:06 (C15) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	06:07 (C15) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	06:07 (C15) 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	06:07 (C15) 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	06:07 (C15) 21:59
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	06:06 (C15) 22:00
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	06:05 (C15) 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	06:04 (C15) 22:02
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	06:03 (C15) 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	06:00 (C15) 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	06:00 (C15) 22:05
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	06:00 (C15) 22:06
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	06:00 (C15) 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	06:00 (C15) 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	06:00 (C15) 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	06:00 (C15) 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	06:00 (C15) 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:30	04:55 21:31	06:00 (C15) 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	06:00 (C15) 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	06:00 (C15) 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	06:00 (C15) 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	06:00 (C15) 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	06:00 (C15) 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	06:00 (C15) 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	06:00 (C15) 22:10
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	06:00 (C15) 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:46	06:00 (C15) 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	06:00 (C15) 22:10
30	08:18 16:41		06:54 19:49	05:35 20:53	04:39 21:50	06:00 (C15) 22:10
31	08:17 16:43		06:52 19:51		04:37 21:51	06:00 (C15) 22:10
Potential sun hours	235	266	366	426	508	528
Total, worst case				3	120	376
Sun reduction				0.50	0.57	0.56
Oper. time red.				0.98	0.98	0.98
Wind dir. red.				0.67	0.67	0.67
Total reduction				0.33	0.37	0.36
Total, real				1	45	137

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Tireli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (99)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December	
1	04:30	05:08 (C14)	05:16		06:17	07:17	07:23	08:24			
	22:09	05:21 (C14)	21:28		20:14	18:54	16:36	15:45			
2	04:31	05:09 (C14)	05:18	06:06 (C15)	06:19	07:19	07:25	08:26			
	22:08	05:21 (C14)	21:26	6	06:12 (C15)	20:11	18:51	16:34	15:44		
3	04:32	05:09 (C14)	05:20	06:04 (C15)	06:21	07:21	07:27	08:27			
	22:08	05:21 (C14)	21:24	10	06:14 (C15)	20:09	18:48	16:32	15:43		
4	04:33	05:10 (C14)	05:22	06:03 (C15)	06:23	07:23	07:29	08:29			
	22:07	05:21 (C14)	21:22	12	06:15 (C15)	20:06	18:46	16:30	15:43		
5	04:34	05:11 (C14)	05:24	06:02 (C15)	06:25	07:25	07:31	08:31			
	22:07	05:21 (C14)	21:19	14	06:16 (C15)	20:03	18:43	16:27	15:42		
6	04:35	05:12 (C14)	05:26	06:01 (C15)	06:27	07:28	07:33	08:32			
	22:06	05:20 (C14)	21:17	15	06:16 (C15)	20:01	18:40	16:25	15:41		
7	04:36	05:13 (C14)	05:28	06:01 (C15)	06:29	07:30	07:36	08:34			
	22:05	05:20 (C14)	21:15	15	06:16 (C15)	19:58	18:38	16:23	15:41		
8	04:37	05:14 (C14)	05:29	06:02 (C15)	06:31	07:32	07:38	08:35			
	22:04	05:20 (C14)	21:13	14	06:16 (C15)	19:56	18:35	16:21	15:40		
9	04:38	05:15 (C14)	05:31	06:04 (C15)	06:33	07:34	07:40	08:37			
	22:03	05:19 (C14)	21:11	12	06:16 (C15)	19:53	18:33	16:19	15:40		
10	04:40	05:16 (C14)	05:33	06:06 (C15)	06:35	07:36	07:42	08:38			
	22:02	05:18 (C14)	21:08	10	06:16 (C15)	19:50	18:30	16:17	15:39		
11	04:41		05:35	06:08 (C15)	06:37	07:38	07:44	08:39			
	22:01		21:06	8	06:16 (C15)	19:47	18:27	16:15	15:39		
12	04:42		05:37	06:09 (C15)	06:39	07:40	07:46	08:40			
	22:00		21:04	5	06:14 (C15)	19:45	18:25	16:13	15:38		
13	04:44		05:39	06:11 (C15)	06:41	07:42	07:49	08:41			
	21:59		21:02	2	06:13 (C15)	19:42	18:22	16:11	15:38		
14	04:45		05:41		06:43	07:44	07:51	08:43			
	21:58		20:59		19:39	18:20	16:10	15:38			
15	04:47		05:43		06:45	07:46	07:53	08:44			
	21:57		20:57		19:37	18:17	16:08	15:38			
16	04:48		05:45		06:47	07:48	07:55	08:45			
	21:55		20:54		19:34	18:15	16:06	15:38			
17	04:50		05:47		06:49	07:50	07:57	08:45			
	21:54		20:52		19:31	18:12	16:04	15:38			
18	04:51		05:49		06:51	07:52	07:59	08:46			
	21:52		20:50		19:29	18:10	16:03	15:38			
19	04:53		05:51		06:53	07:55	08:01	08:47			
	21:51		20:47		19:26	18:07	16:01	15:39			
20	04:54		05:53		06:55	07:57	08:03	08:48			
	21:49		20:45		19:23	18:05	15:59	15:39			
21	04:56		05:55		06:57	07:59	08:05	08:48			
	21:48		20:42		19:21	18:02	15:58	15:39			
22	04:58		05:57		06:59	08:01	08:07	08:49			
	21:46		20:40		19:18	18:00	15:56	15:40			
23	04:59		05:59		07:01	08:03	08:09	08:49			
	21:45		20:37		19:15	17:57	15:55	15:40			
24	05:01		06:01		07:03	08:05	08:11	08:50			
	21:43		20:35		19:12	17:55	15:54	15:41			
25	05:03		06:03		07:05	07:07	08:13	08:50			
	21:41		20:32		19:10	16:52	15:52	15:41			
26	05:05		06:05		07:07	07:10	08:15	08:51			
	21:39		20:30		19:07	16:50	15:51	15:42			
27	05:07		06:07		07:09	07:12	08:17	08:51			
	21:37		20:27		19:04	16:48	15:50	15:43			
28	05:08		06:09		07:11	07:14	08:19	08:51			
	21:36		20:24		19:02	16:45	15:48	15:44			
29	05:10		06:11		07:13	07:16	08:21	08:51			
	21:34		20:22		18:59	16:43	15:47	15:45			
30	05:12		06:13		07:15	07:18	08:22	08:51			
	21:32		20:19		18:56	16:41	15:46	15:46			
31	05:14		06:15			07:20		08:51			
	21:30		20:17			16:38		15:47			
Potential sun hours	529		469		384	324	248	216			
Total, worst case		85		123							
Sun reduction		0.49		0.50							
Oper. time red.		0.98		0.98							
Wind dir. red.		0.67		0.67							
Total reduction		0.32		0.33							
Total, real		27		40							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Tadalinas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (42)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March	April	May			June		
1	08:51		10:58 (C13)	08:15		07:11	06:49		05:32		06:19 (C1)	04:36		
	15:48	30	11:28 (C13)	16:45		17:48	19:53		20:55	17	06:36 (C1)	21:53		
2	08:50		10:59 (C13)	08:13		07:08	06:46		05:30		06:20 (C1)	04:35		
	15:49	30	11:29 (C13)	16:47		17:50	19:55		20:57	15	06:35 (C1)	21:54		
3	08:50		10:59 (C13)	08:11		07:06	06:43		05:28		06:21 (C1)	04:34		
	15:51	30	11:29 (C13)	16:50		17:52	19:57		21:00	12	06:33 (C1)	21:55		
4	08:50		10:59 (C13)	08:09		07:03	06:41		05:26		06:23 (C1)	04:33		
	15:52	30	11:29 (C13)	16:52		17:54	19:59		21:02	8	06:31 (C1)	21:57		
5	08:49		11:01 (C13)	08:07		07:00	06:38		05:23			04:32		
	15:53	29	11:30 (C13)	16:54		17:56	20:01		21:04			21:58		
6	08:49		11:01 (C13)	08:05		06:58	06:35		05:21			04:31		
	15:55	28	11:29 (C13)	16:56		17:58	20:03		21:06			21:59		
7	08:48		11:02 (C13)	08:03		06:55	06:33		05:19			04:30		
	15:56	27	11:29 (C13)	16:59		18:00	20:05		21:08			22:00		
8	08:48		11:03 (C13)	08:01		06:53	06:30		05:17			04:29		
	15:58	26	11:29 (C13)	17:01		18:03	20:08		21:10			22:01		
9	08:47		11:04 (C13)	07:58		06:50	06:28		05:15			04:28		
	15:59	25	11:29 (C13)	17:03		18:05	20:10		21:12			22:02		
10	08:46		11:05 (C13)	07:56		06:47	06:25		05:13			04:28		
	16:01	24	11:29 (C13)	17:05		18:07	20:12		21:14			22:03		
11	08:45		11:06 (C13)	07:54		06:45	06:22		05:10			04:27		
	16:03	23	11:29 (C13)	17:08		18:09	20:14		21:16			22:04		
12	08:44		11:07 (C13)	07:52		06:42	06:20		05:08			04:27		
	16:04	22	11:29 (C13)	17:10		18:11	20:16		21:18			22:05		
13	08:43		11:08 (C13)	07:50		06:40	06:17		05:06			04:26		
	16:06	19	11:27 (C13)	17:12		18:13	20:18		21:20			22:06		
14	08:42		11:10 (C13)	07:47		06:37	06:14		05:04			04:26		
	16:08	17	11:27 (C13)	17:14		18:15	20:20		21:22			22:07		
15	08:41		11:12 (C13)	07:45		06:34	06:12		05:02			04:26		
	16:10	14	11:26 (C13)	17:17		18:18	20:22		21:24			22:07		
16	08:40		11:15 (C13)	07:43		06:32	06:09		05:01			04:25		
	16:12	8	11:23 (C13)	17:19		18:20	20:24		21:25			22:08		
17	08:39			07:40		06:29	06:07		04:59			04:25		
	16:14			17:21		18:22	20:26		21:27			22:08		
18	08:37			07:38		06:26	06:04		04:57			04:25		
	16:16			17:23		18:24	20:28		21:29			22:09		
19	08:36			07:36		06:24	06:02		06:28 (C1)		04:55	04:25		
	16:18			17:25		18:26	20:30	7	06:35 (C1)		21:31	22:09		
20	08:35			07:33		06:21	05:59		06:25 (C1)		04:53	04:25		
	16:20			17:28		18:28	20:33	12	06:37 (C1)		21:33	22:10		
21	08:33			07:31		06:18	05:57		06:23 (C1)		04:52	04:25		
	16:22			17:30		18:30	20:35	15	06:38 (C1)		21:35	22:10		
22	08:32			07:28		06:16	05:54		06:21 (C1)		04:50	04:25		
	16:24			17:32		18:32	20:37	18	06:39 (C1)		21:37	22:10		
23	08:30			07:26		06:13	05:52		06:18 (C1)		04:48	04:26		
	16:26			17:34		18:34	20:39	21	06:39 (C1)		21:38	22:10		
24	08:29			07:23		06:10	05:49		06:18 (C1)		04:47	04:26		
	16:28			17:37		18:36	20:41	21	06:39 (C1)		21:40	22:10		
25	08:27			07:21		06:07	05:47		06:18 (C1)		04:45	04:26		
	16:30			17:39		18:38	20:43	22	06:40 (C1)		21:42	22:10		
26	08:26			07:18		06:05	05:44		06:17 (C1)		04:44	04:27		
	16:32			17:41		18:41	20:45	22	06:39 (C1)		21:43	22:10		
27	08:24			07:16		06:02	05:42		06:17 (C1)		04:42	04:27		
	16:34			17:43		18:43	20:47	22	06:39 (C1)		21:45	22:10		
28	08:22			07:13		05:59	05:40		06:18 (C1)		04:41	04:28		
	16:36			17:45		18:45	20:49	21	06:39 (C1)		21:47	22:10		
29	08:20					06:57	05:37		06:18 (C1)		04:39	04:28		
	16:39					19:47	20:51	20	06:38 (C1)		21:48	22:10		
30	08:18					06:54	05:35		06:18 (C1)		04:38	04:29		
	16:41					19:49	20:53	19	06:37 (C1)		21:50	22:09		
31	08:17					06:51					04:37			
	16:43					19:51					21:51			
Potential sun hours	235			266		366		426			508		529	
Total, worst case		382						220			52			
Sun reduction		0.13						0.50			0.57			
Oper. time red.		0.98						0.98			0.98			
Wind dir. red.		0.60						0.65			0.65			
Total reduction		0.08						0.31			0.35			
Total, real		29						68			18			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Tadalinas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (42)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45 23 11:11 (C13)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44 24 11:12 (C13)
3	04:32 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43 25 11:12 (C13)
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42 26 11:13 (C13)
5	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42 27 11:14 (C13)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41 29 11:16 (C13)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40 29 11:16 (C13)
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	08:35 15:40 30 11:17 (C13)
9	04:38 22:03	05:31 21:11	06:32 (C1) 06:41 (C1)	06:33 19:53	07:40 18:32	08:37 15:39 30 11:17 (C13)
10	04:39 22:02	05:33 21:08	06:30 (C1) 06:43 (C1)	06:35 19:50	07:42 18:30	08:38 15:39 30 11:18 (C13)
11	04:41 22:01	05:35 21:06	06:28 (C1) 06:44 (C1)	06:37 19:47	07:44 18:27	08:39 15:38 30 11:18 (C13)
12	04:42 22:00	05:37 21:04	06:27 (C1) 06:45 (C1)	06:39 19:45	07:46 18:25	08:40 15:38 31 11:20 (C13)
13	04:43 21:59	05:39 21:02	06:26 (C1) 06:46 (C1)	06:41 19:42	07:49 18:22	08:42 15:38 31 11:20 (C13)
14	04:45 21:58	05:41 20:59	06:25 (C1) 06:46 (C1)	06:43 19:39	07:51 18:19	08:43 15:38 31 11:20 (C13)
15	04:46 21:57	05:43 20:57	06:25 (C1) 06:46 (C1)	06:45 19:37	07:53 18:17	08:44 15:38 32 11:21 (C13)
16	04:48 21:55	05:45 20:54	06:25 (C1) 06:47 (C1)	06:47 19:34	07:55 18:14	08:45 15:38 31 11:21 (C13)
17	04:49 21:54	05:47 20:52	06:25 (C1) 06:47 (C1)	06:49 19:31	07:57 18:12	08:46 15:38 32 11:22 (C13)
18	04:51 21:52	05:49 20:50	06:24 (C1) 06:45 (C1)	06:51 19:29	07:59 18:09	08:46 15:38 32 11:23 (C13)
19	04:52 21:51	05:51 20:47	06:24 (C1) 06:45 (C1)	06:53 19:26	08:01 18:07	08:47 15:38 33 11:24 (C13)
20	04:54 21:49	05:53 20:45	06:24 (C1) 06:44 (C1)	06:55 19:23	08:03 18:04	08:48 15:39 32 11:23 (C13)
21	04:56 21:48	05:55 20:42	06:26 (C1) 06:44 (C1)	06:57 19:20	08:05 18:02	08:49 15:39 32 11:24 (C13)
22	04:57 21:46	05:57 20:40	06:28 (C1) 06:42 (C1)	06:59 19:18	08:07 17:59	08:49 15:39 32 11:24 (C13)
23	04:59 21:45	05:59 20:37	06:30 (C1) 06:41 (C1)	07:01 19:15	08:09 17:57	08:50 15:40 32 11:25 (C13)
24	05:01 21:43	06:01 20:35	06:32 (C1) 06:39 (C1)	07:03 19:12	08:11 17:55	08:50 15:41 32 11:25 (C13)
25	05:03 21:41	06:03 20:32		07:05 19:10	08:13 16:52	08:50 15:41 33 11:26 (C13)
26	05:04 21:39	06:05 20:30		07:07 19:07	08:15 16:50	08:51 15:42 32 11:26 (C13)
27	05:06 21:38	06:07 20:27		07:09 19:04	08:17 16:47	08:51 15:43 32 11:26 (C13)
28	05:08 21:36	06:09 20:24		07:11 19:02	08:19 16:45	08:51 15:44 32 11:27 (C13)
29	05:10 21:34	06:11 20:22		07:13 18:59	08:21 16:43	08:51 15:45 31 11:27 (C13)
30	05:12 21:32	06:13 20:19		07:15 18:56	08:22 16:40	08:51 15:46 32 11:28 (C13)
31	05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47 31 11:28 (C13)
Potential sun hours	529	469	385	324	247	216
Total, worst case		274			78	939
Sun reduction		0.50			0.08	0.07
Oper. time red.		0.98			0.98	0.98
Wind dir. red.		0.65			0.60	0.60
Total reduction		0.31			0.05	0.04
Total, real		84			4	38

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Tujas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (89)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	08:46 (C14)	07:11	06:49	05:33
	15:48	16:45	1	08:47 (C14)	17:48	19:53
2	08:51	08:13	08:43 (C14)	07:08	06:46	20:56
	15:50	16:48	5	08:48 (C14)	17:50	19:55
3	08:50	08:11	08:41 (C14)	07:06	06:44	20:58
	15:51	16:50	8	08:49 (C14)	17:52	19:55
4	08:50	08:09	08:39 (C14)	07:03	06:41	20:58
	15:52	16:52	11	08:50 (C14)	17:54	19:57
5	08:49	08:07	08:37 (C14)	07:01	06:38	21:00
	15:53	16:54	14	08:51 (C14)	17:56	19:59
6	08:49	08:05	08:34 (C14)	06:58	06:36	21:02
	15:55	16:57	16	08:50 (C14)	17:58	20:01
7	08:48	08:03	08:34 (C14)	06:55	06:33	21:04
	15:56	16:59	17	08:51 (C14)	18:01	20:04
8	08:48	08:01	08:34 (C14)	06:53	06:30	21:06
	15:58	17:01	17	08:51 (C14)	18:03	20:06
9	08:47	07:58	08:34 (C14)	06:50	07:16 (C13)	21:08
	16:00	17:03	16	08:50 (C14)	18:05	20:08
10	08:46	07:56	08:35 (C14)	06:48	07:13 (C13)	21:12
	16:01	17:05	14	08:49 (C14)	18:07	20:10
11	08:45	07:54	08:37 (C14)	06:45	07:10 (C13)	21:14
	16:03	17:08	12	08:49 (C14)	18:09	20:12
12	08:44	07:52	08:38 (C14)	06:42	07:08 (C13)	21:16
	16:05	17:10	8	08:46 (C14)	18:11	20:14
13	08:43	07:50		06:40	07:05 (C13)	21:18
	16:06	17:12		18:13	06:17	20:16
14	08:42	07:47		06:37	07:19 (C13)	21:20
	16:08	17:14		18:16	07:02 (C13)	21:22
15	08:41	07:45		06:34	07:18 (C13)	21:22
	16:10	17:17		18:18	07:03 (C13)	21:22
16	08:40	07:43		06:32	07:18 (C13)	21:24
	16:12	17:19		18:20	07:04 (C13)	21:24
17	08:39	07:40		06:29	07:17 (C13)	21:26
	16:14	17:21		18:22	07:04 (C13)	21:26
18	08:38	07:38		06:26	07:15 (C13)	21:27
	16:16	17:23		18:24	07:08 (C13)	21:27
19	08:36	07:36		06:24	07:12 (C13)	21:29
	16:18	17:26		18:26	06:02	21:29
20	08:35	07:33		06:21	06:00	21:31
	16:20	17:28		18:28	05:59	21:31
21	08:33	07:31		06:18	06:09	21:33
	16:22	17:30		18:30	05:01	21:33
22	08:32	07:28		06:16	06:09	21:35
	16:24	17:32		18:32	05:54	21:35
23	08:30	07:26		06:13	06:09	21:37
	16:26	17:35		18:34	05:52	21:37
24	08:29	07:23		06:10	06:09	21:38
	16:28	17:37		18:36	05:49	21:38
25	08:27	07:21		06:08	06:09	21:40
	16:30	17:39		18:39	05:47	21:40
26	08:26	07:18		06:05	06:09	21:42
	16:32	17:41		18:41	05:45	21:42
27	08:24	07:16		06:02	06:09	21:43
	16:34	17:43		18:43	05:42	21:43
28	08:22	07:13		06:00	06:09	21:45
	16:37	17:45		18:45	05:40	21:45
29	08:20			06:57	06:09	21:47
	16:39			19:47	05:37	21:47
30	08:19			06:54	06:09	21:48
	16:41			19:49	05:35	21:48
31	08:17			06:52	06:09	21:50
	16:43			19:51	05:53	21:50
Potential sun hours	235	266	366	426	508	529
Total, worst case		139	98			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.61	0.63			
Total reduction		0.12	0.25			
Total, real		17	25			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Tujas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (89)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December		
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:46 (C13) 07:58 (C13)	07:23 16:36	08:05 (C14) 08:19 (C14)	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:48 (C13) 07:58 (C13)	07:25 16:34	08:04 (C14) 08:19 (C14)	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:50 (C13) 07:56 (C13)	07:27 16:32	08:04 (C14) 08:20 (C14)	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:52 (C13) 07:55 (C13)	07:29 16:30	08:03 (C14) 08:20 (C14)	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	07:31 16:27	08:05 (C14) 08:21 (C14)	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	07:34 16:25	08:07 (C14) 08:20 (C14)	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	07:36 16:23	08:09 (C14) 08:20 (C14)	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	07:38 16:21	08:12 (C14) 08:20 (C14)	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	07:40 16:19	08:14 (C14) 08:18 (C14)	08:37 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	07:42 16:17	08:17 (C14) 08:18 (C14)	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	07:44 16:15		08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	07:47 16:13		08:41 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	07:49 16:11		08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	07:51 16:10		08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	07:53 16:08		08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	07:55 16:06		08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	07:57 16:04		08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	07:59 16:03		08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:01 16:01		08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:03 15:59		08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:05 15:58		08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:07 15:56		08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:09 15:55		08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:11 15:53		08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:13 15:52		08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:15 15:51	08:15 15:51		08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 16:48	08:17 15:50	08:17 15:50		08:51 15:43
28	05:08 21:36	06:09 20:25	07:11 19:02	08:13 16:45	08:19 15:48	08:19 15:48		08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 16:43	08:21 15:47	08:21 15:47		08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 16:41	08:23 15:46	08:23 15:46		08:51 15:46
31	05:14 21:30	06:15 20:17		08:19 16:38	08:25 15:45	08:25 15:45		08:51 15:47
Potential sun hours	529	469	385	324	247			216
Total, worst case			66	54	115			
Sun reduction			0.43	0.26	0.08			
Oper. time red.			0.98	0.98	0.98			
Wind dir. red.			0.63	0.62	0.61			
Total reduction			0.26	0.16	0.05			
Total, real			17	8	6			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Upenes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (80)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	09:05 (C14) 17:48	07:11 17:48	07:37 (C13) 19:53	05:33 21:53
2	08:51 15:49	08:13 16:48	09:07 (C14) 17:50	7 11	07:44 (C13) 19:55	20:56 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	14	07:32 (C13) 19:57	20:58 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	16	07:29 (C13) 19:59	21:00 21:57
5	08:49 15:53	08:07 16:54	07:01 17:56	17	07:29 (C13) 20:01	21:02 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	16	07:29 (C13) 20:04	21:04 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	14	07:29 (C13) 20:06	21:06 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	11	07:30 (C13) 20:08	21:07 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	8	07:32 (C13) 20:10	21:08 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07		06:25 20:12	21:12 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09		06:22 20:14	21:14 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11		06:20 20:16	21:16 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13		06:17 20:18	21:18 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16		06:15 20:20	21:20 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18		06:12 20:22	21:22 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20		06:09 20:24	21:24 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22		06:07 20:26	21:26 22:09
18	08:38 16:16	07:38 17:23	06:26 18:24		06:04 20:28	21:27 22:09
19	08:36 16:18	09:10 (C14) 09:11 (C14)	07:36 17:26		06:02 20:31	21:29 22:09
20	08:35 16:20	09:09 (C14) 09:13 (C14)	07:33 17:28		05:59 20:33	21:31 22:10
21	08:33 16:22	09:07 (C14) 09:14 (C14)	07:31 17:30		05:57 20:35	21:33 22:10
22	08:32 16:24	09:05 (C14) 09:14 (C14)	07:28 17:32		05:54 20:37	21:35 22:10
23	08:30 16:26	09:03 (C14) 09:15 (C14)	07:26 17:34		05:52 20:39	21:37 22:10
24	08:29 16:28	09:02 (C14) 09:16 (C14)	07:23 17:37		05:49 20:41	21:38 22:11
25	08:27 16:30	09:00 (C14) 09:17 (C14)	07:21 17:39		05:47 20:43	21:40 22:11
26	08:26 16:32	09:00 (C14) 09:17 (C14)	07:18 17:41		05:44 20:45	21:42 22:11
27	08:24 16:34	09:00 (C14) 09:17 (C14)	07:16 17:43		05:42 20:47	21:43 22:10
28	08:22 16:37	09:00 (C14) 09:17 (C14)	07:13 17:45	3	05:40 20:49	21:44 22:10
29	08:20 16:39	09:01 (C14) 09:17 (C14)	07:11 17:47		05:37 20:51	21:46 22:10
30	08:19 16:41	09:02 (C14) 09:16 (C14)	07:10 17:49		05:35 20:53	21:48 22:10
31	08:17 16:43	09:03 (C14) 09:16 (C14)	07:09 17:51		05:33 20:55	21:50 22:10
Potential sun hours	235	266	366	426	508	529
Total, worst case	158	17	114			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.59	0.62			
Total reduction	0.08	0.11	0.25			
Total, real	12	2	28			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Upenes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (80)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November		December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36		08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34		08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32		08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	08:12 (C13)	07:29 16:30		08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	08:08 (C13)	07:31 16:27		08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	08:06 (C13)	07:34 16:25		08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:04 (C13)	07:36 16:23		08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:19 (C13)	07:38 16:21		08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:21 (C13)	07:40 16:19	08:37 (C14)	08:37 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	08:20 (C13)	07:42 16:17	08:43 (C14)	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	08:05 (C13)	07:44 16:15	08:35 (C14)	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:07 (C13)	07:47 16:13	08:47 (C14)	08:41 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:09 (C13)	07:49 16:11	08:49 (C14)	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:11 (C13)	07:51 16:09	08:32 (C14)	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:14 (C13)	07:53 16:08	08:49 (C14)	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	08:15 (C13)	07:55 16:06	08:33 (C14)	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:00	07:57 16:04	08:50 (C14)	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	08:07	07:59 16:03	08:36 (C14)	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01	08:01 16:01	08:50 (C14)	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03	08:03 15:59	08:40 (C14)	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05	08:05 15:58	08:43 (C14)	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07	08:07 15:56	08:50 (C14)	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09	08:09 15:55	08:47 (C14)	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11	08:11 15:53	08:48 (C14)	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13	08:13 15:52		08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50	08:15	08:15 15:51		08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17	08:17 15:50		08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45	08:19	08:19 15:48		08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:21	08:21 15:47		08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41	08:23	08:23 15:46		08:51 15:46
31	05:14 21:30	06:15 20:17		08:20 16:38	15:46			08:51 15:47
Potential sun hours	529	469	385	324		247		216
Total, worst case				116		175		
Sun reduction				0.26		0.08		
Oper. time red.				0.98		0.98		
Wind dir. red.				0.62		0.59		
Total reduction				0.16		0.05		
Total, real				18		8		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Uplejas (kad. apz. 56760080007) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (25)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:47	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:35	08:24 15:44
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:50	07:24 16:33	08:26 15:43
3	08:50 15:50	08:11 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:50 15:51	08:09 16:51	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:18 21:07	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:22	08:34 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:20	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:12	04:28 22:02	04:37 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:06	06:24 20:11	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:14	08:39 15:38
12	08:44 16:04	07:51 17:09	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:57	06:45 19:36	07:46 18:16	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:44 15:37
17	08:39 16:13	07:40 17:21	06:28 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:03	08:45 15:37
18	08:37 16:15	07:38 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:24 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:54 21:31	04:24 22:09	04:52 21:51	05:51 20:47	06:53 19:25	07:54 18:06	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:20 18:28	05:59 20:32	04:53 21:33	04:24 22:10	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:29	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:58 18:01	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:25 17:34	06:12 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:20 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:40	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:50 15:41
27	08:24 16:34	07:15 17:43	06:02 18:42	05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:08 21:35	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:10	05:09 21:34	06:11 20:21	07:13 18:59	07:16 16:42	08:20 15:46	08:51 15:44
30	08:18 16:40		06:54 19:48	05:34 20:53	04:38 21:49	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:51		04:36 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Uplejas (kad. apz. 56960040385) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (66)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March	April	May	June		
1	08:51		10:15 (C13)	08:15		10:28 (C13)	07:11	06:49	05:33		06:00 (C1)	04:36
	15:48	35	10:50 (C13)	16:45	29	10:57 (C13)	17:48	19:53	20:55	4	06:04 (C1)	21:53
2	08:50		10:16 (C13)	08:13		10:29 (C13)	07:08	06:46	05:30		05:58 (C1)	04:35
	15:49	36	10:52 (C13)	16:47	27	10:56 (C13)	17:50	19:55	20:57	8	06:06 (C1)	21:54
3	08:50		10:15 (C13)	08:11		10:31 (C13)	07:06	06:43	05:28		05:56 (C1)	04:34
	15:51	37	10:52 (C13)	16:50	24	10:55 (C13)	17:52	19:57	21:00	12	06:08 (C1)	21:55
4	08:50		10:15 (C13)	08:09		10:34 (C13)	07:03	06:41	05:26		05:54 (C1)	04:33
	15:52	37	10:52 (C13)	16:52	19	10:53 (C13)	17:54	19:59	21:02	14	06:08 (C1)	21:57
5	08:49		10:16 (C13)	08:07		10:37 (C13)	07:00	06:38	05:23		05:52 (C1)	04:32
	15:53	38	10:54 (C13)	16:54	13	10:50 (C13)	17:56	20:01	21:04	17	06:09 (C1)	21:58
6	08:49		10:16 (C13)	08:05			06:58	06:35	05:21		05:50 (C1)	04:31
	15:55	38	10:54 (C13)	16:56			17:58	20:03	21:06	19	06:09 (C1)	21:59
7	08:48		10:16 (C13)	08:03			06:55	06:33	05:19		05:50 (C1)	04:30
	15:56	39	10:55 (C13)	16:59			18:00	20:05	21:08	20	06:10 (C1)	22:00
8	08:48		10:16 (C13)	08:01			06:53	06:30	05:17		05:50 (C1)	04:29
	15:58	39	10:55 (C13)	17:01			18:03	20:08	21:10	20	06:10 (C1)	22:01
9	08:47		10:17 (C13)	07:58			06:50	06:28	05:15		05:50 (C1)	04:28
	15:59	39	10:56 (C13)	17:03			18:05	20:10	21:12	20	06:10 (C1)	22:02
10	08:46		10:17 (C13)	07:56			06:47	06:25	05:13		05:49 (C1)	04:28
	16:01	39	10:56 (C13)	17:05			18:07	20:12	21:14	20	06:09 (C1)	22:03
11	08:45		10:17 (C13)	07:54			06:45	06:22	05:11		05:50 (C1)	04:27
	16:03	40	10:57 (C13)	17:08			18:09	20:14	21:16	19	06:09 (C1)	22:04
12	08:44		10:18 (C13)	07:52			06:42	06:20	05:08		05:50 (C1)	04:27
	16:04	40	10:58 (C13)	17:10			18:11	20:16	21:18	18	06:08 (C1)	22:05
13	08:43		10:17 (C13)	07:49			06:40	06:17	05:06		05:50 (C1)	04:26
	16:06	41	10:58 (C13)	17:12			18:13	20:18	21:20	18	06:08 (C1)	22:06
14	08:42		10:18 (C13)	07:47			06:37	06:14	05:04		05:51 (C1)	04:26
	16:08	41	10:59 (C13)	17:14			18:15	20:20	21:22	17	06:08 (C1)	22:07
15	08:41		10:17 (C13)	07:45			06:34	06:12	05:03		05:52 (C1)	04:26
	16:10	42	10:59 (C13)	17:17			18:18	20:22	21:24	15	06:07 (C1)	22:07
16	08:40		10:18 (C13)	07:43			06:32	06:09	05:01		05:53 (C1)	04:25
	16:12	41	10:59 (C13)	17:19			18:20	20:24	21:25	12	06:05 (C1)	22:08
17	08:39		10:19 (C13)	07:40			06:29	06:07	04:59		05:55 (C1)	04:25
	16:14	41	11:00 (C13)	17:21			18:22	20:26	21:27	9	06:04 (C1)	22:08
18	08:37		10:19 (C13)	07:38			06:26	06:04	04:57		05:57 (C1)	04:25
	16:16	41	11:00 (C13)	17:23			18:24	20:28	21:29	4	06:01 (C1)	22:09
19	08:36		10:19 (C13)	07:36			06:24	06:02	04:55			04:25
	16:18	41	11:00 (C13)	17:26			18:26	20:30	21:31			22:09
20	08:35		10:20 (C13)	07:33			06:21	05:59	04:53			04:25
	16:20	41	11:01 (C13)	17:28			18:28	20:33	21:33			22:10
21	08:33		10:20 (C13)	07:31			06:18	05:57	04:52			04:25
	16:22	41	11:01 (C13)	17:30			18:30	20:35	21:35			22:10
22	08:32		10:20 (C13)	07:28			06:16	05:54	04:50			04:25
	16:24	41	11:01 (C13)	17:32			18:32	20:37	21:37			22:10
23	08:30		10:20 (C13)	07:26			06:13	05:52	04:48			04:26
	16:26	41	11:01 (C13)	17:34			18:34	20:39	21:38			22:10
24	08:29		10:22 (C13)	07:23			06:10	05:49	04:47			04:26
	16:28	40	11:02 (C13)	17:37			18:36	20:41	21:40			22:10
25	08:27		10:22 (C13)	07:21			06:07	05:47	04:45			04:26
	16:30	40	11:02 (C13)	17:39			18:38	20:43	21:42			22:10
26	08:26		10:23 (C13)	07:18			06:05	05:44	04:44			04:27
	16:32	38	11:01 (C13)	17:41			18:41	20:45	21:43			22:10
27	08:24		10:23 (C13)	07:16			06:02	05:42	04:42			04:27
	16:34	38	11:01 (C13)	17:43			18:43	20:47	21:45			22:10
28	08:22		10:24 (C13)	07:13			05:59	05:40	04:41			04:28
	16:36	37	11:01 (C13)	17:45			18:45	20:49	21:47			22:10
29	08:20		10:25 (C13)				06:57	05:37	04:40			04:29
	16:39	35	11:00 (C13)				19:47	20:51	21:48			22:10
30	08:18		10:26 (C13)				06:54	05:35	04:38			04:29
	16:41	34	11:00 (C13)				19:49	20:53	21:50			22:09
31	08:17		10:27 (C13)				06:51		04:37			
	16:43	32	10:59 (C13)				19:51		21:51			
Potential sun hours	235			266			366	426	508			529
Total, worst case		1203			112					266		
Sun reduction		0.13			0.20					0.57		
Oper. time red.		0.98			0.98					0.98		
Wind dir. red.		0.61			0.61					0.67		
Total reduction		0.08			0.12					0.36		
Total, real		93			13					96		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)	
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Uplejas (kad. apz. 56960040385) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (66)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:00 (C1) 20:14	06:17 18:54	07:17 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:00 (C1) 20:11	06:19 18:51	07:19 16:34	08:26 15:44
3	04:32 22:08	05:19 21:24	06:00 (C1) 20:09	06:21 18:48	07:27 16:32	08:28 15:43
4	04:33 22:07	05:21 21:22	06:00 (C1) 20:06	06:23 18:46	07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:19 (C1) 20:03	06:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:19 (C1) 20:01	06:27 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:00 (C1) 19:58	06:29 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:02 (C1) 19:55	06:31 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:04 (C1) 19:53	06:33 18:32	07:40 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:06 (C1) 19:50	06:35 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:07 (C1) 19:47	06:37 18:27	07:44 16:15	08:39 15:38
12	04:42 22:00	05:37 21:04	06:09 (C1) 19:45	06:39 18:25	07:46 16:13	08:40 15:38
13	04:43 21:59	05:39 21:02	06:11 19:42	07:47 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:13 19:39	07:49 18:19	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:15 19:37	07:51 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:17 19:34	07:53 18:14	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:19 19:31	07:55 18:12	07:57 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:21 19:29	07:57 18:09	07:59 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:23 19:26	08:01 18:07	08:03 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:25 19:23	08:03 18:04	08:05 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:27 19:20	08:05 18:02	08:07 15:58	08:48 15:39
22	04:57 21:46	05:57 20:40	06:29 19:18	08:07 17:59	08:09 15:56	08:49 15:39
23	04:59 21:45	05:59 20:37	06:31 19:15	08:09 17:57	08:11 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	06:33 19:12	08:11 17:55	08:13 15:53	08:51 15:41
25	05:03 21:41	06:03 20:32	06:35 19:10	08:13 17:52	08:15 15:52	08:51 15:41
26	05:04 21:39	06:06 (C1) 20:30	06:37 19:07	08:15 17:50	08:17 15:51	08:51 15:42
27	05:06 21:38	06:08 (C1) 20:27	06:39 19:04	08:17 17:47	08:19 15:49	08:51 15:43
28	05:08 21:36	06:10 (C1) 20:24	06:41 19:01	08:19 17:44	08:21 15:48	08:51 15:44
29	05:10 21:34	06:12 (C1) 20:22	06:43 18:59	08:21 17:42	08:23 15:47	08:51 15:45
30	05:12 21:32	06:14 (C1) 20:19	06:45 18:56	08:23 17:40	08:25 15:46	08:51 15:46
31	05:14 21:30	06:16 (C1) 20:17	06:47 18:54	08:25 17:38	08:27 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	81	188			901	1093
Sun reduction	0.49	0.50			0.08	0.07
Oper. time red.	0.98	0.98			0.98	0.98
Wind dir. red.	0.67	0.67			0.61	0.61
Total reduction	0.31	0.32			0.05	0.04
Total, real	25	59			43	45

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Upmalas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (215)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:58	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:12	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:39 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27 22:04	04:42 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:58	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:51	06:49 19:31	07:50 18:12	07:56 16:04	08:45 15:38
18	08:37 16:16	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:22	07:30 17:30	06:18 18:30	05:56 20:34	04:52 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:48 15:39
23	08:30 16:26	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:39	06:07 18:38	05:47 20:42	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:44
30	08:18 16:41		06:54 19:48	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Upmales - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (146)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		13:55 (C15)	08:15		15:32 (C14)	07:11		07:37 (C10)	06:49		07:38 (C8)	05:32			04:36		05:42 (C4)
	15:48	3	13:58 (C15)	16:45	15	15:47 (C14)	17:47	50	16:48 (C13)	19:53	6	07:44 (C8)	20:55			21:52	21	06:03 (C4)
2	08:50			08:13		15:33 (C14)	07:08		07:34 (C10)	06:46			05:30			04:35		05:42 (C4)
	15:49			16:47	13	15:46 (C14)	17:50	53	16:47 (C13)	19:55			20:57			21:54	20	06:02 (C4)
3	08:50			08:11		15:36 (C14)	07:06		07:34 (C10)	06:43			05:28			04:34		05:43 (C4)
	15:51			16:50	8	15:44 (C14)	17:52	54	16:48 (C13)	19:57			20:59			21:55	19	06:02 (C4)
4	08:50			08:09			07:03		07:33 (C10)	06:41			05:26			04:33		05:43 (C4)
	15:52			16:52			17:54	53	16:47 (C13)	19:59			21:01			21:56	18	06:01 (C4)
5	08:49			08:07			07:00		07:33 (C10)	06:38			05:23			04:32		05:45 (C4)
	15:53			16:54			17:56	51	16:46 (C13)	20:01			21:04			21:58	16	06:01 (C4)
6	08:49			08:05			06:58		07:34 (C10)	06:35			05:21			04:31		05:45 (C4)
	15:55			16:56			17:58	48	16:45 (C13)	20:03			21:06			21:59	16	06:01 (C4)
7	08:48			08:03			06:55		07:35 (C10)	06:33			05:19			04:30		05:46 (C4)
	15:56			16:59			18:00	43	16:44 (C13)	20:05			21:08			22:00	14	06:00 (C4)
8	08:47			08:00			06:53		07:36 (C10)	06:30			05:17		05:48 (C4)	04:29		05:47 (C4)
	15:58			17:01			18:03	38	16:42 (C13)	20:07			21:10	7	05:55 (C4)	22:01	13	06:00 (C4)
9	08:47			07:58		08:27 (C11)	06:50		16:16 (C13)	06:27			05:15		05:45 (C4)	04:28		05:48 (C4)
	15:59			17:03	4	08:31 (C11)	18:05	25	16:41 (C13)	20:10			21:12	13	05:58 (C4)	22:02	11	05:59 (C4)
10	08:46			07:56		08:25 (C11)	06:47		16:18 (C13)	06:25			05:13		05:43 (C4)	04:28		05:49 (C4)
	16:01			17:05	7	08:32 (C11)	18:07	21	16:39 (C13)	20:12			21:14	16	05:59 (C4)	22:03	10	05:59 (C4)
11	08:45			07:54		08:23 (C11)	06:45		16:20 (C13)	06:22			05:10		05:42 (C4)	04:27		05:50 (C4)
	16:03			17:08	10	08:33 (C11)	18:09	16	16:36 (C13)	20:14			21:16	18	06:00 (C4)	22:04	7	05:57 (C4)
12	08:44			07:52		08:20 (C11)	06:42		16:25 (C13)	06:20			05:08		05:40 (C4)	04:27		05:51 (C4)
	16:04			17:10	13	08:33 (C11)	18:11	7	16:32 (C13)	20:16			21:18	21	06:01 (C4)	22:05	6	05:57 (C4)
13	08:43			07:49		08:18 (C11)	06:39			06:17			05:06		05:39 (C4)	04:26		05:53 (C4)
	16:06			17:12	16	08:34 (C11)	18:13			20:18	1	06:44 (C6)	21:20	23	06:02 (C4)	22:06	2	05:55 (C4)
14	08:42			07:47		08:17 (C11)	06:37			06:14		06:40 (C6)	05:04		05:40 (C4)	04:26		
	16:08			17:14	16	08:33 (C11)	18:15			20:20	7	06:47 (C6)	21:22	23	06:03 (C4)	22:07		
15	08:41			07:45		08:18 (C11)	06:34			06:12		06:38 (C6)	05:02		05:39 (C4)	04:26		
	16:10			17:17	15	08:33 (C11)	18:17			20:22	11	06:49 (C6)	21:23	24	06:03 (C4)	22:07		
16	08:40			07:43		08:18 (C11)	06:31			06:09		06:35 (C6)	05:01		05:38 (C4)	04:25		05:02 (C2)
	16:12			17:19	14	08:32 (C11)	18:20			20:24	14	06:49 (C6)	21:25	25	06:03 (C4)	22:08	1	05:03 (C2)
17	08:39		15:30 (C14)	07:40		08:20 (C11)	06:29			06:07		06:33 (C6)	04:59		05:38 (C4)	04:25		05:02 (C2)
	16:14	4	15:34 (C14)	17:21		16:36 (C13)	18:22			20:26	17	06:50 (C6)	21:27	26	06:04 (C4)	22:08	2	05:04 (C2)
18	08:37		15:30 (C14)	07:38		08:21 (C11)	06:26			06:04		06:30 (C6)	04:57		05:38 (C4)	04:25		05:02 (C2)
	16:16	7	15:37 (C14)	17:23		16:39 (C13)	18:24			20:28	19	06:49 (C6)	21:29	26	06:04 (C4)	22:09	2	05:04 (C2)
19	08:36		15:29 (C14)	07:35		16:20 (C13)	06:23			06:02		06:30 (C6)	04:55		05:37 (C4)	04:25		05:02 (C2)
	16:18	10	15:39 (C14)	17:25		16:42 (C13)	18:26			20:30	20	06:50 (C6)	21:31	27	06:04 (C4)	22:09	2	05:04 (C2)
20	08:35		15:29 (C14)	07:33		16:18 (C13)	06:21			05:59		06:30 (C6)	04:53		05:38 (C4)	04:25		05:02 (C2)
	16:20	13	15:42 (C14)	17:28		16:43 (C13)	18:28			20:32	19	06:49 (C6)	21:33	27	06:05 (C4)	22:10	3	05:05 (C2)
21	08:33		15:28 (C14)	07:31		16:17 (C13)	06:18		06:43 (C8)	05:57		06:30 (C6)	04:52		05:37 (C4)	04:25		05:03 (C2)
	16:22	16	15:44 (C14)	17:30		16:45 (C13)	18:30	6	06:49 (C8)	20:35	19	06:49 (C6)	21:35	27	06:04 (C4)	22:10	3	05:06 (C2)
22	08:32		15:28 (C14)	07:28		16:16 (C13)	06:15		06:41 (C8)	05:54		06:30 (C6)	04:50		05:38 (C4)	04:25		05:03 (C2)
	16:24	18	15:46 (C14)	17:32		16:46 (C13)	18:32	10	06:51 (C8)	20:37	19	06:49 (C6)	21:36	27	06:05 (C4)	22:10	3	05:06 (C2)
23	08:30		15:28 (C14)	07:26		16:15 (C13)	06:13		06:38 (C8)	05:52		06:30 (C6)	04:48		05:37 (C4)	04:26		05:03 (C2)
	16:26	19	15:47 (C14)	17:34		16:47 (C13)	18:34	14	06:52 (C8)	20:39	17	06:47 (C6)	21:38	27	06:04 (C4)	22:10	2	05:05 (C2)
24	08:29		15:27 (C14)	07:23		16:14 (C13)	06:10		06:35 (C8)	05:49		06:31 (C6)	04:47		05:38 (C4)	04:26		05:03 (C2)
	16:28	20	15:47 (C14)	17:36		16:47 (C13)	18:36	17	06:52 (C8)	20:41	15	06:46 (C6)	21:40	26	06:04 (C4)	22:10	2	05:05 (C2)
25	08:27		15:28 (C14)	07:21		16:13 (C13)	06:07		06:33 (C8)	05:47		06:33 (C6)	04:45		05:39 (C4)	04:26		05:04 (C2)
	16:30	20	15:48 (C14)	17:39		16:47 (C13)	18:38	19	06:52 (C8)	20:43	12	06:45 (C6)	21:42	25	06:04 (C4)	22:10	2	05:06 (C2)
26	08:25		15:29 (C14)	07:18		07:45 (C10)	06:05		06:33 (C8)	05:44		06:34 (C6)	04:44		05:39 (C4)	04:27		05:04 (C2)
	16:32	20	15:49 (C14)	17:41		16:48 (C13)	18:40	19	06:52 (C8)	20:45	8	06:42 (C6)	21:43	26	06:05 (C4)	22:10	1	05:05 (C2)
27	08:24		15:29 (C14)	07:16		07:42 (C10)	06:02		06:32 (C8)	05:42			04:42		05:39 (C4)	04:27		05:05 (C2)
	16:34	20	15:49 (C14)	17:43		16:48 (C13)	18:43	19	06:51 (C8)	20:47			21:45	25	06:04 (C4)	22:10	1	05:06 (C2)
28	08:22		15:29 (C14)	07:13		07:40 (C10)	05:59		06:32 (C8)	05:39			04:41		05:39 (C4)	04:28		
	16:36	20	15:49 (C14)	17:45		16:48 (C13)	18:45	18	06:50 (C8)	20:49			21:46	25	06:04 (C4)	22:10		
29	08:20		15:30 (C14)				06:57		07:33 (C8)	05:37			04:39		05:40 (C4)	04:28		
	16:39	19	15:49 (C14)				19:47	17	07:50 (C8)	20:51			21:48	23	06:03 (C4)	22:10		
30	08:18		15:30 (C14)				06:54		07:33 (C8)	05:35			04:38		05:41 (C4)	04:29		05:56 (C4)
	16:41	19	15:49 (C14)				19:49	15	07:48 (C8)	20:53			21:50	22	06:03 (C4)	22:09	4	06:00 (C4)
31	08:17		15:30 (C14)				06:51		07:34 (C8)				04:37		05:41 (C4)			
	16:43	17	15:47 (C14)				19:51	12	07:46 (C8)				21:51	22	06:03 (C4)			
Potential sun hours		235			266			366			426		508			529		
Total, worst case		245			509			625			204		551			201		
Sun reduction		0.13			0.20			0.41			0.50		0.57			0.56		
Oper. time red.		0.98			0.98			0.98			0.98		0.98			0.98		
Wind dir. red.		0.65			0.66			0.66			0.65		0.67			0.67		
Total reduction		0.08			0.13			0.26			0.32		0.37			0.36		
Total, real		21			66			165			65		205			73		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Upmales - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (146)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July			August			September			October			November			December			
1	04:30		05:54 (C4)	05:16		05:51 (C4)	06:17		07:17			07:22		07:55 (C11)	08:24				
	22:09	7	06:01 (C4)	21:28	20	06:11 (C4)	20:14		18:54			16:36	7	08:02 (C11)	15:45				
2	04:31		05:54 (C4)	05:17		05:52 (C4)	06:19		07:19		17:01 (C13)	07:25		07:57 (C11)	08:26				
	22:08	9	06:03 (C4)	21:26	18	06:10 (C4)	20:11		18:51	12	17:13 (C13)	16:34	3	08:00 (C11)	15:44				
3	04:32		05:53 (C4)	05:19		05:54 (C4)	06:21		07:21		16:57 (C13)	07:27			08:27				
	22:08	11	06:04 (C4)	21:24	15	06:09 (C4)	20:09		18:48	19	17:16 (C13)	16:31			15:43				
4	04:33		05:53 (C4)	05:21		05:56 (C4)	06:23		07:23		16:54 (C13)	07:29			08:29				
	22:07	12	06:05 (C4)	21:22	11	06:07 (C4)	20:06		18:46	24	17:18 (C13)	16:29			15:42				
5	04:34		05:52 (C4)	05:23		05:59 (C4)	06:25		07:25		08:15 (C10)	07:31			08:31				
	22:07	14	06:06 (C4)	21:19	3	06:02 (C4)	20:03		18:43	34	17:19 (C13)	16:27			15:42				
6	04:35		05:52 (C4)	05:25			06:27		07:27		08:12 (C10)	07:33			08:32				
	22:06	15	06:07 (C4)	21:17			20:01		18:40	42	17:20 (C13)	16:25			15:41				
7	04:36		05:51 (C4)	05:27			06:29		07:29		08:10 (C10)	07:36			08:34				
	22:05	17	06:08 (C4)	21:15			19:58		18:38	46	17:20 (C13)	16:23			15:40				
8	04:37		05:51 (C4)	05:29			06:31		07:31		08:09 (C10)	07:38		15:06 (C14)	08:35				
	22:04	17	06:08 (C4)	21:13			19:55		18:35	49	17:21 (C13)	16:21	9	15:15 (C14)	15:40				
9	04:38		05:50 (C4)	05:31			06:33		07:34		08:08 (C10)	07:40		15:04 (C14)	08:36				
	22:03	19	06:09 (C4)	21:11			19:53		18:32	51	17:21 (C13)	16:19	13	15:17 (C14)	15:39				
10	04:39		05:50 (C4)	05:33			06:35		07:36		08:08 (C10)	07:42		15:02 (C14)	08:38				
	22:02	19	06:09 (C4)	21:08			19:50		18:30	53	17:22 (C13)	16:17	16	15:18 (C14)	15:39				
11	04:41		05:49 (C4)	05:35			06:37		07:38		08:08 (C10)	07:44		15:02 (C14)	08:39		13:46 (C15)		
	22:01	21	06:10 (C4)	21:06			19:47	5	07:35 (C8)	18:27	54	17:22 (C13)	16:15	17	15:19 (C14)	15:38	2	13:48 (C15)	
12	04:42		05:50 (C4)	05:37			06:39		07:37		08:09 (C10)	07:46		15:01 (C14)	08:40		13:44 (C15)		
	22:00	21	06:11 (C4)	21:04			19:45	11	07:38 (C8)	18:25	52	17:21 (C13)	16:13	19	15:20 (C14)	15:38	6	13:50 (C15)	
13	04:43		05:49 (C4)	05:39			06:41		07:38		08:11 (C10)	07:48		15:02 (C14)	08:41		13:44 (C15)		
	21:59	23	06:12 (C4)	21:01			19:42	15	07:40 (C8)	18:22	49	17:21 (C13)	16:11	19	15:21 (C14)	15:38	8	13:52 (C15)	
14	04:45		05:49 (C4)	05:41			06:43		07:24		08:13 (C10)	07:51		15:01 (C14)	08:43		13:44 (C15)		
	21:58	23	06:12 (C4)	20:59			19:39	16	07:40 (C8)	18:19	46	17:20 (C13)	16:09	20	15:21 (C14)	15:38	9	13:53 (C15)	
15	04:46		05:48 (C4)	05:43			06:45		07:23		08:16 (C10)	07:53		15:01 (C14)	08:44		13:44 (C15)		
	21:56	24	06:12 (C4)	20:57			19:37	18	07:41 (C8)	18:17	42	17:21 (C13)	16:07	20	15:21 (C14)	15:38	10	13:54 (C15)	
16	04:48		05:49 (C4)	05:45			06:47		07:22		08:18 (C10)	07:55		15:01 (C14)	08:45		13:44 (C15)		
	21:55	24	06:13 (C4)	20:54			19:34	19	07:41 (C8)	18:14	36	17:20 (C13)	16:06	21	15:22 (C14)	15:38	11	13:55 (C15)	
17	04:49		05:48 (C4)	05:47		06:40 (C6)	06:49		07:21		07:50	16:45 (C13)	07:57		15:01 (C14)	08:45		13:44 (C15)	
	21:54	25	06:13 (C4)	20:52	9	06:49 (C6)	19:31	20	07:41 (C8)	18:12	34	17:19 (C13)	16:04	20	15:21 (C14)	15:38	12	13:56 (C15)	
18	04:51		05:48 (C4)	05:49		06:38 (C6)	06:51		07:21		07:52	16:45 (C13)	07:59		15:01 (C14)	08:46		13:44 (C15)	
	21:52	26	06:14 (C4)	20:49	13	06:51 (C6)	19:28	19	07:40 (C8)	18:09	33	17:18 (C13)	16:02	20	15:21 (C14)	15:38	13	13:57 (C15)	
19	04:52		05:48 (C4)	05:51		06:37 (C6)	06:53		07:22		07:54	16:46 (C13)	08:01		15:03 (C14)	08:47		13:44 (C15)	
	21:51	26	06:14 (C4)	20:47	15	06:52 (C6)	19:26	17	07:39 (C8)	18:07	31	17:17 (C13)	16:01	19	15:22 (C14)	15:38	13	13:57 (C15)	
20	04:54		05:48 (C4)	05:53		06:36 (C6)	06:55		07:24		07:57	16:47 (C13)	08:03		15:03 (C14)	08:48		13:45 (C15)	
	21:49	27	06:15 (C4)	20:45	17	06:53 (C6)	19:23	14	07:38 (C8)	18:04	29	17:16 (C13)	15:59	18	15:21 (C14)	15:39	13	13:58 (C15)	
21	04:56		05:48 (C4)	05:55		06:35 (C6)	06:57		07:25		07:59	16:48 (C13)	08:05		15:03 (C14)	08:48		13:45 (C15)	
	21:48	26	06:14 (C4)	20:42	18	06:53 (C6)	19:20	11	07:36 (C8)	18:02	27	17:15 (C13)	15:58	16	15:19 (C14)	15:39	13	13:58 (C15)	
22	04:57		05:48 (C4)	05:57		06:35 (C6)	06:59		07:27		08:01	16:49 (C13)	08:07		15:05 (C14)	08:49		13:45 (C15)	
	21:46	27	06:15 (C4)	20:40	19	06:54 (C6)	19:18	7	07:34 (C8)	17:59	24	17:13 (C13)	15:56	13	15:18 (C14)	15:39	13	13:58 (C15)	
23	04:59		05:48 (C4)	05:59		06:34 (C6)	07:01		07:29		08:03	08:54 (C11)	08:09		15:06 (C14)	08:49		13:45 (C15)	
	21:44	26	06:14 (C4)	20:37	20	06:54 (C6)	19:15	1	07:30 (C8)		17:57	24	17:12 (C13)	15:55	10	15:16 (C14)	15:40	14	13:59 (C15)
24	05:01		05:48 (C4)	06:01		06:34 (C6)	07:03		08:05		08:51 (C11)	08:11		15:07 (C14)	08:50		13:47 (C15)		
	21:43	27	06:15 (C4)	20:35	19	06:53 (C6)	19:12		17:55	25	17:09 (C13)	15:53	7	15:14 (C14)	15:40		13:40 (C15)		
25	05:03		05:48 (C4)	06:03		06:34 (C6)	07:05		07:07		07:49 (C11)	08:13		15:08 (C14)	08:50		13:47 (C15)		
	21:41	26	06:14 (C4)	20:32	19	06:53 (C6)	19:10		16:52	18	16:04 (C13)	15:52	4	15:12 (C14)	15:41		13:40 (C15)		
26	05:04		05:48 (C4)	06:05		06:35 (C6)	07:07		07:09		07:48 (C11)	08:15		15:10 (C14)	08:50		13:48 (C15)		
	21:39	26	06:14 (C4)	20:29	16	06:51 (C6)	19:07		16:50	15	08:03 (C11)	15:51	1	15:11 (C14)	15:42		13:40 (C15)		
27	05:06		05:49 (C4)	06:07		06:37 (C6)	07:09		07:12		07:47 (C11)	08:17			08:51		13:48 (C15)		
	21:37	25	06:14 (C4)	20:27	14	06:51 (C6)	19:04		16:47	16	08:03 (C11)	15:49			15:43		13:40 (C15)		
28	05:08		05:49 (C4)	06:09		06:39 (C6)	07:11		07:14		07:47 (C11)	08:19			08:51		13:49 (C15)		
	21:36	24	06:13 (C4)	20:24	10	06:49 (C6)	19:02		16:45	16	08:03 (C11)	15:48			15:44		13:40 (C15)		
29	05:10		05:49 (C4)	06:11		06:41 (C6)	07:13		07:16		07:48 (C11)	08:21			08:51		13:50 (C15)		
	21:34	24	06:13 (C4)	20:22	6	06:47 (C6)	18:59		16:43	15	08:03 (C11)	15:47			15:45		13:40 (C15)		
30	05:12		05:50 (C4)	06:13		06:43 (C6)	07:15		07:18		07:50 (C11)	08:22			08:51		13:52 (C15)		
	21:32	23	06:13 (C4)	20:19	1	06:44 (C6)	18:56		16:40	13	08:03 (C11)	15:46			15:46		13:40 (C15)		
31	05:14		05:51 (C4)	06:15					07:20		07:52 (C11)				08:51		13:52 (C15)		
	21:30	22	06:13 (C4)	20:17					16:38	10	08:02 (C11)				15:47		13:59 (C15)		
Potential sun hours	529			469			385		324			247			216				
Total, worst case	656			263			173		939			292			223				
Sun reduction	0.49			0.50			0.43		0.26			0.08			0.07				
Oper. time red.	0.98			0.98			0.98		0.98			0.98			0.98				
Wind dir. red.	0.67			0.66			0.65		0.66			0.65			0.65				
Total reduction	0.32			0.32			0.27		0.17			0.05			0.04				
Total, real	212			84			47		156			15			10				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Anna / anna@environment.lv  
Calculated:  
10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Upmalnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (209)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48 08:50	08:14 16:45 08:12	07:10 17:47 07:08	16:23 (C3) 06:48 16:53 (C3)	05:32 20:55 21:52	04:35 21:52 22:09	04:29 22:09 21:28	05:15 21:28 20:14	06:17 20:14 18:53	07:17 18:53 07:19	07:22 16:35 15:44	08:24 15:44 08:26
2	15:49 08:50	16:47 08:10	17:49 07:05	16:52 (C3) 19:55 16:23 (C3)	20:57 21:54 22:08	21:54 22:08 04:31	22:08 21:25 05:19	21:25 20:11 06:21	20:11 18:50 07:21	18:50 07:21 07:21	16:33 15:43 08:27	15:43 08:27 15:43
3	08:50 15:50	08:10 16:49	07:05 17:51	16:23 (C3) 19:57 16:24 (C3)	20:57 21:55 05:25	22:08 21:55 04:32	22:08 21:23 05:21	21:23 20:08 06:23	20:08 18:48 07:23	07:23 18:48 07:23	16:31 15:43 08:29	15:43 08:29 15:42
4	08:49 15:51	08:08 16:51	07:03 17:54	16:24 (C3) 19:59 16:24 (C3)	05:25 21:01 05:23	04:32 21:56 04:31	04:32 22:07 04:33	05:21 21:21 05:23	06:23 20:06 06:25	07:23 18:45 07:25	16:29 15:42 17:09 (C3)	08:29 15:42 07:31
5	08:49 15:53	08:06 16:54	07:00 17:56	16:24 (C3) 19:59 16:49 (C3)	05:23 21:01 21:03	04:31 21:58 22:06	04:33 22:06 21:19	05:23 21:21 20:03	06:25 20:03 18:43	07:25 18:43 17:18 (C3)	16:29 15:41 17:18 (C3)	08:30 15:41 16:27
6	08:48 15:54	08:04 16:56	06:57 17:58	16:25 (C3) 19:55 16:47 (C3)	05:21 21:03 21:05	04:30 21:59 22:06	04:34 22:06 21:17	05:25 21:17 20:00	06:27 18:40 16:40	07:27 17:21 (C3) 17:21 (C3)	16:33 16:25 16:25	08:32 15:40 16:25
7	08:48 15:56	08:02 16:58	06:55 18:00	16:28 (C3) 19:55 16:46 (C3)	05:18 21:07 21:07	04:29 22:00 22:05	04:35 22:05 21:15	05:27 19:58 18:37	06:29 17:37 18:37	07:29 17:00 (C3) 17:00 (C3)	16:35 16:23 16:23	08:33 15:40 16:23
8	08:47 15:57	08:00 17:00	06:52 18:02	16:30 (C3) 19:57 16:43 (C3)	05:16 21:09 21:09	04:29 22:01 22:04	04:36 22:04 21:13	05:29 19:55 18:35	06:31 17:35 18:35	07:31 17:24 (C3) 17:24 (C3)	16:37 16:20 16:20	08:35 15:39 16:20
9	08:46 15:59	07:58 17:03	06:50 18:04	16:30 (C3) 19:57 16:43 (C3)	05:16 21:09 21:11	04:28 22:04 22:02	04:38 22:04 21:10	05:31 19:55 18:32	06:33 17:35 18:32	07:33 17:24 (C3) 17:24 (C3)	16:39 16:18 16:18	08:36 15:39 16:18
10	08:46 16:01	07:56 17:05	06:47 18:06	16:24 (C3) 19:57 16:43 (C3)	05:12 21:02 21:13	04:27 22:03 22:03	04:39 22:03 21:08	05:33 19:50 18:29	06:35 17:35 18:29	07:35 17:25 (C3) 17:25 (C3)	16:42 16:16 16:16	08:38 15:38 16:16
11	08:45 16:02	07:54 17:07	06:44 18:09	16:22 (C3) 19:57 16:42 (C3)	05:10 21:15 21:15	04:27 22:04 22:01	04:40 22:01 21:06	05:35 19:47 18:27	06:37 17:37 18:27	07:37 17:25 (C3) 17:25 (C3)	16:44 16:14 16:14	08:39 15:38 16:14
12	08:44 16:04	07:51 17:09	06:42 18:11	16:21 (C3) 19:57 16:41 (C3)	05:08 21:17 21:17	04:26 22:05 22:00	04:41 22:00 21:03	05:37 19:44 18:24	06:39 17:39 18:24	07:39 17:26 (C3) 17:26 (C3)	16:46 16:13 16:13	08:40 15:38 16:13
13	08:43 16:06	07:49 17:12	06:39 18:13	16:20 (C3) 19:57 16:40 (C3)	05:06 21:19 21:19	04:26 22:06 22:06	04:43 21:59 21:01	05:39 19:42 18:22	06:41 18:22 17:22 (C3)	07:42 17:25 (C3) 17:25 (C3)	16:48 16:11 16:11	08:41 15:37 16:11
14	08:42 16:08	07:47 17:14	06:36 18:15	16:19 (C3) 19:57 16:39 (C3)	05:04 21:20 21:20	04:25 22:06 22:06	04:44 21:58 21:58	05:41 19:39 18:19	06:43 18:19 17:26 (C3)	07:44 17:26 (C3) 17:26 (C3)	16:50 16:09 16:09	08:42 15:37 16:09
15	08:41 16:09	07:45 17:16	06:34 18:17	16:18 (C3) 19:57 16:38 (C3)	05:02 21:22 21:22	04:25 22:07 22:07	04:46 21:56 21:56	05:43 19:36 18:16	06:45 18:16 17:25 (C3)	07:46 17:25 (C3) 17:25 (C3)	16:52 16:07 16:07	08:43 15:37 16:07
16	08:40 16:11	07:42 17:18	06:31 18:19	16:17 (C3) 19:57 16:37 (C3)	05:00 21:25 21:25	04:25 22:08 22:08	04:47 21:55 21:55	05:45 19:34 18:14	06:47 18:14 17:24 (C3)	07:48 17:24 (C3) 17:24 (C3)	16:54 16:05 16:05	08:44 15:37 16:05
17	08:38 16:13	07:40 17:21	16:35 (C3) 18:21	16:16 (C3) 19:57 16:38 (C3)	04:58 21:27 21:27	04:25 22:08 22:08	04:49 21:54 21:54	05:47 19:31 18:11	06:49 18:11 17:23 (C3)	07:50 17:23 (C3) 17:23 (C3)	16:55 16:04 16:04	08:45 15:37 16:04
18	08:37 16:15	07:38 17:23	16:31 (C3) 18:23	16:15 (C3) 19:57 16:37 (C3)	04:56 21:29 21:29	04:25 22:09 22:09	04:50 21:52 21:52	05:49 19:28 18:09	06:51 18:09 17:24 (C3)	07:52 17:24 (C3) 17:24 (C3)	16:57 16:02 16:02	08:46 15:37 16:02
19	08:36 16:17	07:35 17:25	16:29 (C3) 18:25	16:14 (C3) 19:57 16:36 (C3)	04:55 21:31 21:31	04:25 22:09 22:09	04:50 21:51 21:51	05:49 19:25 18:06	06:51 18:06 17:25 (C3)	07:52 17:25 (C3) 17:25 (C3)	16:58 16:00 16:00	08:47 15:38 16:00
20	08:34 16:19	07:33 17:27	16:27 (C3) 18:28	16:13 (C3) 19:57 16:35 (C3)	04:53 21:33 21:33	04:25 22:09 22:09	04:54 21:49 21:49	05:53 19:23 18:04	06:55 18:04 17:26 (C3)	07:56 17:26 (C3) 17:26 (C3)	16:59 15:59 15:59	08:48 15:38 15:59
21	08:33 16:21	07:30 17:29	16:25 (C3) 18:30	16:12 (C3) 19:57 16:34 (C3)	04:51 21:34 21:34	04:25 22:10 22:10	04:55 21:48 21:48	05:55 19:20 18:01	06:57 18:01 17:27 (C3)	07:58 18:01 17:27 (C3)	16:59 15:57 15:57	08:48 15:38 15:57
22	08:32 16:23	07:28 17:32	16:25 (C3) 18:32	16:11 (C3) 19:57 16:33 (C3)	04:49 21:36 21:36	04:25 22:10 22:10	04:57 21:46 21:46	05:57 19:20 18:01	06:59 18:01 17:28 (C3)	07:59 18:01 17:28 (C3)	16:59 15:56 15:56	08:49 15:39 15:56
23	08:30 16:25	07:25 17:35	16:24 (C3) 18:36	16:10 (C3) 19:57 16:32 (C3)	04:48 21:38 21:38	04:25 22:10 22:10	04:59 21:44 21:44	05:59 19:17 17:59	07:01 18:03 17:29 (C3)	07:01 18:03 17:29 (C3)	16:59 15:54 15:54	08:49 15:39 15:54
24	08:28 16:27	07:23 17:36	16:24 (C3) 18:40	16:09 (C3) 19:57 16:31 (C3)	04:46 21:40 21:40	04:25 22:10 22:10	05:00 21:43 21:43	06:01 19:15 17:57	07:03 18:05 17:31 (C3)	07:03 18:05 17:31 (C3)	16:59 15:53 15:53	08:50 15:40 15:53
25	08:27 16:29	07:20 17:38	16:23 (C3) 18:42	16:08 (C3) 19:57 16:30 (C3)	04:45 21:42 21:42	04:26 22:10 22:10	05:02 21:41 21:41	06:03 19:12 17:54	07:05 18:07 17:32 (C3)	07:05 18:07 17:32 (C3)	16:59 15:51 15:51	08:50 15:40 15:51
26	08:25 16:32	07:18 17:40	16:23 (C3) 18:44	16:07 (C3) 19:57 16:29 (C3)	04:44 21:43 21:43	04:26 22:10 22:10	05:04 21:39 21:39	06:05 19:07 17:50	07:07 18:09 17:33 (C3)	07:07 18:09 17:33 (C3)	16:59 15:49 15:49	08:50 15:41 15:49
27	08:23 16:34	07:15 17:43	16:22 (C3) 18:46	16:06 (C3) 19:57 16:28 (C3)	04:43 21:44 21:44	04:27 22:10 22:10	05:06 21:37 21:37	06:07 19:04 17:49	07:09 18:11 17:34 (C3)	07:09 18:11 17:34 (C3)	16:59 15:47 15:47	08:50 15:41 15:47
28	08:22 16:36	07:13 17:45	16:22 (C3) 18:48	16:05 (C3) 19:57 16:27 (C3)	04:42 21:45 21:45	04:27 22:10 22:10	05:08 21:37 21:37	06:09 19:01 17:46	07:11 18:13 17:35 (C3)	07:11 18:13 17:35 (C3)	16:59 15:45 15:45	08:51 15:42 15:45
29	08:20 16:38	17:45 17:45	16:21 (C3) 18:50	16:04 (C3) 19:57 16:26 (C3)	04:41 21:46 21:46	04:28 22:10 22:10	05:09 21:35 21:35	06:11 19:01 17:43	07:13 18:15 17:36 (C3)	07:13 18:15 17:36 (C3)	16:59 15:43 15:43	08:51 15:42 15:43
30	08:18 16:40	17:48 17:48	16:20 (C3) 18:52	16:03 (C3) 19:57 16:25 (C3)	04:40 21:47 21:47	04:29 22:10 22:10	05:11 21:33 21:33	06:13 19:01 17:44	07:15 18:17 17:37 (C3)	07:15 18:17 17:37 (C3)	16:59 15:41 15:41	08:51 15:41 15:41
31	08:16 16:42	17:50 17:50	16:19 (C3) 18:54	16:02 (C3) 19:57 16:24 (C3)	04:39 21:48 21:48	04:30 22:10 22:10	05:13 21:31 21:31	06:15 19:01 17:46	07:17 18:19 17:38 (C3)	07:17 18:19 17:38 (C3)	16:59 15:39 15:39	08:51 15:40 15:39
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		298	192							502		
Sun reduction		0.20	0.41							0.26		
Oper. time red.		0.98	0.98							0.98		
Wind dir. red.		0.67	0.67							0.67		
Total reduction		0.13	0.27							0.17		
Total, real		39	52							85		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Upmali - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (147)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		14:07 (C15)	08:15		15:41 (C14)	07:11		07:40 (C10)	06:49		07:38 (C8)	05:32		04:36		05:29 (C4)	
2	15:48	16	14:23 (C15)	16:45	18	15:59 (C14)	17:47	51	16:59 (C13)	19:53	10	07:48 (C8)	20:55		21:52	30	05:59 (C4)	
	08:50		14:07 (C15)	08:13		15:42 (C14)	07:08		07:40 (C10)	06:46			05:30		04:35		05:29 (C4)	
3	15:49	16	14:23 (C15)	16:47	17	15:59 (C14)	17:50	50	16:58 (C13)	19:55			20:57		21:54	30	05:59 (C4)	
	08:50		14:09 (C15)	08:11		15:43 (C14)	07:06		07:40 (C10)	06:43			05:28		04:34		05:29 (C4)	
4	15:51	14	14:23 (C15)	16:50	16	15:59 (C14)	17:52	51	16:59 (C13)	19:57			20:59		21:55	30	05:59 (C4)	
	08:50		14:09 (C15)	08:09		15:44 (C14)	07:03		07:40 (C10)	06:41			05:26		04:33		05:29 (C4)	
5	15:52	14	14:23 (C15)	16:52	14	15:58 (C14)	17:54	49	16:58 (C13)	19:59			21:01		21:56	30	05:59 (C4)	
	08:49		14:11 (C15)	08:07		08:36 (C11)	07:00		07:41 (C10)	06:38			05:23		04:32		05:30 (C4)	
6	15:53	12	14:23 (C15)	16:54	12	15:56 (C14)	17:56	46	16:57 (C13)	20:01			21:04		21:58	30	06:00 (C4)	
	08:49		14:12 (C15)	08:05		08:34 (C11)	06:58		07:42 (C10)	06:35			05:21		04:31		05:30 (C4)	
7	15:55	11	14:23 (C15)	16:56	11	15:54 (C14)	17:58	44	16:57 (C13)	20:03			21:06		21:59	30	06:00 (C4)	
	08:48		14:14 (C15)	08:03		08:32 (C11)	06:55		07:44 (C10)	06:33			05:19		04:30		05:30 (C4)	
8	15:56	8	14:22 (C15)	16:59	9	08:41 (C11)	18:00	37	16:56 (C13)	20:05			21:08		22:00	29	05:59 (C4)	
	08:47		14:16 (C15)	08:00		08:30 (C11)	06:53		16:28 (C13)	06:30			05:17		04:29		05:31 (C4)	
9	15:58	4	14:20 (C15)	17:01	12	08:42 (C11)	18:03	27	16:55 (C13)	20:07			21:10		22:01	29	06:00 (C4)	
	08:47			07:58		08:27 (C11)	06:50		16:30 (C13)	06:27			05:15		04:28		05:31 (C4)	
10	15:59			17:03	15	08:42 (C11)	18:05	24	16:54 (C13)	20:10			21:12		22:02	29	06:00 (C4)	
	08:46			07:56		08:25 (C11)	06:47		16:31 (C13)	06:25			05:13		04:28		05:32 (C4)	
11	16:01			17:05	17	08:42 (C11)	18:07	21	16:52 (C13)	20:12			21:14		22:03	28	06:00 (C4)	
	08:45			07:54		08:25 (C11)	06:45		16:32 (C13)	06:22			05:10		04:27		05:31 (C4)	
12	16:03			17:08	17	08:42 (C11)	18:09	17	16:49 (C13)	20:14			21:16		22:04	29	06:00 (C4)	
	08:44			07:52		08:25 (C11)	06:42		16:36 (C13)	06:20			05:08		04:27		05:32 (C4)	
13	16:04			17:10	17	08:42 (C11)	18:11	10	16:46 (C13)	20:16			21:18		22:05	28	06:00 (C4)	
	08:43			07:49		08:26 (C11)	06:39			06:17			05:06		04:26		05:33 (C4)	
14	16:06			17:12	16	08:42 (C11)	18:13			20:18			21:20		22:06	28	06:01 (C4)	
	08:42			07:47		08:27 (C11)	06:37			06:14			05:04		04:26		05:32 (C4)	
15	16:08			17:14	14	08:41 (C11)	18:15			20:20			21:22	7	05:40 (C4)	28	06:00 (C4)	
	08:41			07:45		08:28 (C11)	06:34			06:12		06:38 (C6)	05:02		05:37 (C4)		04:26	
16	16:10			17:16	12	08:40 (C11)	18:17			20:22	6	06:44 (C6)	21:23	12	05:49 (C4)	27	06:00 (C4)	
	08:40			07:42		08:30 (C11)	06:31			06:09		06:35 (C6)	05:01		05:35 (C4)		04:25	
17	16:12			17:19	7	08:37 (C11)	18:20			20:24	10	06:45 (C6)	21:25	16	05:51 (C4)	27	06:00 (C4)	
	08:39			07:40			06:29			06:07		06:33 (C6)	04:59		05:34 (C4)		04:25	
18	16:14			17:21			18:22			20:26	14	06:47 (C6)	21:27	19	05:53 (C4)	28	06:01 (C4)	
	08:37			07:38			06:26			06:04		06:30 (C6)	04:57		05:33 (C4)		04:25	
19	16:16			17:23			18:24			20:28	17	06:47 (C6)	21:29	21	05:54 (C4)	27	06:01 (C4)	
	08:36			07:35			06:23			06:02		06:28 (C6)	04:55		05:31 (C4)		04:25	
20	16:18			17:25			18:26			20:30	20	06:48 (C6)	21:31	23	05:54 (C4)	27	06:01 (C4)	
	08:35			07:33		16:41 (C13)	06:21		06:46 (C8)	05:59		06:27 (C6)	04:53		05:31 (C4)		04:25	
21	16:20			17:28	6	16:47 (C13)	18:28	5	06:51 (C8)	20:32	21	06:48 (C6)	21:33	24	05:55 (C4)	27	06:01 (C4)	
	08:33			07:31		16:37 (C13)	06:18		06:43 (C8)	05:57		06:27 (C6)	04:52		05:30 (C4)		04:25	
22	16:22			17:30	14	16:51 (C13)	18:30	10	06:53 (C8)	20:35	21	06:48 (C6)	21:35	25	05:55 (C4)	27	06:02 (C4)	
	08:32		15:43 (C14)	07:28		16:34 (C13)	06:15		06:41 (C8)	05:54		06:27 (C6)	04:50		05:30 (C4)		04:25	
23	16:24	3	15:46 (C14)	17:32	19	16:53 (C13)	18:32	14	06:55 (C8)	20:37	21	06:48 (C6)	21:36	26	05:56 (C4)	27	06:02 (C4)	
	08:30		15:42 (C14)	07:26		16:33 (C13)	06:13		06:38 (C8)	05:52		06:26 (C6)	04:48		05:29 (C4)		04:26	
24	16:26	6	15:48 (C14)	17:34	23	16:56 (C13)	18:34	17	06:55 (C8)	20:39	21	06:47 (C6)	21:38	27	05:56 (C4)	27	06:02 (C4)	
	08:29		15:41 (C14)	07:23		07:50 (C10)	06:10		06:36 (C8)	05:49		06:27 (C6)	04:47		05:29 (C4)		04:26	
25	16:28	9	15:50 (C14)	17:36	30	16:56 (C13)	18:36	19	06:55 (C8)	20:41	20	06:47 (C6)	21:40	28	05:57 (C4)	27	06:02 (C4)	
	08:27		15:41 (C14)	07:21		07:47 (C10)	06:07		06:35 (C8)	05:47		06:28 (C6)	04:45		05:29 (C4)		04:26	
26	16:30	13	15:54 (C14)	17:39	38	16:57 (C13)	18:38	20	06:55 (C8)	20:43	19	06:47 (C6)	21:42	29	05:58 (C4)	27	06:03 (C4)	
	08:25		15:41 (C14)	07:18		07:45 (C10)	06:05		06:35 (C8)	05:44		06:27 (C6)	04:44		05:30 (C4)		04:27	
27	16:32	15	15:56 (C14)	17:41	42	16:58 (C13)	18:40	21	06:56 (C8)	20:45	18	06:45 (C6)	21:43	28	05:58 (C4)	28	06:03 (C4)	
	08:24		15:41 (C14)	07:16		07:42 (C10)	06:02		06:34 (C8)	05:42		06:28 (C6)	04:42		05:29 (C4)		04:27	
28	16:34	17	15:58 (C14)	17:43	47	16:58 (C13)	18:43	21	06:55 (C8)	20:47	16	06:44 (C6)	21:45	29	05:58 (C4)	27	06:03 (C4)	
	08:22		15:41 (C14)	07:13		07:41 (C10)	05:59		06:34 (C8)	05:39		06:30 (C6)	04:41		05:29 (C4)		04:28	
29	16:36	18	15:59 (C14)	17:45	50	16:59 (C13)	18:45	20	06:54 (C8)	20:49	13	06:43 (C6)	21:46	29	05:58 (C4)	28	06:03 (C4)	
	08:20		15:41 (C14)				06:57		07:35 (C8)	05:37		06:32 (C6)	04:39		05:29 (C4)		04:28	
30	16:39	19	16:00 (C14)				19:47	19	07:54 (C8)	20:51	9	06:41 (C6)	21:48	30	05:59 (C4)	28	06:04 (C4)	
	08:18		15:41 (C14)				06:54		07:35 (C8)	05:35			04:38		05:29 (C4)		04:29	
31	16:41	19	16:00 (C14)				19:49	17	07:52 (C8)	20:53			21:50	30	05:59 (C4)	28	06:04 (C4)	
	08:17		15:41 (C14)				06:51		07:36 (C8)				04:37		05:29 (C4)			
Potential sun hours	235		15:59 (C14)		266		19:51	14	07:50 (C8)		426		508		529			
Total, worst case	232			493			624			256		433		845				
Sun reduction	0.13			0.20			0.41			0.50		0.57		0.56				
Oper. time red.	0.98			0.98			0.98			0.98		0.98		0.98				
Wind dir. red.	0.66			0.65			0.66			0.65		0.67		0.67				
Total reduction	0.09			0.13			0.26			0.32		0.37		0.37				
Total, real	20			62			164			81		161		309				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Upmali - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (147)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July			August			September			October			November			December		
1	04:30		05:36 (C4)	05:16			06:17			07:17		17:18 (C13)	07:22		07:55 (C11)	08:24		
	22:09	28	06:04 (C4)	21:28			20:14			18:54	5	17:23 (C13)	16:36	17	08:12 (C11)	15:45		
2	04:31		05:36 (C4)	05:17			06:19			07:19		17:13 (C13)	07:25		07:57 (C11)	08:26		
	22:08	28	06:04 (C4)	21:26			20:11			18:51	14	17:27 (C13)	16:34	14	08:11 (C11)	15:44		
3	04:32		05:36 (C4)	05:19			06:21			07:21		17:10 (C13)	07:27		08:00 (C11)	08:27		
	22:08	29	06:05 (C4)	21:24			20:09			18:48	19	17:29 (C13)	16:31	11	08:11 (C11)	15:43		
4	04:33		05:37 (C4)	05:21			06:23			07:23		17:08 (C13)	07:29		08:02 (C11)	08:29		14:01 (C15)
	22:07	28	06:05 (C4)	21:22			20:06			18:46	22	17:30 (C13)	16:29	8	08:10 (C11)	15:42	3	14:04 (C15)
5	04:34		05:37 (C4)	05:23			06:25			07:25		17:06 (C13)	07:31		08:04 (C11)	08:31		13:59 (C15)
	22:07	29	06:06 (C4)	21:19			20:03			18:43	25	17:31 (C13)	16:27	12	15:24 (C14)	15:42	8	14:07 (C15)
6	04:35		05:37 (C4)	05:25			06:27			07:27		08:22 (C10)	07:33		08:07 (C11)	08:32		13:59 (C15)
	22:06	29	06:06 (C4)	21:17			20:01			18:40	33	17:32 (C13)	16:25	12	15:27 (C14)	15:41	10	14:09 (C15)
7	04:36		05:37 (C4)	05:27			06:29			07:29		08:18 (C10)	07:36		15:14 (C14)	08:34		13:57 (C15)
	22:05	29	06:06 (C4)	21:15			19:58			18:38	41	17:32 (C13)	16:23	14	15:28 (C14)	15:40	12	14:09 (C15)
8	04:37		05:37 (C4)	05:29			06:31			07:31		08:16 (C10)	07:38		15:14 (C14)	08:35		13:58 (C15)
	22:04	29	06:06 (C4)	21:13			19:55			18:35	45	17:32 (C13)	16:21	16	15:30 (C14)	15:40	13	14:11 (C15)
9	04:38		05:37 (C4)	05:31			06:33			07:34		08:15 (C10)	07:40		15:13 (C14)	08:36		13:57 (C15)
	22:03	30	06:07 (C4)	21:11			19:53			18:32	48	17:32 (C13)	16:19	17	15:30 (C14)	15:39	14	14:11 (C15)
10	04:39		05:37 (C4)	05:33			06:35			07:36		08:15 (C10)	07:42		15:12 (C14)	08:38		13:57 (C15)
	22:02	30	06:07 (C4)	21:08			19:50			18:30	50	17:33 (C13)	16:17	18	15:30 (C14)	15:39	16	14:13 (C15)
11	04:41		05:37 (C4)	05:35			06:37		07:31 (C8)	07:38		08:14 (C10)	07:44		15:12 (C14)	08:39		13:57 (C15)
	22:01	30	06:07 (C4)	21:06			19:47	9	07:40 (C8)	18:27	51	17:33 (C13)	16:15	19	15:31 (C14)	15:38	16	14:13 (C15)
12	04:42		05:38 (C4)	05:37			06:39		07:28 (C8)	07:40		08:13 (C10)	07:46		15:12 (C14)	08:40		13:57 (C15)
	22:00	30	06:08 (C4)	21:04			19:45	14	07:42 (C8)	18:25	51	17:32 (C13)	16:13	19	15:31 (C14)	15:38	17	14:14 (C15)
13	04:43		05:38 (C4)	05:39			06:41		07:27 (C8)	07:42		08:13 (C10)	07:48		15:13 (C14)	08:41		13:58 (C15)
	21:59	29	06:07 (C4)	21:01			19:42	16	07:43 (C8)	18:22	51	17:32 (C13)	16:11	19	15:32 (C14)	15:38	17	14:15 (C15)
14	04:45		05:38 (C4)	05:41		06:39 (C6)	06:43		07:26 (C8)	07:44		08:13 (C10)	07:51		15:13 (C14)	08:43		13:58 (C15)
	21:58	29	06:07 (C4)	20:59	10	06:49 (C6)	19:39	18	07:44 (C8)	18:19	50	17:31 (C13)	16:09	18	15:31 (C14)	15:38	18	14:16 (C15)
15	04:46		05:39 (C4)	05:43		06:37 (C6)	06:45		07:25 (C8)	07:46		08:16 (C10)	07:53		15:13 (C14)	08:44		13:58 (C15)
	21:56	30	06:07 (C4)	20:57	14	06:51 (C6)	19:37	19	07:44 (C8)	18:17	45	17:31 (C13)	16:07	17	15:30 (C14)	15:38	18	14:16 (C15)
16	04:48		05:38 (C4)	05:45		06:36 (C6)	06:47		07:24 (C8)	07:48		08:18 (C10)	07:55		15:14 (C14)	08:45		13:58 (C15)
	21:55	30	06:08 (C4)	20:54	16	06:52 (C6)	19:34	20	07:44 (C8)	18:14	40	17:30 (C13)	16:06	15	15:29 (C14)	15:38	19	14:17 (C15)
17	04:49		05:38 (C4)	05:47		06:34 (C6)	06:49		07:24 (C8)	07:50		08:20 (C10)	07:57		15:14 (C14)	08:45		13:59 (C15)
	21:54	29	06:07 (C4)	20:52	18	06:52 (C6)	19:31	20	07:44 (C8)	18:12	35	17:29 (C13)	16:04	13	15:27 (C14)	15:38	18	14:17 (C15)
18	04:51		05:39 (C4)	05:49		06:33 (C6)	06:51		07:23 (C8)	07:52		08:22 (C10)	07:59		15:15 (C14)	08:46		13:59 (C15)
	21:52	29	06:08 (C4)	20:49	19	06:52 (C6)	19:28	21	07:44 (C8)	18:09	28	17:27 (C13)	16:02	9	15:24 (C14)	15:38	19	14:18 (C15)
19	04:52		05:39 (C4)	05:51		06:32 (C6)	06:53		07:23 (C8)	07:54		17:04 (C13)	08:01		15:17 (C14)	08:47		13:59 (C15)
	21:51	28	06:07 (C4)	20:47	21	06:53 (C6)	19:26	20	07:43 (C8)	18:07	21	17:25 (C13)	16:01	6	15:23 (C14)	15:38	19	14:18 (C15)
20	04:54		05:40 (C4)	05:53		06:32 (C6)	06:55		07:23 (C8)	07:57		17:06 (C13)	08:03		15:18 (C14)	08:48		14:00 (C15)
	21:49	27	06:07 (C4)	20:45	21	06:53 (C6)	19:23	18	07:41 (C8)	18:04	18	17:24 (C13)	15:59	3	15:21 (C14)	15:38	19	14:19 (C15)
21	04:56		05:40 (C4)	05:55		06:32 (C6)	06:57		07:25 (C8)	07:59		17:08 (C13)	08:05			08:48		14:01 (C15)
	21:48	26	06:06 (C4)	20:42	21	06:53 (C6)	19:20	15	07:40 (C8)	18:02	13	17:21 (C13)	15:58			15:39	19	14:20 (C15)
22	04:57		05:41 (C4)	05:57		06:32 (C6)	06:59		07:27 (C8)	08:01			08:07			08:49		14:01 (C15)
	21:46	25	06:06 (C4)	20:40	21	06:53 (C6)	19:18	11	07:38 (C8)	17:59			15:56			15:39	19	14:20 (C15)
23	04:59		05:41 (C4)	05:59		06:32 (C6)	07:01		07:29 (C8)	08:03			08:09			08:49		14:01 (C15)
	21:44	24	06:05 (C4)	20:37	20	06:52 (C6)	19:15	6	07:35 (C8)	17:57			15:55			15:40	19	14:20 (C15)
24	05:01		05:42 (C4)	06:01		06:32 (C6)	07:03			08:05			08:11			08:50		14:02 (C15)
	21:43	23	06:05 (C4)	20:35	20	06:52 (C6)	19:12			17:55			15:53			15:40	19	14:21 (C15)
25	05:03		05:42 (C4)	06:03		06:34 (C6)	07:05			07:07			08:13			08:50		14:02 (C15)
	21:41	22	06:04 (C4)	20:32	17	06:51 (C6)	19:10			16:52			15:52			15:41	19	14:21 (C15)
26	05:04		05:43 (C4)	06:05		06:35 (C6)	07:07			07:09		08:00 (C11)	08:15			08:50		14:03 (C15)
	21:39	20	06:03 (C4)	20:29	14	06:49 (C6)	19:07			16:50	8	08:08 (C11)	15:51			15:42	18	14:21 (C15)
27	05:06		05:45 (C4)	06:07		06:37 (C6)	07:09			07:12		07:57 (C11)	08:17			08:51		14:03 (C15)
	21:37	18	06:03 (C4)	20:27	10	06:47 (C6)	19:04			16:47	13	08:10 (C11)	15:49			15:43	19	14:22 (C15)
28	05:08		05:46 (C4)	06:09		06:39 (C6)	07:11			07:14		07:56 (C11)	08:19			08:51		14:04 (C15)
	21:36	14	06:00 (C4)	20:24	5	06:44 (C6)	19:02			16:45	14	08:10 (C11)	15:48			15:44	18	14:22 (C15)
29	05:10		05:48 (C4)	06:11			07:13			07:16		07:56 (C11)	08:21			08:51		14:05 (C15)
	21:34	11	05:59 (C4)	20:22			18:59			16:43	16	08:12 (C11)	15:47			15:44	17	14:22 (C15)
30	05:12			06:13			07:15			07:18		07:55 (C11)	08:22			08:51		14:05 (C15)
	21:32			20:19			18:56			16:40	17	08:12 (C11)	15:46			15:46	18	14:23 (C15)
31	05:14			06:15						07:20		07:54 (C11)				08:51		14:05 (C15)
	21:30			20:16						16:38	17	08:11 (C11)				15:47	17	14:22 (C15)
Potential sun hours	529			469			385			324			247			216		
Total, worst case		763				247		207		790			277			458		
Sun reduction		0.49				0.50		0.43		0.26			0.08			0.07		
Oper. time red.		0.98				0.98		0.98		0.98			0.98			0.98		
Wind dir. red.		0.67				0.65		0.65		0.65			0.65			0.66		
Total reduction		0.32				0.32		0.27		0.16			0.05			0.05		
Total, real		246				78		56		130			14			21		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Upiš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (210)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:16	05:08 21:17	04:27 22:05	04:42 22:00	05:37 21:03	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:19	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:22	07:30 17:30	06:18 18:30	05:56 20:34	04:52 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	07:25 17:34	06:13 18:34	05:52 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:40	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:44
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Urbani 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (108)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:49	08:15 16:46	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:20 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:21 18:48	07:27 16:32	08:27 15:44
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:56	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:19	06:25 20:04	07:26 18:43	07:31 16:28	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:32 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:23 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:39
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:12	08:41 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:24	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:26 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:26 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	05:00 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
26	08:25 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:50 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:37	06:08 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:36	06:10 20:24	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:12 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:16 20:17		07:20 16:38		08:51 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Urgas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (55)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January		February		March		April		May		June	
1	08:51		08:15		07:11		07:38 (C13)	06:49	05:33		04:36	
	15:48		16:45		17:48	17	07:55 (C13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:37 (C13)	06:46	05:30		04:35	
	15:49		16:48		17:50	18	07:55 (C13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:38 (C13)	06:44	05:28		04:34	
	15:51		16:50		17:52	17	07:55 (C13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:38 (C13)	06:41	05:26		04:33	
	15:52		16:52		17:54	15	07:53 (C13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:40 (C13)	06:38	05:24		04:32	
	15:53		16:54		17:56	13	07:53 (C13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:41 (C13)	06:36	05:21		04:31	
	15:55		16:56		17:58	9	07:50 (C13)	20:03	21:06		21:59	
7	08:48		08:03		06:55			06:33	05:19		04:30	
	15:56		16:59		18:01			20:06	21:08		22:00	
8	08:48		08:01		06:53			06:30	05:17		04:29	
	15:58		17:01		18:03			20:08	21:10		22:01	
9	08:47		07:58		06:50			06:28	05:15		04:29	
	16:00		17:03		18:05			20:10	21:12		22:02	
10	08:46		07:56		06:48			06:25	05:13		04:28	
	16:01		17:05		18:07			20:12	21:14		22:03	
11	08:45		07:54		06:45			06:22	05:11		04:27	
	16:03	1	09:23 (C14)	17:08	18:09			20:14	21:16		22:04	
12	08:44		07:52		06:42			06:20	05:09		04:27	
	16:05	4	09:25 (C14)	17:10	18:11			20:16	21:18		22:05	
13	08:43		07:50		06:40			06:17	05:07		04:26	
	16:06	6	09:25 (C14)	17:12	18:13			20:18	21:20		22:06	
14	08:42		07:47		06:37			06:15	05:05		04:26	
	16:08	8	09:26 (C14)	17:14	18:16			20:20	21:22		22:07	
15	08:41		07:45		06:34			06:12	05:03		04:26	
	16:10	10	09:27 (C14)	17:17	18:18			20:22	21:24		22:07	
16	08:40		07:43		06:32			06:09	05:01		04:26	
	16:12	13	09:28 (C14)	17:19	18:20			20:24	21:26		22:08	
17	08:39		07:40		06:29			06:07	04:59		04:25	
	16:14	15	09:29 (C14)	17:21	18:22			20:26	21:27		22:09	
18	08:38		07:38		06:26			06:04	04:57		04:25	
	16:16	17	09:29 (C14)	17:23	18:24			20:28	21:29		22:09	
19	08:36		07:36		06:24			06:02	04:55		04:25	
	16:18	18	09:29 (C14)	17:26	18:26			20:31	21:31		22:09	
20	08:35		07:33		06:21			05:59	04:53		04:25	
	16:20	18	09:30 (C14)	17:28	18:28			20:33	21:33		22:10	
21	08:33		07:31		06:18			05:57	04:52		04:25	
	16:22	18	09:30 (C14)	17:30	18:30			20:35	21:35		22:10	
22	08:32		07:28		06:16			05:54	04:50		04:26	
	16:24	18	09:30 (C14)	17:32	18:32			20:37	21:37		22:10	
23	08:30		07:26		06:13			05:52	04:48		04:26	
	16:26	16	09:29 (C14)	17:34	18:34			20:39	21:38		22:10	
24	08:29		07:23		06:10			05:49	04:47		04:26	
	16:28	16	09:30 (C14)	17:37	18:36	1	07:51 (C13)	20:41	21:40		22:11	
25	08:27		07:21		06:08			05:47	04:45		04:26	
	16:30	14	09:29 (C14)	17:39	18:39	6	07:54 (C13)	20:43	21:42		22:11	
26	08:26		07:18		06:05			05:44	04:44		04:27	
	16:32	13	09:29 (C14)	17:41	18:41	10	07:55 (C13)	20:45	21:43		22:10	
27	08:24		07:16		06:02			05:42	04:42		04:27	
	16:34	10	09:28 (C14)	17:43	18:43	13	07:55 (C13)	20:47	21:45		22:10	
28	08:22		07:13		06:00			05:40	04:41		04:28	
	16:37	6	09:26 (C14)	17:45	18:45	16	07:56 (C13)	20:49	21:47		22:10	
29	08:20				06:57			05:37	04:40		04:29	
	16:39				19:47			20:51	21:48		22:10	
30	08:19				06:54			05:35	04:38		04:29	
	16:41				19:49			20:53	21:50		22:10	
31	08:17				06:52				04:37			
	16:43				19:51				21:51			
Potential sun hours	235		266		366			426	508		529	
Total, worst case	221		46		89							
Sun reduction	0.13		0.20		0.41							
Oper. time red.	0.98		0.98		0.98							
Wind dir. red.	0.59		0.62		0.62							
Total reduction	0.08		0.12		0.25							
Total, real	17		6		22							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Urgas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (55)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36	08:24 15:45 2 09:04 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43		07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40		07:34 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	6	08:18 (C13) 08:24 (C13)	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	11	08:16 (C13) 08:27 (C13)	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	14	08:14 (C13) 08:28 (C13)	07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	16	08:13 (C13) 08:29 (C13)	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	17	08:12 (C13) 08:29 (C13)	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	18	08:11 (C13) 08:29 (C13)	07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	17	08:11 (C13) 08:28 (C13)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	15	08:14 (C13) 08:29 (C13)	07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	12	08:16 (C13) 08:28 (C13)	07:53 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	8	08:18 (C13) 08:26 (C13)	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	4	08:20 (C13) 08:24 (C13)	07:57 16:04
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09		07:59 16:03	08:03 15:59
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	16	08:01 16:01	08:04 (C14) 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	18	08:03 15:59	08:06 (C14) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	18	08:05 15:58	08:08 (C14) 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	18	08:07 15:56	08:10 (C14) 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	18	08:09 15:55	08:12 (C14) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	17	08:11 15:53	08:14 (C14) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	15	08:13 15:52	08:16 (C14) 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50	13	08:15 15:51	08:18 (C14) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48	11	08:17 15:49	08:20 (C14) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45	8	08:19 15:48	08:22 (C14) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	6	08:21 15:47	08:24 (C14) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41	4	08:23 15:46	08:26 (C14) 15:46
31	05:14 21:30	06:15 20:17		08:20 16:38			08:28 15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				138		222	2
Sun reduction				0.26		0.08	0.07
Oper. time red.				0.98		0.98	0.98
Wind dir. red.				0.62		0.59	0.59
Total reduction				0.16		0.05	0.04
Total, real				22		10	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Uzkalnini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (211)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:47	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:35	08:24 15:44
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:25	06:19 20:11	07:19 18:50	07:24 16:33	08:26 15:43
3	08:50 15:50	08:10 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:42
4	08:49 15:51	08:08 16:51	07:03 17:53	06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:06	05:23 21:19	06:25 20:03	07:25 18:42	07:31 16:27	08:30 15:41
6	08:48 15:54	08:04 16:56	06:57 17:58	06:35 20:03	05:21 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:18 21:07	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:22	08:33 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:09	04:28 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:37 16:20	08:35 15:39
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:11	04:28 22:02	04:37 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:06	06:24 20:11	05:12 21:13	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:14	08:39 15:38
12	08:44 16:04	07:51 17:09	06:42 18:11	06:19 20:15	05:08 21:17	04:26 22:05	04:41 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:12	08:40 15:37
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:41 18:22	07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	04:25 22:06	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:37
15	08:41 16:09	07:44 17:16	06:34 18:17	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:16	07:52 16:07	08:43 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:33	07:48 18:14	07:55 16:05	08:44 15:37
17	08:38 16:13	07:40 17:20	06:28 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:03	08:45 15:37
18	08:37 16:15	07:37 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:24 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:25	06:01 20:30	04:54 21:31	04:24 22:09	04:52 21:51	05:51 20:47	06:53 19:25	07:54 18:06	08:01 16:00	08:47 15:38
20	08:34 16:19	07:33 17:27	06:20 18:28	05:59 20:32	04:53 21:33	04:24 22:09	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:29	06:18 18:30	05:56 20:34	04:51 21:34	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:58 18:01	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:00 17:59	08:07 15:55	08:49 15:39
23	08:30 16:25	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	04:25 22:10	04:58 21:44	05:59 20:37	07:01 19:15	08:03 17:56	08:09 15:54	08:49 15:39
24	08:28 16:27	07:23 17:36	06:10 18:36	05:49 20:40	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:20 17:38	06:07 18:38	05:46 20:43	04:45 21:41	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:31	07:18 17:40	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:06	07:09 16:49	08:15 15:50	08:50 15:41
27	08:23 16:34	07:15 17:43	06:02 18:42	05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:50 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:07 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:09 21:33	06:11 20:21	07:13 18:58	07:16 16:42	08:20 15:46	08:51 15:44
30	08:18 16:40		06:54 19:48	05:34 20:53	04:38 21:49	04:28 22:09	05:11 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:50		04:36 21:51		05:13 21:29	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vaivarini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (171)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:12 (C15) 21:52
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	06:14 (C15) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	04:31 21:59
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:30	04:55 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:24 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:24 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:24 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10
30	08:18 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09
31	08:17 16:43		06:52 19:51		04:37 21:51	04:30 22:09
Potential sun hours	235	266	366	426	508	528
Total, worst case				105	221	591
Sun reduction				0.50	0.57	0.56
Oper. time red.				0.98	0.98	0.98
Wind dir. red.				0.66	0.67	0.67
Total reduction				0.32	0.37	0.37
Total, real				34	82	217

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vaivarini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (171)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:24 (C14) 21:28	05:16 20:14	06:17 18:54	07:17 16:36	08:24 15:45
2	04:31 22:08	05:23 (C14) 21:26	05:18 20:11	06:19 18:51	07:19 16:34	08:26 15:44
3	04:32 22:08	05:23 (C14) 21:24	05:20 20:09	06:21 18:48	07:21 16:32	08:28 15:43
4	04:33 22:07	05:23 (C14) 21:22	05:22 20:06	06:23 18:46	07:23 16:30	08:29 15:43
5	04:34 22:07	05:23 (C14) 21:19	05:24 20:03	06:25 18:43	07:25 16:27	08:31 15:42
6	04:35 22:06	05:23 (C14) 21:17	05:26 20:01	06:27 18:40	07:28 16:25	08:32 15:41
7	04:36 22:05	05:24 (C14) 21:15	05:27 19:58	06:29 18:38	07:30 16:23	08:34 15:41
8	04:37 22:04	05:24 (C14) 21:13	05:29 19:56	06:31 18:35	07:32 16:21	08:35 15:40
9	04:38 22:03	05:24 (C14) 21:11	05:31 19:53	06:33 18:33	07:34 16:19	08:37 15:39
10	04:40 22:02	05:24 (C14) 21:08	05:33 19:50	06:35 18:30	07:36 16:17	08:38 15:39
11	04:41 22:01	05:24 (C14) 21:06	05:35 19:47	06:37 18:27	07:38 16:15	08:39 15:39
12	04:42 22:00	05:24 (C14) 21:04	05:37 19:45	06:39 18:25	07:40 16:13	08:40 15:38
13	04:44 21:59	05:24 (C14) 21:02	05:39 19:42	06:41 18:22	07:42 16:11	08:41 15:38
14	04:45 21:58	05:24 (C14) 20:59	05:41 19:39	06:43 18:20	07:44 16:10	08:43 15:38
15	04:47 21:57	05:25 (C14) 20:57	05:43 19:37	06:45 18:17	07:46 16:08	08:44 15:38
16	04:48 21:55	05:25 (C14) 20:54	05:45 19:34	06:47 18:15	07:48 16:06	08:45 15:38
17	04:50 21:54	05:26 (C14) 20:52	05:47 19:31	06:49 18:12	07:50 16:04	08:45 15:38
18	04:51 21:52	05:27 (C14) 20:50	05:49 19:29	06:51 18:10	07:52 16:03	08:46 15:38
19	04:53 21:51	05:28 (C14) 20:47	05:51 19:26	06:53 18:07	07:55 16:01	08:47 15:39
20	04:54 21:49	05:30 (C14) 20:45	05:53 19:23	06:55 18:05	07:57 15:59	08:48 15:39
21	04:56 21:48	05:31 (C14) 20:42	05:55 19:21	06:57 18:02	07:59 15:58	08:48 15:39
22	04:58 21:46	05:33 (C14) 20:40	05:57 19:18	06:59 18:00	08:01 15:56	08:49 15:40
23	04:59 21:45	05:35 (C14) 20:37	05:59 19:15	07:01 17:57	08:03 15:55	08:49 15:40
24	05:01 21:43	05:36 (C14) 20:35	06:01 19:12	07:03 17:55	08:05 15:54	08:51 15:41
25	05:03 21:41	05:38 (C14) 20:32	06:03 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	05:05 21:39	05:40 (C14) 20:30	06:05 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	05:07 21:37	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	07:20 16:38	08:24 15:47	08:51 15:47
Potential sun hours	529	469	384	324	248	216
Total, worst case	448	123				
Sun reduction	0.49	0.50				
Oper. time red.	0.98	0.98				
Wind dir. red.	0.67	0.66				
Total reduction	0.32	0.32				
Total, real	145	39				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Anna / anna@environment.lv  
Calculated:  
10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vecleiš upi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (181)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	05:58 (C14) 06:16 (C14)	06:17 20:14	07:17 18:54	07:23 16:36
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:08	05:18 21:26	05:57 (C14) 06:16 (C14)	06:19 20:11	07:19 18:51	07:25 16:34
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	05:57 (C14) 06:16 (C14)	06:21 20:09	07:21 18:48	07:27 16:32
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	05:57 (C14) 06:17 (C14)	06:23 20:06	07:23 18:46	07:29 16:30
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	05:58 (C14) 06:17 (C14)	06:25 20:04	07:26 18:43	07:31 16:27
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	05:58 (C14) 06:15 (C14)	06:27 20:01	07:28 18:40	07:33 16:25
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:00 (C14) 06:15 (C14)	06:29 20:01	07:30 18:38	07:36 16:23
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:29 21:13	06:02 (C14) 06:15 (C14)	06:31 20:01	07:32 18:35	07:38 16:21
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:04 (C14) 06:14 (C14)	06:33 20:01	07:34 18:33	07:40 16:19
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:06 (C14) 06:13 (C14)	06:35 20:01	07:36 18:30	07:42 16:17
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:03	04:41 22:01	05:35 21:06	06:08 (C14) 06:11 (C14)	06:37 20:01	07:38 18:27	07:44 16:15
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:11 (C14) 06:15 (C14)	06:39 20:01	07:40 18:25	07:46 16:13
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:15 (C14) 06:18 (C14)	06:41 20:01	07:42 18:22	07:49 16:11
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:18 (C14) 06:21 (C14)	06:43 20:01	07:44 18:20	07:51 16:10
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:22 (C14) 06:25 (C14)	06:45 20:01	07:46 18:17	07:53 16:08
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:28 (C14) 06:31 (C14)	06:47 20:01	07:48 18:15	07:55 16:06
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:32 (C14) 06:35 (C14)	06:49 20:01	07:50 18:12	07:57 16:04
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:51	06:35 (C14) 06:38 (C14)	06:51 20:01	07:53 18:10	07:59 16:03
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:38 (C14) 06:41 (C14)	06:53 20:01	07:55 18:07	08:01 16:01
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:25 22:10	04:54 21:49	05:53 20:45	06:42 (C14) 06:45 (C14)	06:55 20:01	07:57 18:05	08:03 15:59
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:46 (C14) 06:49 (C14)	06:57 20:01	07:59 18:02	08:05 15:58
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:50 (C14) 06:53 (C14)	06:59 20:01	08:01 18:00	08:07 15:56
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	06:54 (C14) 06:57 (C14)	07:01 20:01	08:03 17:57	08:09 15:55
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	06:58 (C14) 06:61 (C14)	07:03 20:01	08:05 17:55	08:11 15:54
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:10	05:03 21:41	06:03 20:32	06:59 (C14) 06:62 (C14)	07:05 20:01	07:07 16:52	08:13 15:52
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	06:63 (C14) 06:66 (C14)	07:07 20:01	07:10 16:50	08:15 15:51
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:02 (C14) 06:13 (C14)	06:67 (C14) 06:70 (C14)	07:09 20:01	07:12 16:48	08:17 15:50
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:01 (C14) 06:14 (C14)	06:69 (C14) 06:72 (C14)	07:11 20:01	07:14 16:45	08:19 15:48
29	08:20 16:39	07:11 17:49	06:57 18:51	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	05:59 (C14) 06:14 (C14)	06:11 20:22	07:13 20:01	07:16 16:43	08:21 15:47
30	08:19 16:41	07:04 17:54	06:54 18:54	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:15 (C14) 06:18 (C14)	06:13 20:19	07:15 20:01	07:18 16:41	08:22 15:46
31	08:17 16:43	07:02 17:59	06:52 18:51	05:37 21:51	04:37 21:51	05:14 21:30	05:59 (C14) 06:16 (C14)	06:15 20:17	06:15 20:17	07:20 20:01	07:23 16:38	08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case					231							
Sun reduction					0.57							
Oper. time red.					0.98							
Wind dir. red.					0.67							
Total reduction					0.37							
Total, real					86							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vecumi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (18)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:47	06:48 19:53	05:32 20:55	04:35 21:53	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:44
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:05 17:52	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:31	08:28 15:43
4	08:50 15:51	08:09 16:51	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:57	04:32 22:07	05:21 21:22	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:19 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:34 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:09	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:42 15:37
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:04	08:46 15:37
18	08:37 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:06	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:50 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:47	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:10	05:09 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:47	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:43		06:51 19:51		04:36 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vecveveri - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (45)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	07:30 (C15) 20:55	06:40 (C14) 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	07:30 (C15) 20:57	06:40 (C14) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	07:32 (C15) 21:00	06:41 (C14) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:36 (C15) 21:02	06:42 (C14) 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	07:39 (C15) 21:04	06:44 (C14) 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	06:45 (C14) 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	06:47 (C14) 22:00
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	06:50 (C14) 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	06:53 (C14) 21:18	05:09 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	06:51 (C14) 21:20	05:07 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	06:48 (C14) 21:22	05:05 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	06:46 (C14) 21:24	05:03 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	06:44 (C14) 21:25	05:01 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	06:43 (C14) 21:27	05:00 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	06:42 (C14) 21:29	05:00 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:30	06:41 (C14) 21:31	05:00 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	06:41 (C14) 21:33	05:00 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:40 (C14) 21:35	05:00 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	06:40 (C14) 21:36	05:00 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	06:39 (C14) 21:38	05:00 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	06:39 (C14) 21:40	05:19 (C13) 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	06:39 (C14) 21:42	05:23 (C13) 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	06:38 (C14) 21:43	05:18 (C13) 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:38 (C14) 21:45	05:16 (C13) 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	06:39 (C14) 21:47	05:14 (C13) 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	06:39 (C14) 21:48	05:13 (C13) 22:10
30	08:18 16:41		06:54 19:49	05:35 20:53	06:40 (C14) 21:50	05:12 (C13) 22:09
31	08:17 16:43		06:51 19:51	05:33 20:55	07:13 (C14) 21:51	05:11 (C13) 22:09
Potential sun hours	235	266	366	426	508	528
Total, worst case			283	642	274	649
Sun reduction			0.41	0.50	0.57	0.56
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.64	0.66	0.66	0.67
Total reduction			0.26	0.32	0.37	0.37
Total, real			73	206	101	237

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vecveveri - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (45)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July			August			September			October			November			December
1	04:30		05:14 (C13)	05:16			06:17			07:17		07:46 (C16)	07:23		08:24	
	22:09	22	05:36 (C13)	21:28			20:14			18:54	8	07:54 (C16)	16:36		15:45	
2	04:31		05:14 (C13)	05:18			06:19			07:19		07:48 (C16)	07:25		08:26	
	22:08	22	05:36 (C13)	21:26			20:11			18:51	4	07:52 (C16)	16:34		15:44	
3	04:32		05:14 (C13)	05:20			06:21			07:21			07:27		08:28	
	22:08	22	05:36 (C13)	21:24			20:09			18:48			16:32		15:43	
4	04:33		05:14 (C13)	05:22		07:04 (C14)	06:23			07:23			07:29		08:29	
	22:07	22	05:36 (C13)	21:22	2	07:06 (C14)	20:06			18:46			16:30		15:43	
5	04:34		05:15 (C13)	05:24		06:59 (C14)	06:25			07:25			07:31		08:31	
	22:07	22	05:37 (C13)	21:19	13	07:12 (C14)	20:03			18:43			16:27		15:42	
6	04:35		05:15 (C13)	05:25		06:55 (C14)	06:27			07:28			07:33		08:32	
	22:06	22	05:37 (C13)	21:17	18	07:13 (C14)	20:01			18:40			16:25		15:41	
7	04:36		05:15 (C13)	05:27		06:54 (C14)	06:29			07:30			07:36		08:34	
	22:05	22	05:37 (C13)	21:15	21	07:15 (C14)	19:58			18:38			16:23		15:40	
8	04:37		05:15 (C13)	05:29		06:52 (C14)	06:31			07:32			07:38		08:35	
	22:04	22	05:37 (C13)	21:13	25	07:17 (C14)	19:56			18:35			16:21		15:40	
9	04:38		05:15 (C13)	05:31		06:51 (C14)	06:33		07:26 (C15)	07:34			07:40		08:37	
	22:03	22	05:37 (C13)	21:11	27	07:18 (C14)	19:53	11	07:37 (C15)	18:33			16:19		15:39	
10	04:40		05:16 (C13)	05:33		06:50 (C14)	06:35		07:24 (C15)	07:36			07:42		08:38	
	22:02	21	05:37 (C13)	21:08	29	07:19 (C14)	19:50	15	07:39 (C15)	18:30			16:17		15:39	
11	04:41		05:18 (C13)	05:35		06:50 (C14)	06:37		07:22 (C15)	07:38			07:44		08:39	
	22:01	19	05:37 (C13)	21:06	30	07:20 (C14)	19:47	18	07:40 (C15)	18:27			16:15		15:39	
12	04:42		05:19 (C13)	05:37		06:48 (C14)	06:39		07:21 (C15)	07:40			07:46		08:40	
	22:00	18	05:37 (C13)	21:04	32	07:20 (C14)	19:45	19	07:40 (C15)	18:25			16:13		15:38	
13	04:44		05:20 (C13)	05:39		06:47 (C14)	06:41		07:20 (C15)	07:42			07:49		08:42	
	21:59	17	05:37 (C13)	21:02	34	07:21 (C14)	19:42	21	07:41 (C15)	18:22			16:11		15:38	
14	04:45		05:21 (C13)	05:41		06:47 (C14)	06:43		07:19 (C15)	07:44			07:51		08:43	
	21:58	15	05:36 (C13)	20:59	34	07:21 (C14)	19:39	22	07:41 (C15)	18:20			16:10		15:38	
15	04:46		05:23 (C13)	05:43		06:46 (C14)	06:45		07:19 (C15)	07:46			07:53		08:44	
	21:57	13	05:36 (C13)	20:57	35	07:21 (C14)	19:37	21	07:40 (C15)	18:17			16:08		15:38	
16	04:48		05:24 (C13)	05:45		06:46 (C14)	06:47		07:19 (C15)	07:48			07:55		08:45	
	21:55	12	05:36 (C13)	20:54	36	07:22 (C14)	19:34	21	07:40 (C15)	18:15			16:06		15:38	
17	04:49		05:25 (C13)	05:47		06:46 (C14)	06:49		07:19 (C15)	07:50			07:57		08:46	
	21:54	10	05:35 (C13)	20:52	36	07:22 (C14)	19:31	20	07:39 (C15)	18:12			16:04		15:38	
18	04:51		05:27 (C13)	05:49		06:45 (C14)	06:51		07:20 (C15)	07:52			07:59		08:46	
	21:52	7	05:34 (C13)	20:50	37	07:22 (C14)	19:29	18	07:38 (C15)	18:09			16:03		15:38	
19	04:53		05:28 (C13)	05:51		06:44 (C14)	06:53		07:22 (C15)	07:55			08:01		08:47	
	21:51	5	05:33 (C13)	20:47	37	07:21 (C14)	19:26	15	07:37 (C15)	18:07			16:01		15:38	
20	04:54		05:30 (C13)	05:53		06:44 (C14)	06:55		07:24 (C15)	07:57			08:03		08:48	
	21:49	2	05:32 (C13)	20:45	37	07:21 (C14)	19:23	12	07:36 (C15)	18:04			15:59		15:39	
21	04:56			05:55		06:44 (C14)	06:57		07:26 (C15)	07:59			08:05		08:48	
	21:48			20:42	36	07:20 (C14)	19:21	7	07:33 (C15)	18:02			15:58		15:39	
22	04:58			05:57		06:45 (C14)	06:59		07:28 (C15)	08:01			08:07		08:49	
	21:46			20:40	35	07:20 (C14)	19:18	1	07:29 (C15)	18:00			15:56		15:40	
23	04:59			05:59		06:45 (C14)	07:01			08:03			08:09		08:49	
	21:45			20:37	34	07:19 (C14)	19:15			17:57			15:55		15:40	
24	05:01			06:01		06:45 (C14)	07:03		07:45 (C16)	08:05			08:11		08:50	
	21:43			20:35	34	07:19 (C14)	19:12	9	07:54 (C16)	17:55			15:53		15:41	
25	05:03			06:03		06:46 (C14)	07:05		07:42 (C16)	07:07			08:13		08:50	
	21:41			20:32	32	07:18 (C14)	19:10	13	07:55 (C16)	16:52			15:52		15:41	
26	05:05			06:05		06:46 (C14)	07:07		07:41 (C16)	07:10			08:15		08:51	
	21:39			20:30	31	07:17 (C14)	19:07	15	07:56 (C16)	16:50			15:51		15:42	
27	05:06			06:07		06:47 (C14)	07:09		07:40 (C16)	07:12			08:17		08:51	
	21:38			20:27	29	07:16 (C14)	19:04	16	07:56 (C16)	16:48			15:50		15:43	
28	05:08			06:09		06:47 (C14)	07:11		07:40 (C16)	07:14			08:19		08:51	
	21:36			20:24	26	07:13 (C14)	19:02	16	07:56 (C16)	16:45			15:48		15:44	
29	05:10			06:11		06:49 (C14)	07:13		07:42 (C16)	07:16			08:21		08:51	
	21:34			20:22	22	07:11 (C14)	18:59	14	07:56 (C16)	16:43			15:47		15:45	
30	05:12			06:13		06:51 (C14)	07:15		07:44 (C16)	07:18			08:22		08:51	
	21:32			20:19	18	07:09 (C14)	18:56	11	07:55 (C16)	16:41			15:46		15:46	
31	05:14			06:15		06:54 (C14)				07:20					08:51	
	21:30			20:17	12	07:06 (C14)				16:38					15:47	
Potential sun hours	529			469			385			324			247		216	
Total, worst case		337			792			315		12						
Sun reduction		0.49			0.50			0.43		0.26						
Oper. time red.		0.98			0.98			0.98		0.98						
Wind dir. red.		0.67			0.66			0.65		0.63						
Total reduction		0.32			0.32			0.27		0.16						
Total, real		109			253			85		2						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Viduslejas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (5)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	09:05 (C13) 17:48	07:11 19:53	06:49 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:47	09:06 (C13) 17:50	07:08 19:55	06:46 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	09:07 (C13) 17:52	07:06 19:57	06:43 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	09:08 (C13) 17:54	07:03 19:59	06:41 21:02	04:33 21:57	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	09:09 (C13) 17:56	07:01 19:59	06:38 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	09:10 (C13) 17:58	06:58 20:03	06:35 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	09:12 (C13) 18:01	06:55 20:06	06:33 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	09:22 (C13) 18:01	06:53 20:08	06:30 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:58 17:03	09:22 (C13) 18:01	06:50 20:08	06:28 21:10	04:29 22:01	04:38 22:04	05:31 21:13	06:33 19:56	07:34 18:35	07:40 16:21	08:37 15:40
10	08:46 16:01	07:56 17:05	09:22 (C13) 18:01	06:47 20:10	06:25 21:12	04:28 22:02	04:39 22:03	05:33 21:11	06:35 19:53	07:36 18:32	07:42 16:19	08:38 15:39
11	08:45 16:03	07:54 17:08	09:22 (C13) 18:01	06:45 20:12	06:22 21:14	04:27 22:03	04:41 22:02	05:35 21:09	06:37 19:50	07:38 18:30	07:44 16:17	08:39 15:39
12	08:44 16:05	07:52 17:10	09:22 (C13) 18:01	06:42 20:14	06:20 21:16	04:27 22:04	04:42 22:01	05:37 21:06	06:39 19:47	07:40 18:27	07:46 16:15	08:40 15:38
13	08:43 16:06	07:50 17:12	09:22 (C13) 18:01	06:40 20:16	06:17 21:18	04:26 22:05	04:43 22:00	05:39 21:04	06:41 19:45	07:42 18:25	07:49 16:13	08:42 15:38
14	08:42 16:08	07:47 17:14	09:22 (C13) 18:01	06:37 20:18	06:15 21:20	04:26 22:06	04:45 21:59	05:41 21:02	06:43 19:42	07:44 18:22	07:51 16:11	08:43 15:38
15	08:41 16:10	07:45 17:17	09:22 (C13) 18:01	06:34 20:20	06:12 21:22	04:26 22:07	04:46 21:58	05:43 21:05	06:45 19:39	07:46 18:20	07:53 16:09	08:44 15:38
16	08:40 16:12	07:43 17:19	09:22 (C13) 18:01	06:32 20:22	06:09 21:24	04:25 22:07	04:48 21:57	05:45 21:05	06:47 19:37	07:48 18:17	07:55 16:08	08:45 15:38
17	08:39 16:14	07:40 17:21	09:22 (C13) 18:01	06:29 20:26	06:07 21:27	04:25 22:09	04:49 21:54	05:47 21:05	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	09:12 (C13) 17:23	09:22 (C13) 18:01	06:26 20:28	06:04 21:29	04:25 22:09	04:51 21:53	05:49 21:05	06:51 19:29	07:52 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	09:10 (C13) 17:26	09:22 (C13) 18:01	06:24 20:31	06:02 21:31	04:25 22:09	04:52 21:51	05:51 21:07	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	09:09 (C13) 17:28	09:22 (C13) 18:01	06:21 20:33	05:59 21:33	04:25 22:10	04:54 21:50	05:53 21:04	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:33 16:22	09:07 (C13) 17:30	09:22 (C13) 18:01	06:18 20:35	05:57 21:35	04:25 22:10	04:56 21:48	05:55 21:02	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	09:05 (C13) 17:32	09:22 (C13) 18:01	06:16 20:37	05:54 21:37	04:25 22:10	04:57 21:46	05:57 21:04	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	09:24 (C13) 17:34	09:22 (C13) 18:01	06:13 20:39	05:52 21:38	04:26 22:10	04:59 21:45	05:59 21:05	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	09:05 (C13) 17:37	09:22 (C13) 18:01	06:10 20:41	05:49 21:40	04:26 22:10	05:01 21:43	06:01 21:05	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	09:05 (C13) 17:39	09:22 (C13) 18:01	06:08 20:43	05:47 21:42	04:26 22:10	05:03 21:41	06:03 21:05	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	09:05 (C13) 17:41	09:22 (C13) 18:01	06:05 20:45	05:44 21:43	04:27 22:10	05:05 21:39	06:05 21:05	07:07 19:07	08:07 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	09:05 (C13) 17:43	09:22 (C13) 18:01	06:02 20:47	05:42 21:45	04:27 22:10	05:06 21:38	06:07 21:05	07:09 19:04	08:12 17:47	08:17 15:49	08:51 15:43
28	08:22 16:36	09:05 (C13) 17:45	09:22 (C13) 18:01	05:59 20:49	05:40 21:47	04:28 22:10	05:08 21:36	06:09 21:04	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39	09:05 (C13) 17:45	09:22 (C13) 18:01	05:57 20:51	05:37 21:48	04:29 22:10	05:10 21:34	06:11 21:05	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41	09:05 (C13) 17:45	09:22 (C13) 18:01	05:54 20:53	05:35 21:50	04:29 22:09	05:12 21:32	06:13 21:05	07:15 18:56	08:18 17:41	08:22 15:46	08:51 15:46
31	08:17 16:43	09:05 (C13) 17:45	09:22 (C13) 18:01	05:51 20:51	05:32 21:51	04:29 22:10	05:14 21:30	06:15 21:05	07:20 18:56	08:22 17:38	08:26 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case	257	125									389	
Sun reduction	0.13	0.20									0.08	
Oper. time red.	0.98	0.98									0.98	
Wind dir. red.	0.59	0.59									0.59	
Total reduction	0.08	0.12									0.05	
Total, real	20	14									18	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vijas - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (29)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:49	08:15 16:46	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:08	05:18 21:26	06:20 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:21 18:48	07:27 16:32	08:28 15:44
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:24 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:26 20:04	07:26 18:43	07:31 16:28	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:41	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 20:04	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 20:06	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:32 21:11	06:33 20:06	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 20:06	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:23 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 20:06	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 20:06	07:40 18:25	07:46 16:13	08:40 15:39
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 20:06	07:42 18:22	07:49 16:12	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 20:06	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 20:06	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 20:06	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 20:06	07:50 18:12	07:57 16:04	08:46 15:38
18	08:37 16:16	07:38 17:24	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 20:06	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:26 22:09	04:53 21:51	05:51 20:47	06:53 20:06	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	06:21 20:33	05:59 21:33	04:54 22:10	04:54 21:49	05:53 20:45	06:55 20:06	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 20:06	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:40	06:59 20:06	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	05:00 21:45	05:59 20:37	07:01 20:06	08:03 18:00	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:50 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 20:06	08:05 18:00	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 20:06	08:07 18:00	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:06 20:30	07:07 20:06	08:08 18:00	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:08 20:27	07:09 20:06	08:12 18:00	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:10 20:24	07:11 20:06	08:14 18:00	08:19 15:49	08:51 15:44
29	08:20 16:39	07:11 17:47	05:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:12 20:22	07:13 20:06	08:16 18:00	08:21 15:47	08:51 15:45
30	08:19 16:41	07:11 17:49	05:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 20:06	08:18 18:00	08:22 15:46	08:51 15:46
31	08:17 16:43	07:11 17:51	05:52 19:51	05:37 20:51	04:37 21:51	04:30 21:51	05:14 21:30	06:16 20:17	07:20 20:06	08:20 18:00	08:24 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vilbaude - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (17)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:18 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:20 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:22 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	07:28 18:41	07:34 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:30 22:01	04:37 22:04	05:30 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:24	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:26 22:10	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:37	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:46 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:07 20:27	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:49	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:12 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:14 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:16 20:17		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vilniš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (138)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		14:01 (C13)	08:15		14:12 (C13)	07:11			06:49		07:14 (C6)	05:32					04:36
	15:48	32	14:33 (C13)	16:45	30	14:42 (C13)	17:47			19:53	15	07:29 (C6)	20:55					21:53
2	08:50		14:02 (C13)	08:13		14:13 (C13)	07:08			06:46		07:12 (C6)	05:30					04:35
	15:49	32	14:34 (C13)	16:47	29	14:42 (C13)	17:50			19:55	16	07:28 (C6)	20:57					21:54
3	08:50		14:01 (C13)	08:11		14:15 (C13)	07:06			06:43		07:12 (C6)	05:28					04:34
	15:51	33	14:34 (C13)	16:50	25	14:40 (C13)	17:52			19:57	15	07:27 (C6)	20:59					21:55
4	08:50		14:01 (C13)	08:09		14:17 (C13)	07:03			06:41		07:13 (C6)	05:26					04:33
	15:52	34	14:35 (C13)	16:52	22	14:39 (C13)	17:54			19:59	13	07:26 (C6)	21:02					21:57
5	08:49		14:02 (C13)	08:07		14:20 (C13)	07:00			06:38		07:14 (C6)	05:23			05:52 (C2)		04:32
	15:53	34	14:36 (C13)	16:54	17	14:37 (C13)	17:56			20:01	10	07:24 (C6)	21:04	2		05:54 (C2)		21:58
6	08:49		14:02 (C13)	08:05		14:23 (C13)	06:58			06:35		07:17 (C6)	05:21			05:50 (C2)		04:31
	15:55	35	14:37 (C13)	16:56	10	14:33 (C13)	17:58			20:03	4	07:21 (C6)	21:06	5		05:55 (C2)		21:59
7	08:48		14:02 (C13)	08:03			06:55			06:33			05:19			05:48 (C2)		04:30
	15:56	35	14:37 (C13)	16:59			18:00			20:05			21:08	8		05:56 (C2)		22:00
8	08:47		14:02 (C13)	08:00			06:53			06:30			05:17			05:46 (C2)		04:29
	15:58	36	14:38 (C13)	17:01			18:03			20:07			21:10	11		05:57 (C2)		22:01
9	08:47		14:02 (C13)	07:58			06:50			06:27		06:53 (C4)	05:15			05:44 (C2)		04:28
	15:59	37	14:39 (C13)	17:03			18:05			20:10	4	06:57 (C4)	21:12	13		05:57 (C2)		22:02
10	08:46		14:02 (C13)	07:56			06:47		07:13 (C8)	06:25		06:50 (C4)	05:13			05:42 (C2)		04:28
	16:01	37	14:39 (C13)	17:05			18:07	4	07:17 (C8)	20:12	9	06:59 (C4)	21:14	15		05:57 (C2)		22:03
11	08:45		14:03 (C13)	07:54			06:45		07:10 (C8)	06:22		06:48 (C4)	05:10			05:40 (C2)		04:27
	16:03	37	14:40 (C13)	17:08			18:09	8	07:18 (C8)	20:14	13	07:01 (C4)	21:16	17		05:57 (C2)		22:04
12	08:44		14:02 (C13)	07:52			06:42		07:08 (C8)	06:20		06:45 (C4)	05:08			05:39 (C2)		04:27
	16:04	38	14:40 (C13)	17:10			18:11	11	07:19 (C8)	20:16	16	07:01 (C4)	21:18	18		05:57 (C2)		22:05
13	08:43		14:02 (C13)	07:49			06:39		07:05 (C8)	06:17		06:43 (C4)	05:06			05:39 (C2)		04:26
	16:06	39	14:41 (C13)	17:12			18:13	13	07:18 (C8)	20:18	19	07:02 (C4)	21:20	17		05:56 (C2)		22:06
14	08:42		14:03 (C13)	07:47			06:37		07:02 (C8)	06:14		06:41 (C4)	05:04			05:40 (C2)		04:26
	16:08	39	14:42 (C13)	17:14			18:15	16	07:18 (C8)	20:20	21	07:02 (C4)	21:22	17		05:57 (C2)		22:07
15	08:41		14:03 (C13)	07:45			06:34		07:02 (C8)	06:12		06:41 (C4)	05:02			05:40 (C2)		04:26
	16:10	39	14:42 (C13)	17:17			18:17	15	07:17 (C8)	20:22	22	07:03 (C4)	21:24	16		05:56 (C2)		22:07
16	08:40		14:03 (C13)	07:43			06:31		07:04 (C8)	06:09		06:41 (C4)	05:01			05:41 (C2)		04:25
	16:12	40	14:43 (C13)	17:19			18:20	12	07:16 (C8)	20:24	21	07:02 (C4)	21:25	14		05:55 (C2)		22:08
17	08:39		14:03 (C13)	07:40			06:29		07:05 (C8)	06:07		06:41 (C4)	04:59			05:42 (C2)		04:25
	16:14	40	14:43 (C13)	17:21			18:22	9	07:14 (C8)	20:26	21	07:02 (C4)	21:27	13		05:55 (C2)		22:08
18	08:37		14:04 (C13)	07:38			06:26			06:04		06:41 (C4)	04:57			05:43 (C2)		04:25
	16:16	40	14:44 (C13)	17:23			18:24			20:28	20	07:01 (C4)	21:29	11		05:54 (C2)		22:09
19	08:36		14:04 (C13)	07:35			06:23			06:02		06:41 (C4)	04:55			05:43 (C2)		04:25
	16:18	40	14:44 (C13)	17:25			18:26			20:30	19	07:00 (C4)	21:31	9		05:52 (C2)		22:09
20	08:35		14:05 (C13)	07:33			06:21			05:59		06:41 (C4)	04:53			05:46 (C2)		04:25
	16:20	40	14:45 (C13)	17:28			18:28			20:32	18	06:59 (C4)	21:33	5		05:51 (C2)		22:10
21	08:33		14:05 (C13)	07:31			06:18			05:57		06:43 (C4)	04:52					04:25
	16:22	40	14:45 (C13)	17:30			18:30			20:35	15	06:58 (C4)	21:35					22:10
22	08:32		14:05 (C13)	07:28			06:15			05:54		06:44 (C4)	04:50					04:25
	16:24	40	14:45 (C13)	17:32			18:32			20:37	12	06:56 (C4)	21:36					22:10
23	08:30		14:05 (C13)	07:26			06:13			05:52		06:46 (C4)	04:48					04:26
	16:26	40	14:45 (C13)	17:34			18:34			20:39	6	06:52 (C4)	21:38					22:10
24	08:29		14:05 (C13)	07:23			06:10			05:49			04:47					04:26
	16:28	40	14:45 (C13)	17:37			18:36			20:41			21:40					22:10
25	08:27		14:07 (C13)	07:21			06:07			05:47			04:45					04:26
	16:30	39	14:46 (C13)	17:39			18:38			20:43			21:42					22:10
26	08:25		14:07 (C13)	07:18			06:05			05:44			04:44					04:27
	16:32	38	14:45 (C13)	17:41			18:40			20:45			21:43					22:10
27	08:24		14:08 (C13)	07:16			06:02			05:42			04:42					04:27
	16:34	37	14:45 (C13)	17:43			18:43			20:47			21:45					22:10
28	08:22		14:09 (C13)	07:13			05:59		06:24 (C6)	05:40			04:41					04:28
	16:36	36	14:45 (C13)	17:45			18:45	3	06:27 (C6)	20:49			21:47					22:10
29	08:20		14:09 (C13)				06:57		07:22 (C6)	05:37			04:39					04:28
	16:39	36	14:45 (C13)				19:47	6	07:28 (C6)	20:51			21:48					22:10
30	08:18		14:10 (C13)				06:54		07:19 (C6)	05:35			04:38					04:29
	16:41	34	14:44 (C13)				19:49	9	07:28 (C6)	20:53			21:50					22:09
31	08:17		14:10 (C13)				06:51		07:16 (C6)				04:37					
	16:43	33	14:43 (C13)				19:51	12	07:28 (C6)				21:51					
Potential sun hours	235			266			366			426			508					529
Total, worst case	1150			133			118			309			191					
Sun reduction	0.13			0.20			0.41			0.50			0.57					
Oper. time red.	0.98			0.98			0.98			0.98			0.98					
Wind dir. red.	0.66			0.66			0.64			0.66			0.67					
Total reduction	0.09			0.13			0.26			0.32			0.37					
Total, real	99			17			30			99			71					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vilniš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (138)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	05:50 (C2) 06:07 (C2)	06:17 20:14	06:47 (C4) 18:54	07:17 16:36
2	04:31 22:08	05:17 21:26	05:51 (C2) 06:07 (C2)	06:19 20:11	06:49 (C4) 18:51	07:19 16:34
3	04:32 22:08	05:19 21:24	05:53 (C2) 06:07 (C2)	06:21 20:09	06:51 (C4) 18:48	07:21 16:31
4	04:33 22:07	05:21 21:22	05:55 (C2) 06:07 (C2)	06:23 20:06	07:23 18:46	07:29 16:29
5	04:34 22:07	05:23 21:19	05:56 (C2) 06:06 (C2)	06:25 20:03	07:25 18:43	07:31 16:27
6	04:35 22:06	05:25 21:17	05:58 (C2) 06:05 (C2)	06:27 20:01	07:27 18:40	07:33 16:25
7	04:36 22:05	05:27 21:15	06:00 (C2) 06:04 (C2)	06:29 19:58	07:29 18:38	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:55	06:31 19:55	07:32 18:35	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	06:33 19:53	07:34 18:32	07:40 16:19
10	04:39 22:02	05:33 21:08	06:35 19:50	06:35 19:50	07:36 18:30	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:47	06:37 19:47	07:38 18:27	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	06:39 19:45	07:40 18:25	07:46 16:13
13	04:43 21:59	05:39 21:01	06:41 19:42	06:41 19:42	07:42 18:22	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	06:43 19:39	07:44 18:19	07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	06:45 19:37	07:46 18:17	07:53 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	06:47 19:34	07:48 18:14	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	06:49 19:31	07:50 18:12	07:57 16:04
18	04:51 21:52	05:49 20:49	06:51 19:29	06:51 19:29	07:52 18:09	07:59 16:02
19	04:52 21:51	05:51 20:47	06:53 19:26	06:53 19:26	07:54 18:07	08:01 16:01
20	04:54 21:49	05:53 20:45	06:55 19:23	06:55 19:23	07:57 18:04	08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:20	06:57 19:20	07:59 18:02	08:05 15:58
22	04:57 21:46	05:57 20:40	06:59 19:18	06:59 19:18	08:01 17:59	08:07 15:56
23	04:59 21:45	05:59 20:37	07:01 19:15	07:01 19:15	08:03 17:57	08:09 15:55
24	05:01 21:43	06:01 20:35	07:03 19:12	07:03 19:12	08:05 17:55	08:11 15:53
25	05:03 21:41	06:03 20:32	07:05 19:10	07:05 19:10	08:07 17:52	08:13 15:52
26	05:04 21:39	06:05 20:29	07:07 19:07	07:07 19:07	08:09 17:50	08:15 15:51
27	05:06 21:37	06:07 20:27	07:09 19:04	07:09 19:04	08:11 17:47	08:17 15:49
28	05:08 21:36	06:09 20:24	07:11 19:02	07:11 19:02	08:13 17:45	08:19 15:48
29	05:10 21:34	06:11 20:22	07:13 18:59	07:13 18:59	08:15 17:43	08:21 15:47
30	05:12 21:32	06:13 20:19	07:15 18:56	07:15 18:56	08:17 17:41	08:23 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	07:17 18:54	08:19 17:39	08:25 15:45
Potential sun hours	529	469	385	324	247	216
Total, worst case	111	294	189	29	903	978
Sun reduction	0.49	0.50	0.43	0.26	0.08	0.07
Oper. time red.	0.98	0.98	0.98	0.98	0.98	0.98
Wind dir. red.	0.67	0.66	0.65	0.63	0.66	0.66
Total reduction	0.32	0.32	0.27	0.16	0.05	0.05
Total, real	36	95	51	5	48	45

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vizbuli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (7)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	07:55 (C13) 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	07:57 (C13) 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:04 (C13) 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:03 (C13) 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:36 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:17 16:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17	07:21 16:38	08:18 13	08:23 13	08:51 216
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		116								100	20	
Sun reduction		0.20								0.26	0.08	
Oper. time red.		0.98								0.98	0.98	
Wind dir. red.		0.62								0.62	0.62	
Total reduction		0.12								0.16	0.05	
Total, real		14								16	1	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vizuli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (74)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	08:45 (C14) 08:49 (C14)	07:11 17:48	06:49 19:53	05:33 20:56
2	08:51 15:49	08:13 16:48	08:43 (C14) 08:50 (C14)	07:08 17:50	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	08:41 (C14) 08:51 (C14)	07:06 17:52	06:44 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	08:39 (C14) 08:52 (C14)	07:03 17:54	06:41 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	08:37 (C14) 08:53 (C14)	07:01 17:56	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:57	08:34 (C14) 08:52 (C14)	06:58 17:58	06:36 20:04	05:21 21:06
7	08:48 15:56	08:03 16:59	08:35 (C14) 08:53 (C14)	06:55 18:01	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	08:35 (C14) 08:53 (C14)	06:53 18:03	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	08:35 (C14) 08:52 (C14)	06:50 18:05	06:28 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	08:36 (C14) 08:52 (C14)	06:48 18:07	06:25 20:12	05:13 21:14
11	08:45 16:03	07:54 17:08	08:38 (C14) 08:51 (C14)	06:45 18:09	06:22 20:14	05:11 21:16
12	08:44 16:05	07:52 17:10	08:38 (C14) 08:49 (C14)	06:42 18:11	06:20 20:16	05:09 21:18
13	08:43 16:06	07:50 17:12	08:42 (C14) 08:47 (C14)	06:40 18:13	06:17 20:18	05:07 21:20
14	08:42 16:08	07:47 17:14	06:37 18:16	07:10 (C13) 07:12 (C13)	06:22 20:14	05:11 21:16
15	08:41 16:10	07:45 17:17	06:34 18:18	07:08 (C13) 07:14 (C13)	06:20 20:20	05:09 21:22
16	08:40 16:12	07:43 17:19	06:32 18:20	07:14 (C13) 06:57 (C13)	06:12 20:31	05:03 21:31
17	08:39 16:14	07:40 17:21	06:29 18:22	07:00 (C13) 07:13 (C13)	06:12 20:26	05:03 21:27
18	08:38 16:16	07:38 17:23	06:26 18:24	06:17 07:13 (C13)	06:12 20:28	05:03 21:29
19	08:36 16:18	07:36 17:26	06:24 18:26	06:09 07:11 (C13)	06:09 20:31	05:01 21:31
20	08:35 16:20	07:33 17:28	06:21 18:28	06:02 07:09 (C13)	06:02 20:33	04:55 21:33
21	08:33 16:22	07:31 17:30	06:18 18:30	05:59 20:35	05:59 21:35	04:53 21:35
22	08:32 16:24	07:28 17:32	06:16 18:32	05:57 20:37	05:57 21:37	04:52 21:37
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	05:52 21:38	04:48 21:38
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	05:49 21:40	04:47 21:40
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	05:47 21:42	04:45 21:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	05:44 21:43	04:44 21:43
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	05:42 21:45	04:42 21:45
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	05:40 21:47	04:41 21:47
29	08:20 16:39		06:57 19:47	05:37 20:51	05:37 21:48	04:40 21:48
30	08:19 16:41		06:54 19:49	05:35 20:53	05:35 21:50	04:38 21:50
31	08:17 16:43		06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		166	112			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.61	0.63			
Total reduction		0.12	0.25			
Total, real		20	28			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vizuli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (74)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December		
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:46 (C13) 07:53 (C13)	07:23 16:36	08:06 (C14) 08:22 (C14)	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:48 (C13) 07:52 (C13)	07:25 16:34	08:05 (C14) 08:22 (C14)	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	08:05 (C14) 08:23 (C14)	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:30	08:04 (C14) 08:23 (C14)	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43		07:31 16:27	08:05 (C14) 08:23 (C14)	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40		07:34 16:25	08:07 (C14) 08:23 (C14)	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38		07:36 16:23	08:09 (C14) 08:22 (C14)	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35		07:38 16:21	08:12 (C14) 08:22 (C14)	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33		07:40 16:19	08:14 (C14) 08:21 (C14)	08:37 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30		07:42 16:17	08:17 (C14) 08:20 (C14)	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27		07:44 16:15		08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25		07:47 16:13		08:40 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22		07:49 16:11		08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20		07:51 16:10		08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17		07:53 16:08		08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15		07:55 16:06		08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12		07:57 16:04		08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09		07:59 16:03		08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07		08:01 16:01		08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04		08:03 15:59		08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02		08:05 15:58		08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56		08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	07:46 (C13) 07:52 (C13)	08:09 15:55		08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	07:43 (C13) 07:55 (C13)	08:11 15:53		08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:13 16:52	07:42 (C13) 07:56 (C13)	08:13 15:52		08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:15 16:50	07:40 (C13) 07:56 (C13)	08:15 15:51		08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:17 16:48	07:39 (C13) 07:56 (C13)	08:17 15:50		08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:19 16:45	07:40 (C13) 07:56 (C13)	08:19 15:48		08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:21 16:43	07:42 (C13) 07:55 (C13)	08:21 15:47	08:10 (C14) 08:17 (C14)	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:23 16:41	07:44 (C13) 07:54 (C13)	08:23 15:46	08:08 (C14) 08:19 (C14)	08:51 15:46
31	05:14 21:30	06:15 20:17		08:25 16:38		08:25 15:44	08:07 (C14) 08:21 (C14)	08:51 15:47
Potential sun hours	529	469	385	324	247	216		
Total, worst case			104	43	137			
Sun reduction			0.43	0.26	0.08			
Oper. time red.			0.98	0.98	0.98			
Wind dir. red.			0.63	0.62	0.61			
Total reduction			0.26	0.15	0.05			
Total, real			27	7	7			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vuš karnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (219)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

		January	February		March	April	May	June	July	August	September	October		November	December
1	08:50	08:14		07:10	06:48	05:32	04:35	04:29	05:15	06:17	07:17		07:22	08:24	
	15:47	16:45		17:47	19:53	20:55	21:52	22:09	21:27	20:14	18:53		16:35	15:44	
2	08:50	08:12		07:08	06:46	05:30	04:34	04:30	05:17	06:19	07:19		07:24	08:26	
	15:49	16:47		17:49	19:55	20:57	21:54	22:08	21:25	20:11	18:50		16:33	15:43	
3	08:50	08:10		07:05	06:43	05:27	04:33	04:31	05:19	06:21	07:21		07:27	08:27	
	15:50	16:49		17:51	19:57	20:59	21:55	22:08	21:23	20:08	18:48		16:31	15:43	
4	08:49	08:08		07:03	06:40	05:25	04:32	04:32	05:21	06:23	07:23		07:29	08:29	
	15:51	16:51		17:54	19:59	21:01	21:56	22:07	21:21	20:06	18:45		16:29	15:42	
5	08:49	08:06		07:00	06:38	05:23	04:31	04:33	05:23	06:25	07:25		07:31	08:30	
	15:53	16:54		17:56	20:01	21:03	21:58	22:06	21:19	20:03	18:42		16:27	15:41	
6	08:48	08:04		06:57	06:35	05:21	04:30	04:34	05:25	06:27	07:27		07:33	08:32	
	15:54	16:56		17:58	20:03	21:05	21:59	22:06	21:17	20:00	18:40		16:25	15:40	
7	08:48	08:02		06:55	06:32	05:18	04:29	04:35	05:27	06:29	07:29		07:35	08:33	
	15:56	16:58		18:00	20:05	21:07	22:00	22:05	21:15	19:58	18:37		16:22	15:40	
8	08:47	08:00		06:52	06:30	05:16	04:29	04:36	05:29	06:31	07:31		07:37	08:35	
	15:57	17:00		18:02	20:07	21:09	22:01	22:04	21:13	19:55	18:35		16:20	15:39	
9	08:46	07:58		06:50	06:27	05:14	04:28	04:37	05:31	06:33	07:33		07:40	08:36	
	15:59	17:03		18:04	20:09	21:11	22:02	22:03	21:10	19:52	18:32		16:18	15:39	
10	08:46	07:56		06:47	06:24	05:12	04:27	04:39	05:33	06:35	07:35		07:42	08:38	
	16:00	17:05		18:06	20:11	21:13	22:03	22:02	21:08	19:50	18:29		16:16	15:38	
11	08:45	07:54		06:44	06:22	05:10	04:27	04:40	05:35	06:37	07:37		07:44	08:39	
	16:02	17:07		18:09	20:13	21:15	22:04	22:01	21:06	19:47	18:27		16:14	15:38	
12	08:44	07:51		06:42	06:19	05:08	04:26	04:41	05:37	06:39	07:39		07:46	08:40	
	16:04	17:09		18:11	20:15	21:17	22:05	22:00	21:03	19:44	18:24		16:13	15:38	
13	08:43	07:49		06:39	06:17	05:06	04:26	04:43	05:39	06:41	07:41		07:48	08:41	
	16:06	17:12		18:13	20:18	21:19	22:06	21:59	21:01	19:42	18:22		16:11	15:37	
14	08:42	07:47		06:36	06:14	05:04	04:25	04:44	05:41	06:43	07:44	17:20 (C3)	07:50	08:42	
	16:07	17:14		18:15	20:20	21:21	22:06	21:58	20:59	19:39	18:19	8 17:28 (C3)	16:09	15:37	
15	08:41	07:44		06:34	06:11	05:02	04:25	04:46	05:43	06:45	07:46	17:18 (C3)	07:52	08:43	
	16:09	17:16		18:17	20:22	21:23	22:07	21:56	20:56	19:36	18:16	12 17:30 (C3)	16:07	15:37	
16	08:40	07:42		06:31	06:09	05:00	04:25	04:47	05:45	06:47	07:48	17:16 (C3)	07:55	08:44	
	16:11	17:18		18:19	20:24	21:25	22:08	21:55	20:54	19:33	18:14	15 17:31 (C3)	16:05	15:37	
17	08:38	07:40	16:49 (C3)	06:28	06:06	04:58	04:25	04:49	05:47	06:49	07:50	17:16 (C3)	07:57	08:45	
	16:13	17:20	1 16:50 (C3)	18:21	20:26	21:27	22:08	21:54	20:52	19:31	18:11	16 17:32 (C3)	16:03	15:37	
18	08:37	07:37	16:46 (C3)	06:26	06:04	04:56	04:24	04:50	05:49	06:51	07:52	17:15 (C3)	07:59	08:46	
	16:15	17:23	6 16:52 (C3)	18:23	20:28	21:29	22:09	21:52	20:49	19:28	18:09	17 17:32 (C3)	16:02	15:37	
19	08:36	07:35	16:44 (C3)	06:23	06:01	04:54	04:24	04:52	05:51	06:53	07:54	17:14 (C3)	08:01	08:47	
	16:17	17:25	10 16:54 (C3)	18:25	20:30	21:31	22:09	21:51	20:47	19:25	18:06	18 17:32 (C3)	16:00	15:38	
20	08:34	07:33	16:44 (C3)	06:20	05:59	04:53	04:24	04:53	05:53	06:55	07:56	17:14 (C3)	08:03	08:48	
	16:19	17:27	13 16:57 (C3)	18:28	20:32	21:33	22:09	21:49	20:44	19:23	18:04	17 17:31 (C3)	15:59	15:38	
21	08:33	07:30	16:43 (C3)	06:18	05:56	04:51	04:25	04:55	05:55	06:57	07:58	17:15 (C3)	08:05	08:48	
	16:21	17:29	16 16:59 (C3)	18:30	20:34	21:34	22:10	21:48	20:42	19:20	18:01	14 17:29 (C3)	15:57	15:38	
22	08:32	07:28	16:43 (C3)	06:15	05:54	04:49	04:25	04:57	05:57	06:59	08:01	17:15 (C3)	08:07	08:49	
	16:23	17:32	18 17:01 (C3)	18:32	20:36	21:36	22:10	21:46	20:39	19:17	17:59	11 17:26 (C3)	15:56	15:39	
23	08:30	07:25	16:43 (C3)	06:12	05:51	04:48	04:25	04:59	05:59	07:01	08:03	17:15 (C3)	08:09	08:49	
	16:25	17:34	18 17:01 (C3)	18:34	20:38	21:38	22:10	21:44	20:37	19:15	17:56	8 17:23 (C3)	15:54	15:39	
24	08:28	07:23	16:44 (C3)	06:10	05:49	04:46	04:25	05:00	06:01	07:03	08:05	17:17 (C3)	08:11	08:50	
	16:27	17:36	17 17:01 (C3)	18:36	20:40	21:40	22:10	21:43	20:34	19:12	17:54	5 17:22 (C3)	15:53	15:40	
25	08:27	07:20	16:44 (C3)	06:07	05:46	04:45	04:26	05:02	06:03	07:05	07:07		08:13	08:50	
	16:29	17:38	16 17:00 (C3)	18:38	20:43	21:41	22:10	21:41	20:32	19:09	16:52		15:51	15:41	
26	08:25	07:18	16:44 (C3)	06:04	05:44	04:43	04:26	05:04	06:05	07:07	07:09		08:15	08:50	
	16:32	17:40	14 16:58 (C3)	18:40	20:45	21:43	22:10	21:39	20:29	19:07	16:49		15:50	15:41	
27	08:23	07:15	16:46 (C3)	06:02	05:41	04:42	04:27	05:06	06:07	07:09	07:11		08:17	08:50	
	16:34	17:43	11 16:57 (C3)	18:42	20:47	21:45	22:10	21:37	20:27	19:04	16:47		15:49	15:42	
28	08:22	07:13	16:49 (C3)	05:59	05:39	04:40	04:27	05:08	06:09	07:11	07:13		08:18	08:51	
	16:36	17:45	5 16:54 (C3)	18:44	20:49	21:46	22:10	21:35	20:24	19:01	16:45		15:48	15:43	
29	08:20			06:56	05:37	04:39	04:28	05:09	06:11	07:13	07:16		08:20	08:51	
	16:38			19:46	20:51	21:48	22:09	21:33	20:21	18:58	16:42		15:46	15:44	
30	08:18			06:54	05:34	04:38	04:29	05:11	06:13	07:15	07:18		08:22	08:51	
	16:40			19:48	20:53	21:49	22:09	21:31	20:19	18:56	16:40		15:45	15:45	
31	08:16			06:51		04:36		05:13	06:15		07:20			08:51	
	16:42			19:50		21:51		21:29	20:16		16:38			15:46	
Potential sun hours	235	266		366	426	508	529	529	469	385	324		247	216	
Total, worst case		145										141			
Sun reduction		0.20										0.26			
Oper. time red.		0.98										0.98			
Wind dir. red.		0.67										0.67			
Total reduction		0.13										0.17			
Total, real		19										24			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Valodzes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (72)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:37 (C16) 19:53	05:33 20:55	06:00 (C13) 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	07:34 (C16) 19:55	05:30 20:58	05:58 (C13) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	07:33 (C16) 19:57	05:28 21:00	05:56 (C13) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:29 (C15) 19:59	05:26 21:02	05:56 (C13) 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	07:26 (C15) 20:01	05:24 21:04	05:56 (C13) 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	07:24 (C15) 20:03	05:21 21:06	05:56 (C13) 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	07:21 (C15) 20:06	05:19 21:08	05:57 (C13) 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	07:18 (C15) 20:08	05:17 21:10	05:57 (C13) 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	07:17 (C15) 20:10	05:15 21:12	05:57 (C13) 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	07:15 (C14) 20:12	05:13 21:14	05:58 (C13) 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	07:11 (C14) 20:14	05:11 21:16	05:59 (C13) 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	07:10 (C14) 20:16	05:09 21:18	06:00 (C13) 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	07:08 (C14) 20:18	05:07 21:20	06:02 (C13) 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	07:06 (C14) 20:20	05:05 21:22	06:04 (C13) 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	07:05 (C14) 20:22	05:03 21:24	06:10 (C13) 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	07:04 (C14) 20:24	05:01 21:25	06:11 (C13) 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	07:03 (C14) 20:26	04:59 21:27	06:12 (C13) 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	07:02 (C14) 20:28	04:57 21:29	06:13 (C13) 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	07:03 (C14) 20:31	04:55 21:31	06:14 (C13) 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	07:02 (C14) 20:33	04:53 21:33	06:15 (C13) 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	07:02 (C14) 20:35	04:52 21:35	06:16 (C13) 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	07:02 (C14) 20:37	04:50 21:37	06:17 (C13) 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	07:02 (C14) 20:39	04:48 21:38	06:18 (C13) 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	07:02 (C14) 20:41	04:47 21:40	06:19 (C13) 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	07:04 (C14) 20:43	04:45 21:42	06:20 (C13) 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	07:04 (C14) 20:45	04:44 21:43	06:21 (C13) 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	07:05 (C14) 20:47	04:42 21:45	06:22 (C13) 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	07:07 (C14) 20:49	04:41 21:47	06:23 (C13) 22:10
29	08:20 16:39	07:11 17:47	05:57 19:47	08:10 (C14) 20:51	04:40 21:48	06:24 (C13) 22:10
30	08:18 16:41	07:09 17:49	05:54 19:49	08:20 (C14) 20:53	04:38 21:50	06:25 (C13) 22:10
31	08:17 16:43	07:08 17:48	05:51 19:51		04:37 21:51	06:26 (C13) 22:10
Potential sun hours	235	266	366	426	508	528
Total, worst case		15	664		256	
Sun reduction		0.20	0.41		0.57	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.62	0.63		0.66	
Total reduction		0.12	0.25		0.37	
Total, real		2	166	14	94	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Valodzes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (72)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:09 (C13)	06:17	07:17	07:48 (C14)
	22:09	21:28	15 06:24 (C13)	20:14	18:54	25 08:13 (C15)
2	04:31	05:18	06:09 (C13)	06:19	07:19	07:49 (C14)
	22:08	21:26	17 06:26 (C13)	20:11	18:51	24 08:13 (C15)
3	04:32	05:20	06:08 (C13)	06:21	07:21	07:51 (C14)
	22:08	21:24	19 06:27 (C13)	20:09	18:48	23 08:14 (C15)
4	04:33	05:22	06:07 (C13)	06:23	07:23	07:54 (C15)
	22:07	21:22	20 06:27 (C13)	20:06	18:46	19 08:13 (C15)
5	04:34	05:24	06:07 (C13)	06:25	07:25	07:54 (C15)
	22:07	21:20	21 06:28 (C13)	20:03	18:43	19 08:13 (C15)
6	04:35	05:25	06:06 (C13)	06:27	07:28	07:56 (C15)
	22:06	21:17	22 06:28 (C13)	20:01	18:40	16 08:12 (C15)
7	04:36	05:27	06:06 (C13)	06:29	07:30	07:58 (C15)
	22:05	21:15	22 06:28 (C13)	19:58	18:38	13 08:11 (C15)
8	04:37	05:29	06:06 (C13)	06:31	07:32	08:00 (C15)
	22:04	21:13	22 06:28 (C13)	19:56	18:35	16 08:17 (C16)
9	04:38	05:31	06:06 (C13)	06:33	07:34	08:03 (C15)
	22:03	21:11	22 06:28 (C13)	19:53	18:33	17 08:20 (C16)
10	04:40	05:33	06:06 (C13)	06:35	07:36	08:05 (C15)
	22:02	21:08	22 06:28 (C13)	19:50	18:30	15 08:21 (C16)
11	04:41	05:35	06:08 (C13)	06:37	07:38	08:07 (C16)
	22:01	21:06	20 06:28 (C13)	19:47	18:27	14 08:21 (C16)
12	04:42	05:37	06:09 (C13)	06:39	07:40	08:09 (C16)
	22:00	21:04	17 06:26 (C13)	19:45	18:25	12 08:21 (C16)
13	04:44	05:39	06:11 (C13)	06:41	07:42	08:11 (C16)
	21:59	21:02	15 06:26 (C13)	19:42	18:22	10 08:21 (C16)
14	04:45	05:41	06:13 (C13)	06:43	07:44	08:13 (C16)
	21:58	20:59	12 06:25 (C13)	19:39	9 08:10 (C14)	7 08:20 (C16)
15	04:46	05:43	06:15 (C13)	06:45	07:46	08:16 (C16)
	21:57	20:57	8 06:23 (C13)	19:37	16 08:13 (C14)	4 08:20 (C16)
16	04:48	05:45	06:17 (C13)	06:47	07:48	08:17
	21:55	20:54	5 06:22 (C13)	19:34	20 08:15 (C14)	18:15
17	04:49	05:47	06:19	06:49	07:50	08:18
	21:54	20:52	19:31	23 08:16 (C14)	18:12	16:04
18	04:51	05:49	06:51	07:51 (C14)	07:52	08:19
	21:52	20:50	19:29	26 08:17 (C14)	18:09	16:03
19	04:53	05:51	06:53	07:53 (C14)	07:55	08:21
	21:51	20:47	19:26	28 08:18 (C14)	18:07	16:01
20	04:54	05:53	06:55	07:55 (C14)	07:57	08:23
	21:49	20:45	19:23	30 08:19 (C14)	18:04	15:59
21	04:56	05:55	06:57	07:57 (C14)	07:59	08:25
	21:48	20:42	19:21	31 08:19 (C14)	18:02	15:58
22	04:58	05:57	06:59	07:59 (C14)	08:01	08:27
	21:46	20:40	19:18	32 08:19 (C14)	18:00	15:56
23	04:59	05:59	07:01	07:47 (C14)	08:03	08:29
	21:45	20:37	19:15	32 08:19 (C14)	17:57	15:55
24	05:01	06:01	07:03	07:46 (C14)	08:05	08:31
	21:43	20:35	19:12	32 08:18 (C14)	17:55	15:53
25	05:03	06:03	07:05	07:46 (C14)	07:07	08:33
	21:41	20:32	19:10	32 08:18 (C14)	16:52	15:52
26	05:05	06:05	07:07	07:46 (C14)	07:10	08:35
	21:39	20:30	19:07	31 08:17 (C14)	16:50	15:51
27	05:06	06:07	07:09	07:46 (C14)	07:12	08:37
	21:38	20:27	19:04	31 08:17 (C14)	16:48	15:50
28	05:08	06:09	07:11	07:46 (C14)	07:14	08:39
	21:36	20:24	19:02	30 08:16 (C14)	16:45	15:48
29	05:10	06:11	07:13	07:46 (C14)	07:16	08:41
	21:34	20:22	18:59	29 08:15 (C14)	16:43	15:47
30	05:12	06:13 (C13)	06:13	07:15	07:18	08:43
	21:32	20:19	18:56	26 08:13 (C14)	16:41	15:46
31	05:14	06:11 (C13)	06:15		07:20	08:45
	21:30	20:17			16:38	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	22	279	458	234		
Sun reduction	0.49	0.50	0.43	0.26		
Oper. time red.	0.98	0.98	0.98	0.98		
Wind dir. red.	0.66	0.66	0.63	0.62		
Total reduction	0.32	0.32	0.26	0.16		
Total, real	7	90	119	37		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Valodzite - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (141)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:54 (C13) 08:04 (C13)	06:49 19:53	05:33 20:56
2	08:51 15:49	09:30 (C14) 16:48	08:13 17:50	06:46 19:55	20:56 20:58	21:53 21:54
3	08:50 15:51	09:29 (C14) 16:50	08:11 17:52	06:44 19:57	20:58 21:00	21:54 21:55
4	08:50 15:52	09:28 (C14) 16:52	08:09 17:54	06:41 19:59	21:00 21:02	21:55 21:57
5	08:49 15:53	09:28 (C14) 16:54	08:07 17:56	06:38 20:01	21:02 21:04	21:57 21:58
6	08:49 15:55	09:27 (C14) 16:56	08:05 17:58	06:36 20:03	21:04 21:06	21:58 21:59
7	08:48 15:56	09:26 (C14) 16:59	08:03 18:01	06:33 20:06	21:06 21:08	21:59 22:00
8	08:48 15:58	09:25 (C14) 17:01	08:01 18:03	06:30 20:08	21:08 21:10	22:00 22:01
9	08:47 16:00	09:24 (C14) 17:03	07:58 18:05	06:28 20:10	21:10 21:12	22:01 22:02
10	08:46 16:01	09:23 (C14) 17:05	07:56 18:07	06:25 20:12	21:12 21:14	22:02 22:03
11	08:45 16:03	09:22 (C14) 17:08	07:54 18:09	06:22 20:14	21:14 21:16	22:03 22:04
12	08:44 16:05	09:21 (C14) 17:10	07:52 18:11	06:20 20:16	21:16 21:18	22:04 22:05
13	08:43 16:06	09:21 (C14) 17:12	07:50 18:13	06:17 20:18	21:18 21:20	22:05 22:06
14	08:42 16:08	09:21 (C14) 17:14	07:47 18:15	06:15 20:20	21:20 21:22	22:06 22:07
15	08:41 16:10	09:22 (C14) 17:17	07:45 18:18	06:12 20:22	21:22 21:24	22:07 22:07
16	08:40 16:12	09:22 (C14) 17:19	07:43 18:20	06:09 20:24	21:24 21:26	22:07 22:08
17	08:39 16:14	09:23 (C14) 17:21	07:40 18:22	06:07 20:26	21:26 21:27	22:08 22:09
18	08:38 16:16	09:24 (C14) 17:23	07:38 18:24	06:04 20:28	21:27 21:29	22:09 22:09
19	08:36 16:18	09:24 (C14) 17:26	08:03 (C13) 08:05 (C13)	06:24 18:26	06:02 20:31	04:25 21:31
20	08:35 16:20	09:26 (C14) 17:28	08:00 (C13) 08:06 (C13)	06:21 18:28	05:59 20:33	04:25 21:33
21	08:33 16:22	09:27 (C14) 17:30	07:58 (C13) 08:08 (C13)	06:18 18:30	05:57 20:35	04:25 21:35
22	08:32 16:24	09:28 (C14) 17:32	07:55 (C13) 08:08 (C13)	06:16 18:32	05:54 20:37	04:26 21:37
23	08:30 16:26	09:31 (C14) 17:34	07:53 (C13) 08:09 (C13)	06:13 18:34	05:52 20:39	04:26 21:38
24	08:29 16:28	09:34 (C14) 17:37	07:51 (C13) 08:09 (C13)	06:10 18:36	05:49 20:41	04:26 21:40
25	08:27 16:30	07:21 17:39	07:51 (C13) 08:09 (C13)	06:08 18:39	05:47 20:43	04:26 21:42
26	08:26 16:32	07:18 17:41	07:51 (C13) 08:08 (C13)	06:05 18:41	05:44 20:45	04:27 21:43
27	08:24 16:34	07:16 17:43	07:51 (C13) 08:07 (C13)	06:02 18:43	05:42 20:47	04:27 21:45
28	08:22 16:37	07:13 17:45	07:53 (C13) 08:06 (C13)	06:00 18:45	05:40 20:49	04:28 21:47
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	22:10 22:10
30	08:19 16:41		06:54 19:49	05:35 20:53	04:38 21:50	22:10 22:10
31	08:17 16:43		06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	258	129	10			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.60	0.63	0.63			
Total reduction	0.08	0.12	0.25			
Total, real	20	16	2			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Valodzite - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (141)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November		December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36		08:24 15:45 16 09:20 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34		08:26 15:44 14 09:20 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32		08:28 15:43 13 09:21 (C14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:29		08:29 15:42 11 09:20 (C14)
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43		07:31 16:27		08:31 15:42 9 09:20 (C14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40		07:34 16:25		08:32 15:41 8 09:21 (C14)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38		07:36 16:23		08:34 15:40 6 09:20 (C14)
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35		07:38 16:21		08:35 15:40 5 09:21 (C14)
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33		07:40 16:19		08:37 15:39 3 09:21 (C14)
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30		07:42 16:17		08:38 15:39 2 09:21 (C14)
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27		07:44 16:15		08:39 15:39 1 09:21 (C14)
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	7	08:29 (C13) 08:36 (C13)	07:47 16:13	08:41 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	12	08:26 (C13) 08:38 (C13)	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	15	08:25 (C13) 08:40 (C13)	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	16	08:24 (C13) 08:40 (C13)	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	17	08:23 (C13) 08:40 (C13)	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	18	08:22 (C13) 08:40 (C13)	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	18	08:22 (C13) 08:40 (C13)	07:59 16:02	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	15	08:25 (C13) 08:40 (C13)	08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	12	08:27 (C13) 08:39 (C13)	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	9	08:29 (C13) 08:38 (C13)	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	5	08:32 (C13) 08:37 (C13)	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	1	08:34 (C13) 08:35 (C13)	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50		08:15 15:51	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:49	08:17 15:49	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45		08:19 15:48	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41		08:23 15:46	08:23 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		08:20 16:38				08:51 15:47
Potential sun hours	529	469	385	324		247		216
Total, worst case				145		169		88
Sun reduction				0.26		0.08		0.07
Oper. time red.				0.98		0.98		0.98
Wind dir. red.				0.63		0.60		0.60
Total reduction				0.16		0.05		0.04
Total, real				23		8		4

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Varkali - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (123)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:02 (C14) 15:45
2	08:51 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:01 (C14) 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:01 (C14) 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:02 (C14) 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:05 (C14) 15:42
6	08:49 15:55	08:05 16:57	07:00 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:07 (C14) 15:41
7	08:48 15:56	08:03 16:59	07:03 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:09 (C14) 15:40
8	08:48 15:58	08:01 17:01	07:03 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:15 (C14) 15:40
9	08:47 16:00	07:58 17:03	07:03 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:15 (C14) 15:39
10	08:46 16:01	07:56 17:06	07:03 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:15 (C14) 15:39
11	08:45 16:03	07:54 17:08	07:03 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:15 (C14) 15:39
12	08:44 16:05	07:52 17:10	07:03 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:15 (C14) 15:38
13	08:43 16:06	07:50 17:12	07:03 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:15 (C14) 15:38
14	08:42 16:08	07:47 17:14	07:03 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:15 (C14) 15:38
15	08:41 16:10	07:45 17:17	07:03 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:15 (C14) 15:38
16	08:40 16:12	07:43 17:19	07:03 18:20	06:09 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:15 (C14) 15:38
17	08:39 16:14	07:40 17:21	07:03 18:22	06:07 20:26	04:59 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:15 (C14) 15:38
18	08:38 16:16	07:38 17:23	07:03 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:15 (C14) 15:38
19	08:36 16:18	07:36 17:26	07:03 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:15 (C14) 15:38
20	08:35 16:20	07:33 17:28	07:03 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:15 (C14) 15:39
21	08:33 16:22	07:31 17:30	07:03 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:15 (C14) 15:39
22	08:32 16:24	07:28 17:32	07:03 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:15 (C14) 15:40
23	08:30 16:26	07:26 17:35	07:03 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:15 (C14) 15:40
24	08:29 16:28	07:23 17:37	07:03 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:15 (C14) 15:41
25	08:27 16:30	07:21 17:39	07:03 18:39	05:47 20:43	04:45 21:42	04:27 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:15 (C14) 15:41
26	08:26 16:32	07:18 17:41	07:03 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:15 (C14) 15:42
27	08:24 16:34	07:16 17:43	07:03 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:50	08:15 (C14) 15:43
28	08:22 16:37	07:13 17:45	07:03 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:15 (C14) 15:44
29	08:20 16:39	07:11 17:46	07:03 18:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:15 (C14) 15:45
30	08:19 16:41	07:09 17:49	07:03 18:49	05:35 20:53	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:41	08:23 15:46	08:15 (C14) 15:46
31	08:17 16:43	07:07 17:51	07:03 18:51	05:33 20:57	04:37 21:51	04:29 22:10	05:14 21:30	06:15 20:17	07:21 18:38	08:18 17:32	08:24 15:47	08:15 (C14) 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		112								25	90	
Sun reduction		0.20								0.26	0.08	
Oper. time red.		0.98								0.98	0.98	
Wind dir. red.		0.61								0.61	0.61	
Total reduction		0.12								0.15	0.05	
Total, real		13								4	4	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Veji - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (130)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	06:49	05:33	04:36
	15:48	16:45	17:48	19:53	20:55	21:53
2	08:50	08:13	07:08	06:46	05:30	04:35
	15:50	16:48	17:50	19:55	20:58	21:54
3	08:50	08:11	07:06	07:32 (C15)	06:44	05:28
	15:51	16:50	17:52	1 07:33 (C15)	19:57	21:00
4	08:50	08:09	07:03	07:29 (C15)	06:41	05:26
	15:52	16:52	17:54	5 07:34 (C15)	19:59	21:02
5	08:49	08:07	07:01	07:26 (C15)	06:38	05:24
	15:54	16:54	17:56	8 07:34 (C15)	20:01	21:04
6	08:49	08:05	06:58	07:24 (C15)	06:36	05:21
	15:55	16:57	17:58	11 07:35 (C15)	20:03	21:06
7	08:48	08:03	06:55	07:21 (C14)	06:33	05:19
	15:56	16:59	18:01	13 07:34 (C15)	20:06	21:08
8	08:48	08:01	06:53	07:18 (C14)	06:30	05:17
	15:58	17:01	18:03	16 07:34 (C15)	20:08	21:10
9	08:47	07:58	06:50	07:16 (C14)	06:28	05:15
	16:00	17:03	18:05	18 07:34 (C15)	20:10	21:12
10	08:46	07:56	06:48	07:13 (C14)	06:25	05:13
	16:01	17:06	18:07	19 07:32 (C14)	20:12	21:14
11	08:45	07:54	06:45	07:10 (C14)	06:22	05:11
	16:03	17:08	18:09	22 07:32 (C14)	20:14	21:16
12	08:44	07:52	06:42	07:09 (C14)	06:20	05:09
	16:05	17:10	18:11	24 07:33 (C14)	20:16	21:18
13	08:43	07:50	06:40	07:08 (C14)	06:17	05:07
	16:06	17:12	18:13	25 07:33 (C14)	20:18	21:20
14	08:42	07:47	06:37	07:07 (C14)	06:15	05:05
	16:08	17:14	18:16	26 07:33 (C14)	20:20	21:22
15	08:41	07:45	06:34	07:08 (C14)	06:12	05:03
	16:10	17:17	18:18	25 07:33 (C14)	20:22	21:24
16	08:40	07:43	06:32	07:07 (C14)	06:09	05:01
	16:12	17:19	18:20	25 07:32 (C14)	20:24	21:26
17	08:39	07:40	06:29	07:07 (C14)	06:07	04:59
	16:14	17:21	18:22	24 07:31 (C14)	20:26	1 06:33 (C13)
18	08:38	07:38	06:26	07:07 (C14)	06:04	06:30 (C13)
	16:16	17:23	18:24	23 07:30 (C14)	20:28	5 06:35 (C13)
19	08:36	07:36	06:24	07:09 (C14)	06:02	06:28 (C13)
	16:18	17:26	18:26	20 07:29 (C14)	20:31	9 06:37 (C13)
20	08:35	07:33	06:21	07:09 (C14)	05:59	06:26 (C13)
	16:20	17:28	18:28	18 07:27 (C14)	20:33	11 06:37 (C13)
21	08:33	07:31	06:18	07:11 (C14)	05:57	06:23 (C13)
	16:22	17:30	18:30	14 07:25 (C14)	20:35	14 06:37 (C13)
22	08:32	07:28	06:16	07:14 (C14)	05:54	06:21 (C13)
	16:24	17:32	18:32	8 07:22 (C14)	20:37	17 06:38 (C13)
23	08:30	07:26	06:13		05:52	06:18 (C13)
	16:26	17:34	18:34		20:39	19 06:37 (C13)
24	08:29	07:23	06:10		05:49	06:18 (C13)
	16:28	17:37	18:36		20:41	19 06:37 (C13)
25	08:27	07:21	06:08		05:47	06:18 (C13)
	16:30	17:39	18:39		20:43	18 06:36 (C13)
26	08:26	07:18	06:05		05:45	06:18 (C13)
	16:32	17:41	18:41		20:45	17 06:35 (C13)
27	08:24	07:16	06:02		05:42	06:19 (C13)
	16:34	17:43	18:43		20:47	15 06:34 (C13)
28	08:22	07:13	06:00		05:40	06:20 (C13)
	16:37	17:45	18:45		20:49	13 06:33 (C13)
29	08:20		06:57		05:37	06:22 (C13)
	16:39		19:47		20:51	9 06:31 (C13)
30	08:19		06:54		05:35	
	16:41		19:49		20:53	
31	08:17		06:52			
	16:43		19:51			
Potential sun hours	235	266	366	426	508	528
Total, worst case			345	167		
Sun reduction			0.41	0.50		
Oper. time red.			0.98	0.98		
Wind dir. red.			0.62	0.65		
Total reduction			0.25	0.32		
Total, real			86	53		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Veji - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (130)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:48 (C14)	07:23
	22:09	21:28	20:14	18:54	24	08:12 (C14)
2	04:31	05:18	06:19	07:19	07:48 (C14)	07:25
	22:09	21:26	20:11	18:51	23	08:11 (C14)
3	04:32	05:20	06:21	07:21	07:50 (C14)	07:27
	22:08	21:24	20:09	18:48	20	08:10 (C14)
4	04:33	05:22	06:23	07:23	07:52 (C14)	07:29
	22:07	21:22	20:06	18:46	19	08:11 (C15)
5	04:34	05:24	06:25	07:25	07:54 (C14)	07:31
	22:07	21:20	20:04	18:43	17	08:11 (C15)
6	04:35	05:25	06:27	07:28	07:56 (C14)	07:34
	22:06	21:17	20:01	18:40	15	08:11 (C15)
7	04:36	05:27	06:29	07:30	07:58 (C14)	07:36
	22:05	21:15	19:58	18:38	12	08:10 (C15)
8	04:37	05:29	06:31	07:32	08:00 (C15)	07:38
	22:04	21:13	19:56	18:35	10	08:10 (C15)
9	04:38	05:31	06:33	07:34	08:03 (C15)	07:40
	22:03	21:11	19:53	18:33	6	08:09 (C15)
10	04:40	05:33	06:35	07:36	08:05 (C15)	07:42
	22:02	21:08	19:50	18:30	3	08:08 (C15)
11	04:41	05:35	06:37	07:38		07:44
	22:01	21:06	19:48	18:27		16:15
12	04:42	05:37	06:39	07:40		07:46
	22:00	21:04	19:45	18:25		16:13
13	04:44	05:39	06:41	07:42		07:49
	21:59	21:02	4 06:36 (C13)	18:22		16:11
14	04:45	05:41	06:43	07:44		07:51
	21:58	20:59	10 06:39 (C13)	18:20		16:10
15	04:46	05:43	06:45	07:46		07:53
	21:57	20:57	14 06:41 (C13)	18:17		16:08
16	04:48	05:45	06:47	07:48		07:55
	21:55	20:54	16 06:42 (C13)	18:15		16:06
17	04:49	05:47	06:49	07:50		07:57
	21:54	20:52	18 06:43 (C13)	18:12		16:04
18	04:51	05:49	06:51	07:53		07:59
	21:52	20:50	18 06:43 (C13)	18:09		16:03
19	04:53	05:51	06:53	07:55		08:01
	21:51	20:47	19 06:42 (C13)	18:07		16:01
20	04:54	05:53	06:55	07:57		08:03
	21:49	20:45	18 06:42 (C13)	18:04		15:59
21	04:56	05:55	06:57	08:02 (C14)		08:05
	21:48	20:42	16 06:42 (C13)	18:02		15:58
22	04:58	05:57	06:59	08:01		08:07
	21:46	20:40	14 06:42 (C13)	18:00		15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	11 06:41 (C13)	17:57		15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	8 06:40 (C13)	17:55		15:53
25	05:03	06:03	07:05	08:13		08:13
	21:41	20:32	5 06:39 (C13)	17:52		15:52
26	05:05	06:05	07:07	08:15		08:15
	21:39	20:30	1 06:37 (C13)	17:50		15:51
27	05:06	06:07	07:09	08:14		08:17
	21:38	20:27	19:04	07:49 (C14)		15:50
28	05:08	06:09	07:11	08:14		08:19
	21:36	20:24	19:02	07:48 (C14)		15:48
29	05:10	06:11	07:13	08:14		08:21
	21:34	20:22	18:59	07:48 (C14)		15:47
30	05:12	06:13	07:15	08:13		08:22
	21:32	20:19	18:56	07:48 (C14)		15:46
31	05:14	06:15		07:20		08:51
	21:30	20:17		16:38		15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		172	199	149		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.65	0.62	0.62		
Total reduction		0.32	0.26	0.16		
Total, real		54	52	23		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vejini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (91)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:29 (C15) 07:30 (C15)	06:41 19:59	05:26 21:02
5	08:49 15:54	08:07 16:54	07:01 17:56	07:26 (C15) 07:31 (C15)	06:38 20:01	05:24 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	07:24 (C15) 07:32 (C15)	06:36 20:03	05:21 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	07:21 (C15) 07:32 (C15)	06:33 20:06	05:19 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	07:18 (C14) 07:32 (C15)	06:30 20:08	05:17 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	07:16 (C14) 07:32 (C15)	06:28 20:10	05:15 22:02
10	08:46 16:01	07:56 17:06	06:48 18:07	07:13 (C14) 07:31 (C15)	06:25 20:12	05:13 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	07:10 (C14) 07:29 (C15)	06:22 20:14	05:11 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	07:08 (C14) 07:29 (C14)	06:20 20:16	05:09 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	07:05 (C14) 07:29 (C14)	06:17 20:18	05:07 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	07:04 (C14) 07:29 (C14)	06:15 20:20	05:05 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	07:04 (C14) 07:30 (C14)	06:12 20:22	05:03 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	07:04 (C14) 07:29 (C14)	06:09 20:24	05:01 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	07:04 (C14) 07:28 (C14)	06:07 20:26	04:59 22:08
18	08:38 16:16	07:38 17:23	06:26 18:24	07:03 (C14) 07:27 (C14)	06:04 20:28	04:57 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	07:04 (C14) 07:27 (C14)	06:02 20:31	04:55 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	07:05 (C14) 07:25 (C14)	05:59 20:33	04:54 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	07:05 (C14) 07:23 (C14)	05:57 20:35	04:52 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	07:08 (C14) 07:22 (C14)	05:54 20:37	04:50 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	07:10 (C14) 07:18 (C14)	05:52 20:39	04:48 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	06:16 (C13) 06:35 (C13)	04:47 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	06:17 (C13) 06:35 (C13)	04:45 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	06:16 (C13) 06:34 (C13)	04:44 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:17 (C13) 06:33 (C13)	04:42 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	06:18 (C13) 06:32 (C13)	04:41 22:10
29	08:20 16:39	07:11 17:47	05:57 19:47	05:37 20:51	06:20 (C13) 06:31 (C13)	04:40 22:10
30	08:19 16:41	07:09 17:49	05:54 19:49	05:35 20:53	06:23 (C13) 06:28 (C13)	04:38 22:09
31	08:17 16:43	07:07 19:51	05:52 19:51			04:37 21:51
Potential sun hours	235	266	366	426	508	528
Total, worst case			344	166		
Sun reduction			0.41	0.50		
Oper. time red.			0.98	0.98		
Wind dir. red.			0.62	0.65		
Total reduction			0.25	0.32		
Total, real			86	53		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vejini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (91)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:46 (C14)	07:23
	22:09	21:28	20:14	18:54	22	16:36
2	04:31	05:18	06:19	07:19	07:48 (C14)	07:25
	22:09	21:26	20:11	18:51	20	16:34
3	04:32	05:20	06:21	07:21	07:50 (C14)	07:27
	22:08	21:24	20:09	18:48	19	16:32
4	04:33	05:22	06:23	07:23	07:52 (C14)	07:29
	22:07	21:22	20:06	18:46	17	16:30
5	04:34	05:24	06:25	07:25	07:54 (C14)	07:31
	22:07	21:20	20:04	18:43	15	16:27
6	04:35	05:25	06:27	07:28	07:56 (C15)	07:34
	22:06	21:17	20:01	18:40	12	16:25
7	04:36	05:27	06:29	07:30	07:58 (C15)	07:36
	22:05	21:15	19:58	18:38	10	16:23
8	04:37	05:29	06:31	07:32	08:00 (C15)	07:38
	22:04	21:13	19:56	18:35	7	16:21
9	04:38	05:31	06:33	07:34	08:03 (C15)	07:40
	22:03	21:11	19:53	18:33	3	16:19
10	04:40	05:33	06:35	07:36	08:06 (C15)	07:42
	22:02	21:08	19:50	18:30		16:17
11	04:41	05:35	06:37	07:38		07:44
	22:01	21:06	19:48	18:27		16:15
12	04:42	05:37	06:39	07:40		07:46
	22:00	21:04	19:45	18:25		16:13
13	04:44	05:39	06:41	07:42		07:49
	21:59	21:02	7 06:36 (C13)	18:22		16:11
14	04:45	05:41	06:43	07:44		07:51
	21:58	20:59	12 06:39 (C13)	18:20		16:10
15	04:46	05:43	06:45	07:46		07:53
	21:57	20:57	14 06:40 (C13)	18:17		16:08
16	04:48	05:45	06:47	07:48		07:55
	21:55	20:54	16 06:41 (C13)	18:15		16:06
17	04:49	05:47	06:49	07:50		07:57
	21:54	20:52	17 06:41 (C13)	18:12		16:04
18	04:51	05:49	06:51	07:53		07:59
	21:52	20:50	19 06:42 (C13)	18:09		16:03
19	04:53	05:51	06:53	07:55		08:01
	21:51	20:47	19 06:41 (C13)	18:07		16:01
20	04:54	05:53	06:55	07:57		08:03
	21:49	20:45	17 06:41 (C13)	5 08:03 (C14)		15:59
21	04:56	05:55	06:57	07:59		08:05
	21:48	20:42	15 06:41 (C13)	13 08:07 (C14)		15:58
22	04:58	05:57	06:59	08:01		08:07
	21:46	20:40	12 06:40 (C13)	17 08:09 (C14)		15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	9 06:39 (C13)	20 08:10 (C14)		15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	6 06:38 (C13)	22 08:10 (C14)		15:53
25	05:03	06:03	07:05	08:07		08:13
	21:41	20:32	3 06:37 (C13)	24 08:11 (C14)		15:52
26	05:05	06:05	07:07	08:09		08:15
	21:39	20:30	19:07	25 08:11 (C14)		15:51
27	05:06	06:07	07:09	08:12		08:17
	21:38	20:27	19:04	25 08:11 (C14)		15:50
28	05:08	06:09	07:11	08:14		08:19
	21:36	20:24	19:02	25 08:10 (C14)		15:48
29	05:10	06:11	07:13	08:16		08:21
	21:34	20:22	18:59	25 08:10 (C14)		15:47
30	05:12	06:13	07:15	08:18		08:22
	21:32	20:19	18:56	24 08:09 (C14)		15:46
31	05:14	06:15		07:20		08:51
	21:30	20:17		16:38		15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		166	225		125	
Sun reduction		0.50	0.43		0.26	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.65	0.63		0.62	
Total reduction		0.32	0.26		0.16	
Total, real		53	59	20		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Veikalni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (163)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:51		09:31 (C14)	08:15		08:51 (C15)	07:11		06:49		07:57 (C13)	05:33		04:36				
	15:48	17	09:48 (C14)	16:45	33	09:56 (C14)	17:48		19:53	8	08:05 (C13)	20:55		21:53				
2	08:50		09:31 (C14)	08:13		08:52 (C15)	07:08		06:46			05:30		04:35				
	15:49	18	09:49 (C14)	16:48	26	09:53 (C14)	17:50		19:55			20:58		21:54				
3	08:50		09:31 (C14)	08:11		08:52 (C15)	07:06		06:43			05:28		04:34				
	15:51	19	09:50 (C14)	16:50	18	09:10 (C15)	17:52		19:57			21:00		21:55				
4	08:50		09:30 (C14)	08:09		08:53 (C15)	07:03		06:41			05:26		04:33				
	15:52	20	09:50 (C14)	16:52	17	09:10 (C15)	17:54		19:59			21:02		21:57				
5	08:49		09:31 (C14)	08:07		08:55 (C15)	07:01		06:38			05:23		04:32				
	15:53	21	09:52 (C14)	16:54	14	09:09 (C15)	17:56		20:01			21:04		21:58				
6	08:49		09:31 (C14)	08:05		08:55 (C15)	06:58		06:36			05:21		04:31				
	15:55	22	09:53 (C14)	16:56	12	09:07 (C15)	17:58		20:03			21:06		21:59				
7	08:48		09:31 (C14)	08:03		08:58 (C15)	06:55		06:33			05:19		04:30				
	15:56	22	09:53 (C14)	16:59	7	09:05 (C15)	18:01		20:06			21:08		22:00				
8	08:48		09:31 (C14)	08:01			06:53		06:30			05:17		04:29				
	15:58	23	09:54 (C14)	17:01			18:03		20:08			21:10		22:01				
9	08:47		09:31 (C14)	07:58			06:50		06:28			05:15		04:29				
	16:00	24	09:55 (C14)	17:03			18:05		20:10			21:12		22:02				
10	08:46		09:31 (C14)	07:56			06:47		06:25			05:13		04:28				
	16:01	25	09:56 (C14)	17:05			18:07		20:12			21:14		22:03				
11	08:45		09:31 (C14)	07:54			06:45		06:22			05:11		04:27				
	16:03	26	09:57 (C14)	17:08			18:09		20:14			21:16		22:04				
12	08:44		09:31 (C14)	07:52			06:42		06:20			05:09		04:27				
	16:05	27	09:58 (C14)	17:10			18:11		20:16			21:18		22:05				
13	08:43		09:30 (C14)	07:50			06:40		06:17			05:07		04:26				
	16:06	28	09:58 (C14)	17:12			18:13		20:18			21:20		22:06				
14	08:42		09:31 (C14)	07:47			06:37		06:15			05:05		04:26				
	16:08	28	09:59 (C14)	17:14			18:15		20:20			21:22		22:07				
15	08:41		09:31 (C14)	07:45			06:34		06:12			05:03		04:26				
	16:10	29	10:00 (C14)	17:17			18:18	12	07:13 (C13)	20:22		21:24		22:07				
16	08:40		09:31 (C14)	07:43			06:32		06:58 (C13)	06:09		05:01		04:26				
	16:12	29	10:00 (C14)	17:19			18:20	17	07:15 (C13)	20:24		21:26		22:08				
17	08:39		09:32 (C14)	07:40			06:29		06:55 (C13)	06:07		04:59		04:25				
	16:14	29	10:01 (C14)	17:21			18:22	21	07:16 (C13)	20:26		21:27		22:08				
18	08:38		09:31 (C14)	07:38			06:26		06:53 (C13)	06:04		04:57		04:25				
	16:16	30	10:01 (C14)	17:23			18:24	24	07:17 (C13)	20:28		21:29		22:09				
19	08:36		09:31 (C14)	07:36			06:24		06:53 (C13)	06:02		04:55		04:25				
	16:18	30	10:01 (C14)	17:26			18:26	25	07:18 (C13)	20:31		21:31		22:09				
20	08:35		09:32 (C14)	07:33			06:21		06:52 (C13)	05:59		04:53		04:25				
	16:20	30	10:02 (C14)	17:28			18:28	26	07:18 (C13)	20:33		21:33		22:10				
21	08:33		09:32 (C14)	07:31			06:18		06:50 (C13)	05:57		04:52		04:25				
	16:22	30	10:02 (C14)	17:30			18:30	28	07:18 (C13)	20:35		21:35		22:10				
22	08:32		09:32 (C14)	07:28			06:16		06:50 (C13)	05:54		04:50		04:26				
	16:24	30	10:02 (C14)	17:32			18:32	29	07:19 (C13)	20:37		21:37		22:10				
23	08:30		09:03 (C15)	07:26			06:13		06:50 (C13)	05:52		04:48		04:26				
	16:26	30	10:02 (C14)	17:34			18:34	28	07:18 (C13)	20:39		21:38		22:10				
24	08:29		09:02 (C15)	07:23			06:10		06:49 (C13)	05:49		04:47		04:26				
	16:28	33	10:03 (C14)	17:37			18:36	29	07:18 (C13)	20:41		21:40		22:10				
25	08:27		09:00 (C15)	07:21			06:08		06:50 (C13)	05:47		04:45		04:26				
	16:30	34	10:02 (C14)	17:39			18:38	28	07:18 (C13)	20:43		21:42		22:10				
26	08:26		08:58 (C15)	07:18			06:05		06:49 (C13)	05:44		04:44		04:27				
	16:32	37	10:02 (C14)	17:41			18:41	28	07:17 (C13)	20:45		21:43		22:10				
27	08:24		08:56 (C15)	07:16			06:02		06:49 (C13)	05:42		04:42		04:27				
	16:34	39	10:02 (C14)	17:43			18:43	27	07:16 (C13)	20:47		21:45		22:10				
28	08:22		08:54 (C15)	07:13			05:59		06:51 (C13)	05:40		04:41		04:28				
	16:37	40	10:01 (C14)	17:45			18:45	24	07:15 (C13)	20:49		21:47		22:10				
29	08:20		08:52 (C15)				06:57		07:51 (C13)	05:37		04:40		04:29				
	16:39	41	10:01 (C14)				19:47	22	08:13 (C13)	20:51		21:48		22:10				
30	08:19		08:51 (C15)				06:54		07:52 (C13)	05:35		04:38		04:29				
	16:41	41	10:00 (C14)				19:49	19	08:11 (C13)	20:53		21:50		22:09				
31	08:17		08:51 (C15)				06:51		07:54 (C13)			04:37						
	16:43	38	09:59 (C14)				19:51	15	08:09 (C13)			21:51						
Potential sun hours	235			266			366		426			508		529				
Total, worst case	890			127			402		8									
Sun reduction	0.13			0.20			0.41		0.50									
Oper. time red.	0.98			0.98			0.98		0.98									
Wind dir. red.	0.60			0.60			0.64		0.64									
Total reduction	0.08			0.12			0.25		0.31									
Total, real	69			15			101		2									

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vejkalni - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (163)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:50 16:09	08:42 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:52 16:08	08:43 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:56 16:04	08:45 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	07:58 16:02	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:00 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:56 18:04	08:02 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:58 18:02	08:04 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:00 18:00	08:06 15:56	08:50 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:02 17:57	08:08 15:55	08:51 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:04 17:55	08:10 15:53	08:52 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:06 17:52	08:12 15:52	08:53 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:08 17:50	08:14 15:51	08:54 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:10 17:48	08:16 15:49	08:55 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:12 17:46	08:18 15:48	08:56 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:14 17:44	08:20 15:47	08:57 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:16 17:42	08:22 15:46	08:58 15:46
31	05:14 21:30	06:15 20:17		08:18 17:40	08:24 15:45	08:59 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			415		786	466
Sun reduction			0.43		0.08	0.07
Oper. time red.			0.98		0.98	0.98
Wind dir. red.			0.64		0.60	0.61
Total reduction			0.26		0.05	0.04
Total, real			109		38	19

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vetras - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (161)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January		February		March		April		May		June	
1	08:51		08:15		07:11		07:37 (C13)	06:49	05:33		04:36	
	15:48		16:45		17:48	13	07:50 (C13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:34 (C13)	06:46	05:30		04:35	
	15:49		16:48		17:50	16	07:50 (C13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:34 (C13)	06:44	05:28		04:34	
	15:51		16:50		17:52	16	07:50 (C13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:33 (C13)	06:41	05:26		04:33	
	15:52		16:52		17:54	16	07:49 (C13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:35 (C13)	06:38	05:24		04:32	
	15:53		16:54		17:56	14	07:49 (C13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:35 (C13)	06:36	05:21		04:31	
	15:55		16:56		17:58	12	07:47 (C13)	20:04	21:06		21:59	
7	08:48		08:03		06:55		07:37 (C13)	06:33	05:19		04:30	
	15:56		16:59		18:01	8	07:45 (C13)	20:06	21:08		22:00	
8	08:48		08:01		06:53			06:30	05:17		04:29	
	15:58		17:01		18:03			20:08	21:10		22:01	
9	08:47		07:58		06:50			06:28	05:15		04:29	
	16:00		17:03		18:05			20:10	21:12		22:02	
10	08:46		07:56		06:48			06:25	05:13		04:28	
	16:01		17:05		18:07			20:12	21:14		22:03	
11	08:45		07:54		06:45			06:22	05:11		04:27	
	16:03		17:08		18:09			20:14	21:16		22:04	
12	08:44		07:52		06:42			06:20	05:09		04:27	
	16:05		17:10		18:11			20:16	21:18		22:05	
13	08:43		07:50		06:40			06:17	05:07		04:26	
	16:06		17:12		18:13			20:18	21:20		22:06	
14	08:42		07:47		06:37			06:15	05:05		04:26	
	16:08		17:14		18:16			20:20	21:22		22:07	
15	08:41		07:45		06:34			06:12	05:03		04:26	
	16:10		17:17		18:18			20:22	21:24		22:07	
16	08:40		07:43		06:32			06:09	05:01		04:26	
	16:12		17:19		18:20			20:24	21:26		22:08	
17	08:39		07:40		06:29			06:07	04:59		04:25	
	16:14	2	09:16 (C14)	17:21	18:22			20:26	21:27		22:09	
18	08:38		07:38		06:26			06:04	04:57		04:25	
	16:16	5	09:17 (C14)	17:23	18:24			20:28	21:29		22:09	
19	08:36		07:36		06:24			06:02	04:55		04:25	
	16:18	7	09:17 (C14)	17:26	18:26			20:31	21:31		22:09	
20	08:35		07:33		06:21			05:59	04:53		04:25	
	16:20	10	09:19 (C14)	17:28	18:28			20:33	21:33		22:10	
21	08:33		07:31		06:18			05:57	04:52		04:25	
	16:22	12	09:19 (C14)	17:30	18:30			20:35	21:35		22:10	
22	08:32		07:28		06:16			05:54	04:50		04:26	
	16:24	14	09:19 (C14)	17:32	18:32			20:37	21:37		22:10	
23	08:30		07:26		06:13			05:52	04:48		04:26	
	16:26	17	09:20 (C14)	17:34	18:34			20:39	21:38		22:10	
24	08:29		07:23		06:10			05:49	04:47		04:26	
	16:28	17	09:21 (C14)	17:37	18:36			20:41	21:40		22:11	
25	08:27		07:21		06:08			05:47	04:45		04:26	
	16:30	17	09:21 (C14)	17:39	18:39			20:43	21:42		22:11	
26	08:26		07:18		06:05			05:44	04:44		04:27	
	16:32	17	09:21 (C14)	17:41	18:41	3	07:48 (C13)	20:45	21:43		22:10	
27	08:24		07:16		06:02			05:42	04:42		04:27	
	16:34	16	09:21 (C14)	17:43	18:43	7	07:49 (C13)	20:47	21:45		22:10	
28	08:22		07:13		06:00			05:40	04:41		04:28	
	16:37	14	09:20 (C14)	17:45	18:45	10	07:50 (C13)	20:49	21:47		22:10	
29	08:20				06:57			05:37	04:40		04:29	
	16:39	13	09:20 (C14)		19:47			20:51	21:48		22:10	
30	08:19				06:54			05:35	04:38		04:29	
	16:41	11	09:19 (C14)		19:49			20:53	21:50		22:10	
31	08:17				06:52				04:37			
	16:43	6	09:17 (C14)		19:51				21:51			
Potential sun hours	235		266		366			426	508		529	
Total, worst case	178		20		95							
Sun reduction	0.13		0.20		0.41							
Oper. time red.	0.98		0.98		0.98							
Wind dir. red.	0.59		0.62		0.62							
Total reduction	0.08		0.12		0.25							
Total, real	13		2		23							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vetras - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (161)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30	05:16	06:17	07:17		07:23	08:24
	22:09	21:28	20:14	18:54		16:36	15:45
2	04:31	05:18	06:19	07:19		07:25	08:26
	22:09	21:26	20:11	18:51		16:34	15:44
3	04:32	05:20	06:21	07:21		07:27	08:28
	22:08	21:24	20:09	18:48		16:32	15:43
4	04:33	05:22	06:23	07:23		07:29	08:29
	22:07	21:22	20:06	18:46		16:29	15:42
5	04:34	05:23	06:25	07:26		07:31	08:31
	22:07	21:20	20:04	18:43		16:27	15:42
6	04:35	05:25	06:27	07:28	08:14 (C13)	07:34	08:32
	22:06	21:17	20:01	18:40	5 08:19 (C13)	16:25	15:41
7	04:36	05:27	06:29	07:30	08:11 (C13)	07:36	08:34
	22:05	21:15	19:58	18:38	11 08:22 (C13)	16:23	15:40
8	04:37	05:29	06:31	07:32	08:10 (C13)	07:38	08:35
	22:04	21:13	19:56	18:35	14 08:24 (C13)	16:21	15:40
9	04:38	05:31	06:33	07:34	08:09 (C13)	07:40	08:37
	22:03	21:11	19:53	18:33	15 08:24 (C13)	16:19	15:39
10	04:39	05:33	06:35	07:36	08:08 (C13)	07:42	08:38
	22:02	21:09	19:50	18:30	16 08:24 (C13)	16:17	15:39
11	04:41	05:35	06:37	07:38	08:07 (C13)	07:44	08:39
	22:01	21:06	19:48	18:27	17 08:24 (C13)	16:15	7 08:48 (C14) 15:39
12	04:42	05:37	06:39	07:40	08:09 (C13)	07:47	08:39 (C14) 08:41
	22:00	21:04	19:45	18:25	15 08:24 (C13)	16:13	10 08:49 (C14) 15:38
13	04:43	05:39	06:41	07:42	08:11 (C13)	07:49	08:39 (C14) 08:42
	21:59	21:02	19:42	18:22	12 08:23 (C13)	16:11	12 08:51 (C14) 15:38
14	04:45	05:41	06:43	07:44	08:14 (C13)	07:51	08:38 (C14) 08:43
	21:58	20:59	19:39	18:20	9 08:23 (C13)	16:09	14 08:52 (C14) 15:38
15	04:46	05:43	06:45	07:46	08:16 (C13)	07:53	08:38 (C14) 08:44
	21:57	20:57	19:37	18:17	5 08:21 (C13)	16:08	15 08:53 (C14) 15:38
16	04:48	05:45	06:47	07:48	08:18 (C13)	07:55	08:37 (C14) 08:45
	21:55	20:54	19:34	18:15	1 08:19 (C13)	16:06	17 08:54 (C14) 15:38
17	04:49	05:47	06:49	07:50		07:57	08:37 (C14) 08:46
	21:54	20:52	19:31	18:12		16:04	17 08:54 (C14) 15:38
18	04:51	05:49	06:51	07:53		07:59	08:38 (C14) 08:46
	21:53	20:50	19:29	18:09		16:03	17 08:55 (C14) 15:38
19	04:53	05:51	06:53	07:55		08:01	08:38 (C14) 08:47
	21:51	20:47	19:26	18:07		16:01	17 08:55 (C14) 15:38
20	04:54	05:53	06:55	07:57		08:03	08:40 (C14) 08:48
	21:50	20:45	19:23	18:04		15:59	14 08:54 (C14) 15:39
21	04:56	05:55	06:57	07:59		08:05	08:43 (C14) 08:49
	21:48	20:42	19:21	18:02		15:58	12 08:55 (C14) 15:39
22	04:58	05:57	06:59	08:01		08:07	08:45 (C14) 08:49
	21:46	20:40	19:18	18:00		15:56	10 08:55 (C14) 15:40
23	04:59	05:59	07:01	08:03		08:09	08:47 (C14) 08:50
	21:45	20:37	19:15	17:57		15:55	7 08:54 (C14) 15:40
24	05:01	06:01	07:03	08:05		08:11	08:49 (C14) 08:50
	21:43	20:35	19:12	17:55		15:53	5 08:54 (C14) 15:41
25	05:03	06:03	07:05	07:07		08:13	08:51 (C14) 08:50
	21:41	20:32	19:10	16:52		15:52	2 08:53 (C14) 15:41
26	05:05	06:05	07:07	07:10		08:15	08:51
	21:39	20:30	19:07	16:50		15:51	15:42
27	05:06	06:07	07:09	07:12		08:17	08:51
	21:38	20:27	19:04	16:48		15:50	15:43
28	05:08	06:09	07:11	07:14		08:19	08:51
	21:36	20:24	19:02	16:45		15:48	15:44
29	05:10	06:11	07:13	07:16		08:21	08:51
	21:34	20:22	18:59	16:43		15:47	15:45
30	05:12	06:13	07:15	07:18		08:23	08:51
	21:32	20:19	18:56	16:41		15:46	15:46
31	05:14	06:15		07:20			08:51
	21:30	20:17		16:38			15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				120		176	
Sun reduction				0.26		0.08	
Oper. time red.				0.98		0.98	
Wind dir. red.				0.62		0.59	
Total reduction				0.16		0.05	
Total, real				19		8	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Veveri - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (120)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	32 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 21:00	30 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	30 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	30 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	29 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	28 22:00
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	27 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	26 22:02
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	26 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	25 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	24 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	24 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	23 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	23 22:08
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:25	22 22:09
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	21 22:10
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	21 22:11
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:30	04:55 21:31	20 22:12
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	20 22:13
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	20 22:14
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	20 22:15
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:49 21:38	20 22:16
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	20 22:17
25	08:27 16:30	07:21 17:39	06:08 18:38	05:47 20:43	04:45 21:42	21 22:18
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	21 22:19
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	21 22:20
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	22 22:21
29	08:20 16:39	06:57 19:47	05:45 18:47	05:37 20:51	04:40 21:48	22 22:22
30	08:18 16:41	06:54 19:49	05:42 18:49	05:35 20:53	04:38 21:50	23 22:23
31	08:17 16:43	06:51 19:51	05:40 18:51	05:33 20:55	04:37 21:51	24 22:24
Potential sun hours	235	266	366	426	508	528
Total, worst case			118	245	887	717
Sun reduction			0.41	0.50	0.57	0.56
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.65	0.66	0.67	0.67
Total reduction			0.26	0.32	0.37	0.36
Total, real			31	79	329	262

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Veveri - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (120)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July			August			September			October	November	December
1	04:30	06:03 (C14)	05:16	06:03 (C14)	06:17	06:56 (C15)	07:17	07:23	08:24		
	22:09	24	06:27 (C14)	21:28	32	06:35 (C14)	20:14	21	07:17 (C15)	18:54	15:45
2	04:31	06:02 (C14)	05:18	06:03 (C14)	06:19	06:55 (C15)	07:19	07:25	08:26		
	22:08	25	06:27 (C14)	21:26	31	06:34 (C14)	20:11	22	07:17 (C15)	18:51	15:44
3	04:32	06:02 (C14)	05:20	06:04 (C14)	06:21	06:55 (C15)	07:21	07:27	08:28		
	22:08	26	06:28 (C14)	21:24	29	06:33 (C14)	20:09	22	07:17 (C15)	18:48	15:43
4	04:33	06:02 (C14)	05:22	06:05 (C14)	06:23	06:55 (C15)	07:23	07:29	08:29		
	22:07	27	06:29 (C14)	21:22	27	06:32 (C14)	20:06	22	07:17 (C15)	18:46	15:43
5	04:34	06:02 (C14)	05:24	06:06 (C14)	06:25	06:55 (C15)	07:25	07:31	08:31		
	22:07	27	06:29 (C14)	21:19	26	06:32 (C14)	20:03	21	07:16 (C15)	18:43	15:42
6	04:35	06:02 (C14)	05:25	06:06 (C14)	06:27	06:57 (C15)	07:28	07:33	08:32		
	22:06	28	06:30 (C14)	21:17	23	06:29 (C14)	20:01	18	07:15 (C15)	18:40	15:41
7	04:36	06:02 (C14)	05:27	06:08 (C14)	06:29	06:58 (C15)	07:30	07:36	08:34		
	22:05	28	06:30 (C14)	21:15	20	06:28 (C14)	19:58	15	07:13 (C15)	18:38	15:40
8	04:37	06:02 (C14)	05:29	06:10 (C14)	06:31	07:00 (C15)	07:32	07:38	08:35		
	22:04	29	06:31 (C14)	21:13	16	06:26 (C14)	19:55	11	07:11 (C15)	18:35	15:40
9	04:38	06:01 (C14)	05:31	06:13 (C14)	06:33	07:02 (C15)	07:34	07:40	08:37		
	22:03	30	06:31 (C14)	21:11	10	06:23 (C14)	19:53	6	07:08 (C15)	18:33	15:39
10	04:40	06:01 (C14)	05:33		06:35		07:36	07:42	08:38		
	22:02	31	06:32 (C14)	21:08		19:50	18:30	16:17	15:39		
11	04:41	06:02 (C14)	05:35		06:37		07:38	07:44	08:39		
	22:01	31	06:33 (C14)	21:06		19:47	18:27	16:15	15:39		
12	04:42	06:01 (C14)	05:37		06:39		07:40	07:46	08:40		
	22:00	32	06:33 (C14)	21:04		19:45	18:25	16:13	15:38		
13	04:44	06:01 (C14)	05:39		06:41		07:42	07:49	08:41		
	21:59	32	06:33 (C14)	21:02		19:42	18:22	16:11	15:38		
14	04:45	06:00 (C14)	05:41		06:43	07:28 (C16)	07:44	07:51	08:43		
	21:58	34	06:34 (C14)	20:59		19:39	7	07:35 (C16)	18:20	16:10	15:38
15	04:46	06:01 (C14)	05:43		06:45	07:26 (C16)	07:46	07:53	08:44		
	21:57	34	06:35 (C14)	20:57		19:37	11	07:37 (C16)	18:17	16:08	15:38
16	04:48	06:01 (C14)	05:45		06:47	07:24 (C16)	07:48	07:55	08:45		
	21:55	34	06:35 (C14)	20:54		19:34	14	07:38 (C16)	18:15	16:06	15:38
17	04:49	06:00 (C14)	05:47		06:49	07:23 (C16)	07:50	07:57	08:45		
	21:54	35	06:35 (C14)	20:52		19:31	16	07:39 (C16)	18:12	16:04	15:38
18	04:51	06:00 (C14)	05:49		06:51	07:22 (C16)	07:52	07:59	08:46		
	21:52	36	06:36 (C14)	20:50		19:29	17	07:39 (C16)	18:09	16:03	15:38
19	04:53	06:00 (C14)	05:51		06:53	07:22 (C16)	07:55	08:01	08:47		
	21:51	35	06:35 (C14)	20:47		19:26	17	07:39 (C16)	18:07	16:01	15:38
20	04:54	06:00 (C14)	05:53		06:55	07:24 (C16)	07:57	08:03	08:48		
	21:49	36	06:36 (C14)	20:45		19:23	14	07:38 (C16)	18:04	15:59	15:39
21	04:56	06:00 (C14)	05:55		06:57	07:26 (C16)	07:59	08:05	08:48		
	21:48	36	06:36 (C14)	20:42		19:21	11	07:37 (C16)	18:02	15:58	15:39
22	04:58	06:00 (C14)	05:57		06:59	07:28 (C16)	08:01	08:07	08:49		
	21:46	36	06:36 (C14)	20:40		19:18	8	07:36 (C16)	18:00	15:56	15:40
23	04:59	06:00 (C14)	05:59		07:01	07:30 (C16)	08:03	08:09	08:49		
	21:45	36	06:36 (C14)	20:37		19:15	5	07:35 (C16)	17:57	15:55	15:40
24	05:01	06:00 (C14)	06:01		07:03		08:05	08:11	08:50		
	21:43	36	06:36 (C14)	20:35		19:12		17:55	15:53	15:41	
25	05:03	06:01 (C14)	06:03		07:05		07:07	08:13	08:50		
	21:41	36	06:37 (C14)	20:32		19:10		16:52	15:52	15:41	
26	05:05	06:00 (C14)	06:05	07:06 (C15)	07:07		07:10	08:15	08:51		
	21:39	36	06:36 (C14)	20:30	5	07:11 (C15)	19:07	16:50	15:51	15:42	
27	05:06	06:01 (C14)	06:07	07:03 (C15)	07:09		07:12	08:17	08:51		
	21:37	35	06:36 (C14)	20:27	11	07:14 (C15)	19:04	16:48	15:50	15:43	
28	05:08	06:01 (C14)	06:09	07:00 (C15)	07:11		07:14	08:19	08:51		
	21:36	35	06:36 (C14)	20:24	15	07:15 (C15)	19:02	16:45	15:48	15:44	
29	05:10	06:01 (C14)	06:11	06:58 (C15)	07:13		07:16	08:21	08:51		
	21:34	35	06:36 (C14)	20:22	18	07:16 (C15)	18:59	16:43	15:47	15:45	
30	05:12	06:01 (C14)	06:13	06:57 (C15)	07:15		07:18	08:22	08:51		
	21:32	34	06:35 (C14)	20:19	20	07:17 (C15)	18:56	16:41	15:46	15:46	
31	05:14	06:02 (C14)	06:15	06:56 (C15)			07:20		08:51		
	21:30	33	06:35 (C14)	20:17	21	07:17 (C15)		16:38		15:47	
Potential sun hours	529		469		385		324	248	216		
Total, worst case	1002		304		278						
Sun reduction	0.49		0.50		0.43						
Oper. time red.	0.98		0.98		0.98						
Wind dir. red.	0.67		0.67		0.65						
Total reduction	0.32		0.32		0.27						
Total, real	322		98		76						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Veveri 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (92)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	07:22 (C15) 20:55	06:24 (C14) 21:52
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	07:21 (C15) 20:57	06:24 (C14) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	07:22 (C15) 21:00	06:24 (C14) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:22 (C15) 21:02	06:24 (C14) 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	07:23 (C15) 21:04	06:24 (C14) 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	07:25 (C15) 21:06	06:24 (C14) 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	07:26 (C15) 21:08	06:25 (C14) 22:00
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	07:35 (C15) 21:10	06:25 (C14) 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	06:25 (C14) 22:02
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	06:26 (C14) 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	06:26 (C14) 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	06:27 (C14) 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	06:28 (C14) 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	06:29 (C14) 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	06:30 (C14) 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:25	06:30 (C14) 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	06:32 (C14) 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	06:34 (C14) 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:30	04:55 21:31	06:36 (C14) 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	06:39 (C14) 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	06:40 (C14) 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	06:41 (C14) 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	06:42 (C14) 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	06:43 (C14) 22:10
25	08:27 16:30	07:21 17:39	06:08 18:38	05:47 20:43	04:45 21:42	06:44 (C14) 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	06:45 (C14) 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	06:46 (C14) 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	06:47 (C14) 22:10
29	08:20 16:39	07:11 17:47	05:57 18:47	05:37 20:51	04:40 21:48	06:48 (C14) 22:10
30	08:18 16:41	07:09 17:49	05:55 18:49	05:35 20:53	04:38 21:50	06:49 (C14) 22:10
31	08:17 16:43	07:08 17:51	05:54 18:51	05:34 20:54	04:37 21:51	06:50 (C14) 22:10
Potential sun hours	235	266	366	426	508	528
Total, worst case			242	503	607	496
Sun reduction			0.41	0.50	0.57	0.56
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.65	0.65	0.65	0.67
Total reduction			0.26	0.32	0.36	0.36
Total, real			63	160	220	181

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Veveri 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (92)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December	
1	04:30	05:08 (C13)	05:16	06:37 (C14)	06:17		07:17	07:46 (C16)	07:23	08:24	
	22:09	17	05:25 (C13)	21:28	32	07:09 (C14)	20:14	2	07:48 (C16)	16:36	15:45
2	04:31	05:08 (C13)	05:18	06:36 (C14)	06:19		07:19		07:25	08:26	
	22:08	16	05:24 (C13)	21:26	34	07:10 (C14)	20:11		16:34	15:44	
3	04:32	05:09 (C13)	05:20	06:36 (C14)	06:21		07:21		07:27	08:28	
	22:08	16	05:25 (C13)	21:24	34	07:10 (C14)	20:09		16:32	15:43	
4	04:33	05:10 (C13)	05:22	06:35 (C14)	06:23		07:23		07:29	08:29	
	22:07	15	05:25 (C13)	21:22	36	07:11 (C14)	20:06		16:30	15:43	
5	04:34	05:11 (C13)	05:24	06:35 (C14)	06:25		07:24 (C15)		07:31	08:31	
	22:07	14	05:25 (C13)	21:19	37	07:12 (C14)	20:03	8	07:32 (C15)	18:43	15:42
6	04:35	05:12 (C13)	05:25	06:34 (C14)	06:27		07:21 (C15)		07:28	08:32	
	22:06	12	05:24 (C13)	21:17	37	07:11 (C14)	20:01	13	07:34 (C15)	18:40	15:41
7	04:36	05:13 (C13)	05:27	06:34 (C14)	06:29		07:18 (C15)		07:30	08:34	
	22:05	11	05:24 (C13)	21:15	38	07:12 (C14)	19:58	17	07:35 (C15)	18:38	15:40
8	04:37	05:14 (C13)	05:29	06:34 (C14)	06:31		07:17 (C15)		07:32	08:35	
	22:04	10	05:24 (C13)	21:13	38	07:12 (C14)	19:55	19	07:36 (C15)	18:35	15:40
9	04:38	05:15 (C13)	05:31	06:34 (C14)	06:33		07:15 (C15)		07:34	08:37	
	22:03	8	05:23 (C13)	21:11	38	07:12 (C14)	19:53	21	07:36 (C15)	18:33	15:39
10	04:40	05:16 (C13)	05:33	06:33 (C14)	06:35		07:15 (C15)		07:36	08:38	
	22:02	7	05:23 (C13)	21:08	39	07:12 (C14)	19:50	21	07:36 (C15)	18:30	15:39
11	04:41	05:18 (C13)	05:35	06:34 (C14)	06:37		07:14 (C15)		07:38	08:39	
	22:01	5	05:23 (C13)	21:06	38	07:12 (C14)	19:47	22	07:36 (C15)	18:27	15:39
12	04:42	05:19 (C13)	05:37	06:33 (C14)	06:39		07:14 (C15)		07:40	08:40	
	22:00	2	05:21 (C13)	21:04	38	07:11 (C14)	19:45	22	07:36 (C15)	18:25	15:38
13	04:44		05:39	06:33 (C14)	06:41		07:13 (C15)		07:42	08:42	
	21:59		21:02	38	07:11 (C14)	19:42	23	07:36 (C15)	18:22	16:11	15:38
14	04:45		05:41	06:33 (C14)	06:43		07:14 (C15)		07:44	08:43	
	21:58		20:59	38	07:11 (C14)	19:39	21	07:35 (C15)	18:20	16:10	15:38
15	04:46		05:43	06:33 (C14)	06:45		07:14 (C15)		07:46	08:44	
	21:57		20:57	37	07:10 (C14)	19:37	20	07:34 (C15)	18:17	16:08	15:38
16	04:48		05:45	06:34 (C14)	06:47		07:16 (C15)		07:48	08:45	
	21:55		20:54	36	07:10 (C14)	19:34	17	07:33 (C15)	18:15	16:06	15:38
17	04:49		05:47	06:34 (C14)	06:49		07:18 (C15)		07:50	08:45	
	21:54		20:52	35	07:09 (C14)	19:31	13	07:31 (C15)	18:12	16:04	15:38
18	04:51		05:49	06:35 (C14)	06:51		07:20 (C15)		07:52	08:46	
	21:52		20:50	34	07:09 (C14)	19:29	9	07:29 (C15)	18:09	16:03	15:38
19	04:53		05:51	06:35 (C14)	06:53		07:22 (C15)		07:55	08:47	
	21:51		20:47	32	07:07 (C14)	19:26	3	07:25 (C15)	18:07	16:01	15:38
20	04:54		05:53	06:35 (C14)	06:55				07:57	08:48	
	21:49		20:45	31	07:06 (C14)	19:23			18:04	15:59	15:39
21	04:56		05:55	06:37 (C14)	06:57		07:45 (C16)		07:59	08:05	08:48
	21:48		20:42	27	07:04 (C14)	19:21	3	07:48 (C16)	18:02	15:58	15:39
22	04:58		05:57	06:38 (C14)	06:59		07:41 (C16)		08:01	08:07	08:49
	21:46		20:40	25	07:03 (C14)	19:18	10	07:51 (C16)	18:00	15:56	15:40
23	04:59		05:59	06:40 (C14)	07:01		07:39 (C16)		08:03	08:09	08:49
	21:45		20:37	20	07:00 (C14)	19:15	14	07:53 (C16)	17:57	15:55	15:40
24	05:01	06:48 (C14)	06:01	06:42 (C14)	07:03		07:38 (C16)		08:05	08:11	08:50
	21:43	10	06:58 (C14)	20:35	16	06:58 (C14)	19:12	15	07:53 (C16)	17:55	15:41
25	05:03	06:46 (C14)	06:03	06:47 (C14)	07:05		07:37 (C16)		07:07	08:13	08:50
	21:41	15	07:01 (C14)	20:32	6	06:53 (C14)	19:10	17	07:54 (C16)	16:52	15:41
26	05:05	06:43 (C14)	06:05		07:07		07:36 (C16)		07:10	08:15	08:51
	21:39	19	07:02 (C14)	20:30		19:07	18	07:54 (C16)	16:50	15:51	15:42
27	05:06	06:42 (C14)	06:07		07:09		07:38 (C16)		07:12	08:17	08:51
	21:37	22	07:04 (C14)	20:27		19:04	15	07:53 (C16)	16:48	15:50	15:43
28	05:08	06:41 (C14)	06:09		07:11		07:40 (C16)		07:14	08:19	08:51
	21:36	25	07:06 (C14)	20:24		19:02	12	07:52 (C16)	16:45	15:48	15:44
29	05:10	06:39 (C14)	06:11		07:13		07:42 (C16)		07:16	08:21	08:51
	21:34	27	07:06 (C14)	20:22		18:59	9	07:51 (C16)	16:43	15:47	15:45
30	05:12	06:39 (C14)	06:13		07:15		07:44 (C16)		07:18	08:22	08:51
	21:32	28	07:07 (C14)	20:19		18:56	6	07:50 (C16)	16:41	15:46	15:46
31	05:14	06:38 (C14)	06:15						07:20		08:51
	21:30	31	07:09 (C14)	20:17					16:38		15:47
Potential sun hours	529		469		385		324		247		216
Total, worst case	310		814		368		2				
Sun reduction	0.49		0.50		0.43		0.26				
Oper. time red.	0.98		0.98		0.98		0.98				
Wind dir. red.	0.66		0.65		0.65		0.64				
Total reduction	0.32		0.32		0.27		0.16				
Total, real	98		258		100		0				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Viksnes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (19)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:35	08:24 15:44
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:43
3	08:50 15:50	08:11 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:50 15:51	08:09 16:51	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:57	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:18 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:34 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:20	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:12	04:28 22:02	04:37 22:03	05:31 21:11	06:33 19:52	07:33 18:32	07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:07	06:24 20:11	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:09	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:04	08:45 15:37
18	08:37 16:15	07:38 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:24 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:06	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:01	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:12 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:10	05:09 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:46	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:51		04:36 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vipes skola 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (187)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March	April	May		June
1	08:51		10:32 (C13)	08:15		10:53 (C13)	07:11	06:49	05:32		04:36
	15:48	41	11:13 (C13)	16:45	18	11:11 (C13)	17:48	19:53	20:55		21:53
2	08:50		10:33 (C13)	08:13		10:57 (C13)	07:08	06:46	05:30	05:58 (C1)	04:35
	15:49	41	11:14 (C13)	16:47	11	11:08 (C13)	17:50	19:55	20:57	5	21:54
3	08:50		10:33 (C13)	08:11			07:06	06:43	05:28	05:56 (C1)	04:34
	15:51	41	11:14 (C13)	16:50			17:52	19:57	21:00	9	21:55
4	08:50		10:33 (C13)	08:09			07:03	06:41	05:26	05:54 (C1)	04:33
	15:52	41	11:14 (C13)	16:52			17:54	19:59	21:02	12	21:57
5	08:49		10:34 (C13)	08:07			07:00	06:38	05:23	05:52 (C1)	04:32
	15:53	41	11:15 (C13)	16:54			17:56	20:01	21:04	15	21:58
6	08:49		10:34 (C13)	08:05			06:58	06:35	05:21	05:50 (C1)	04:31
	15:55	42	11:16 (C13)	16:56			17:58	20:03	21:06	18	21:59
7	08:48		10:34 (C13)	08:03			06:55	06:33	05:19	05:48 (C1)	04:30
	15:56	42	11:16 (C13)	16:59			18:00	20:05	21:08	20	22:00
8	08:48		10:35 (C13)	08:01			06:53	06:30	05:17	05:48 (C1)	04:29
	15:58	42	11:17 (C13)	17:01			18:03	20:08	21:10	21	22:01
9	08:47		10:35 (C13)	07:58			06:50	06:28	05:15	05:48 (C1)	04:28
	15:59	42	11:17 (C13)	17:03			18:05	20:10	21:12	21	22:02
10	08:46		10:35 (C13)	07:56			06:47	06:25	05:13	05:48 (C1)	04:28
	16:01	43	11:18 (C13)	17:05			18:07	20:12	21:14	21	22:03
11	08:45		10:36 (C13)	07:54			06:45	06:22	05:11	05:47 (C1)	04:27
	16:03	42	11:18 (C13)	17:08			18:09	20:14	21:16	21	22:04
12	08:44		10:36 (C13)	07:52			06:42	06:20	05:08	05:47 (C1)	04:27
	16:04	43	11:19 (C13)	17:10			18:11	20:16	21:18	21	22:05
13	08:43		10:36 (C13)	07:49			06:40	06:17	05:06	05:47 (C1)	04:26
	16:06	43	11:19 (C13)	17:12			18:13	20:18	21:20	20	22:06
14	08:42		10:37 (C13)	07:47			06:37	06:14	05:04	05:49 (C1)	04:26
	16:08	42	11:19 (C13)	17:14			18:15	20:20	21:22	19	22:07
15	08:41		10:37 (C13)	07:45			06:34	06:12	05:03	05:49 (C1)	04:26
	16:10	42	11:19 (C13)	17:17			18:18	20:22	21:24	18	22:07
16	08:40		10:38 (C13)	07:43			06:32	06:09	05:01	05:49 (C1)	04:25
	16:12	42	11:20 (C13)	17:19			18:20	20:24	21:25	17	22:08
17	08:39		10:39 (C13)	07:40			06:29	06:07	04:59	05:51 (C1)	04:25
	16:14	41	11:20 (C13)	17:21			18:22	20:26	21:27	15	22:08
18	08:37		10:39 (C13)	07:38			06:26	06:04	04:57	05:51 (C1)	04:25
	16:16	41	11:20 (C13)	17:23			18:24	20:28	21:29	13	22:09
19	08:36		10:39 (C13)	07:35			06:24	06:02	04:55	05:52 (C1)	04:25
	16:18	41	11:20 (C13)	17:26			18:26	20:30	21:31	11	22:09
20	08:35		10:40 (C13)	07:33			06:21	05:59	04:53	05:55 (C1)	04:25
	16:20	41	11:21 (C13)	17:28			18:28	20:33	21:33	6	22:10
21	08:33		10:40 (C13)	07:31			06:18	05:57	04:52		04:25
	16:22	40	11:20 (C13)	17:30			18:30	20:35	21:35		22:10
22	08:32		10:41 (C13)	07:28			06:16	05:54	04:50		04:25
	16:24	39	11:20 (C13)	17:32			18:32	20:37	21:37		22:10
23	08:30		10:41 (C13)	07:26			06:13	05:52	04:48		04:26
	16:26	39	11:20 (C13)	17:34			18:34	20:39	21:38		22:10
24	08:29		10:43 (C13)	07:23			06:10	05:49	04:47		04:26
	16:28	37	11:20 (C13)	17:37			18:36	20:41	21:40		22:10
25	08:27		10:44 (C13)	07:21			06:07	05:47	04:45		04:26
	16:30	36	11:20 (C13)	17:39			18:38	20:43	21:42		22:10
26	08:26		10:44 (C13)	07:18			06:05	05:44	04:44		04:27
	16:32	35	11:19 (C13)	17:41			18:41	20:45	21:43		22:10
27	08:24		10:45 (C13)	07:16			06:02	05:42	04:42		04:27
	16:34	33	11:18 (C13)	17:43			18:43	20:47	21:45		22:10
28	08:22		10:47 (C13)	07:13			05:59	05:40	04:41		04:28
	16:36	31	11:18 (C13)	17:45			18:45	20:49	21:47		22:10
29	08:20		10:48 (C13)				06:57	05:37	04:40		04:29
	16:39	29	11:17 (C13)				19:47	20:51	21:48		22:10
30	08:18		10:50 (C13)				06:54	05:35	04:38		04:29
	16:41	26	11:16 (C13)				19:49	20:53	21:50		22:09
31	08:17		10:52 (C13)				06:51		04:37		
	16:43	22	11:14 (C13)				19:51		21:51		
Potential sun hours	235			266			366	426	508		529
Total, worst case		1201			29					303	
Sun reduction		0.13			0.20					0.57	
Oper. time red.		0.98			0.98					0.98	
Wind dir. red.		0.61			0.61					0.67	
Total reduction		0.08			0.12					0.36	
Total, real		92			3					109	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker
			(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vipes skola 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (187)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	05:58 (C1) 20:14	06:17 18:54	07:17 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 (C1) 20:11	06:19 18:51	07:25 16:34	08:26 15:44
3	04:32 22:08	05:19 21:24	06:19 (C1) 20:09	06:21 18:48	07:27 16:32	08:28 15:43
4	04:33 22:07	05:21 21:22	06:19 (C1) 20:06	06:23 18:46	07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:19 (C1) 20:03	06:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:19 (C1) 20:01	06:27 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:00 (C1) 19:58	06:29 18:38	07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:02 (C1) 19:55	06:31 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:04 (C1) 19:53	06:33 18:32	07:40 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:06 (C1) 19:50	06:35 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:07 (C1) 19:47	06:37 18:27	07:44 16:15	08:39 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	04:59 21:45	06:07 (C1) 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:09 (C1) 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:13 (C1) 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	05:04 21:39	06:15 (C1) 20:30	07:07 19:07	08:15 17:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:17 (C1) 20:27	07:09 19:04	08:17 17:47	08:17 15:49	08:51 15:43
28	05:08 21:36	06:19 (C1) 20:24	07:11 19:02	08:19 17:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:17 (C1) 20:22	07:13 18:59	08:21 17:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:18 (C1) 20:19	07:15 18:56	08:22 17:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:19 (C1) 20:17	07:20 16:38	08:24 15:47	08:24 15:47	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	128	178			776	1249
Sun reduction	0.49	0.50			0.08	0.07
Oper. time red.	0.98	0.98			0.98	0.98
Wind dir. red.	0.67	0.67			0.61	0.61
Total reduction	0.31	0.31			0.05	0.04
Total, real	40	56			37	50

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vipmali - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (115)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January				February				March		April				May				June			
1	08:51		09:35 (C6)	08:15		09:00 (C2)	07:11		06:49					05:32		07:24 (C17)	04:36		07:38 (C17)			
	15:48	62	13:10 (C1)	16:45	28	09:28 (C2)	17:47		19:53					20:55	80	08:44 (C17)	21:53	46	08:24 (C17)			
2	08:50		09:36 (C6)	08:13		09:00 (C2)	07:08		06:46					05:30		07:24 (C17)	04:34		07:38 (C17)			
	15:49	59	13:11 (C1)	16:47	29	09:29 (C2)	17:50		19:55					20:57	79	08:43 (C17)	21:54	46	08:24 (C17)			
3	08:50		09:36 (C6)	08:11		09:00 (C2)	07:06		06:43				08:03 (C17)	05:28		07:24 (C17)	04:33		07:39 (C17)			
	15:50	56	13:10 (C1)	16:49	30	09:30 (C2)	17:52		19:57	16	08:19 (C17)	20:59		20:59	79	08:43 (C17)	21:55	44	08:23 (C17)			
4	08:50		09:36 (C6)	08:09		09:00 (C2)	07:03		06:41				07:58 (C17)	05:25		07:24 (C17)	04:32		07:40 (C17)			
	15:52	54	13:10 (C1)	16:52	30	09:30 (C2)	17:54		19:59	27	08:25 (C17)	21:02		21:02	79	08:43 (C17)	21:57	42	08:22 (C17)			
5	08:49		09:37 (C6)	08:07		09:00 (C2)	07:00		06:38				07:54 (C17)	05:23		07:25 (C17)	04:31		07:41 (C17)			
	15:53	47	13:11 (C1)	16:54	30	09:30 (C2)	17:56		20:01	34	08:28 (C17)	21:04		21:04	77	08:42 (C17)	21:58	41	08:22 (C17)			
6	08:49		09:37 (C6)	08:05		09:00 (C2)	06:58		06:35				07:51 (C17)	05:21		07:25 (C17)	04:31		07:42 (C17)			
	15:55	47	13:11 (C1)	16:56	30	09:30 (C2)	17:58		20:03	40	08:31 (C17)	21:06		21:06	77	08:42 (C17)	21:59	39	08:21 (C17)			
7	08:48		09:38 (C6)	08:03		09:00 (C2)	06:55		06:33				07:48 (C17)	05:19		07:25 (C17)	04:30		07:42 (C17)			
	15:56	45	13:11 (C1)	16:58	30	09:30 (C2)	18:00		20:05	45	08:33 (C17)	21:08		21:08	77	08:42 (C17)	22:00	38	08:20 (C17)			
8	08:48		09:38 (C6)	08:00		09:01 (C2)	06:53		06:30				07:45 (C17)	05:17		07:25 (C17)	04:29		07:44 (C17)			
	15:58	45	13:11 (C1)	17:01	29	09:30 (C2)	18:02		20:07	49	08:34 (C17)	21:10		21:10	76	08:41 (C17)	22:01	36	08:20 (C17)			
9	08:47		09:39 (C6)	07:58		09:01 (C2)	06:50		06:27				07:44 (C17)	05:14		07:25 (C17)	04:28		07:44 (C17)			
	15:59	42	13:10 (C1)	17:03	28	09:29 (C2)	18:05		20:10	52	08:36 (C17)	21:12		21:12	75	08:40 (C17)	22:02	35	08:19 (C17)			
10	08:46		09:40 (C6)	07:56		09:02 (C2)	06:47		06:25				07:41 (C17)	05:12		07:25 (C17)	04:28		07:46 (C17)			
	16:01	40	13:10 (C1)	17:05	27	09:29 (C2)	18:07		20:12	56	08:37 (C17)	21:14		21:14	75	08:40 (C17)	22:03	33	08:19 (C17)			
11	08:45		09:41 (C6)	07:54		09:03 (C2)	06:45		06:22				07:40 (C17)	05:10		07:25 (C17)	04:27		07:46 (C17)			
	16:03	37	13:10 (C1)	17:07	25	09:28 (C2)	18:09		20:14	59	08:39 (C17)	21:16		21:16	74	08:39 (C17)	22:04	32	08:18 (C17)			
12	08:44		09:42 (C6)	07:52		09:04 (C2)	06:42		06:20				07:38 (C17)	05:08		07:25 (C17)	04:27		07:47 (C17)			
	16:04	35	13:10 (C1)	17:10	23	09:27 (C2)	18:11		20:16	62	08:40 (C17)	21:18		21:18	73	08:38 (C17)	22:05	31	08:18 (C17)			
13	08:43		09:42 (C6)	07:49		09:05 (C2)	06:39		06:17				07:37 (C17)	05:06		07:26 (C17)	04:26		07:48 (C17)			
	16:06	31	13:08 (C1)	17:12	21	09:26 (C2)	18:13		20:18	64	08:41 (C17)	21:20		21:20	72	08:38 (C17)	22:06	29	08:17 (C17)			
14	08:42		09:44 (C6)	07:47		09:06 (C2)	06:37		06:14				07:35 (C17)	05:04		07:26 (C17)	04:26		07:48 (C17)			
	16:08	25	13:07 (C1)	17:14	18	09:24 (C2)	18:15		20:20	66	08:41 (C17)	21:22		21:22	71	08:37 (C17)	22:07	28	08:16 (C17)			
15	08:41		09:46 (C6)	07:45		09:09 (C2)	06:34		06:12				07:34 (C17)	05:02		07:27 (C17)	04:25		07:49 (C17)			
	16:10	18	13:06 (C1)	17:16	13	09:22 (C2)	18:17		20:22	69	08:43 (C17)	21:24		21:24	70	08:37 (C17)	22:07	27	08:16 (C17)			
16	08:40		09:49 (C6)	07:43			06:31		06:09				07:33 (C17)	05:00		07:27 (C17)	04:25		07:49 (C17)			
	16:12	2	09:51 (C6)	17:19			18:19		20:24	70	08:43 (C17)	21:25		21:25	69	08:36 (C17)	22:08	27	08:16 (C17)			
17	08:39			07:40			06:29		06:07				07:32 (C17)	04:59		07:27 (C17)	04:25		07:50 (C17)			
	16:13			17:21			18:22		20:26	72	08:44 (C17)	21:27		21:27	68	08:35 (C17)	22:08	26	08:16 (C17)			
18	08:37			07:38			06:26		06:04				07:31 (C17)	04:57		07:28 (C17)	04:25		07:51 (C17)			
	16:15			17:23			18:24		20:28	72	08:43 (C17)	21:29		21:29	67	08:35 (C17)	22:09	25	08:16 (C17)			
19	08:36			07:35			06:23		06:02				07:30 (C17)	04:55		07:28 (C17)	04:25		07:51 (C17)			
	16:17			17:25			18:26		20:30	74	08:44 (C17)	21:31		21:31	66	08:34 (C17)	22:09	25	08:16 (C17)			
20	08:35			07:33			06:21		05:59				07:29 (C17)	04:53		07:29 (C17)	04:25		07:51 (C17)			
	16:19			17:28			18:28		20:32	75	08:44 (C17)	21:33		21:33	64	08:33 (C17)	22:10	25	08:16 (C17)			
21	08:33			07:31			06:18		05:56				07:29 (C17)	04:51		07:29 (C17)	04:25		07:51 (C17)			
	16:21			17:30			18:30		20:35	76	08:45 (C17)	21:35		21:35	63	08:32 (C17)	22:10	25	08:16 (C17)			
22	08:32			07:28			06:15		05:54				07:27 (C17)	04:50		07:31 (C17)	04:25		07:52 (C17)			
	16:23			17:32			18:32		20:37	77	08:44 (C17)	21:36		21:36	61	08:32 (C17)	22:10	25	08:17 (C17)			
23	08:30		09:08 (C2)	07:26			06:13		05:52				07:27 (C17)	04:48		07:31 (C17)	04:25		07:52 (C17)			
	16:26	8	09:16 (C2)	17:34			18:34		20:39	77	08:44 (C17)	21:38		21:38	60	08:31 (C17)	22:10	25	08:17 (C17)			
24	08:29		09:07 (C2)	07:23			06:10		05:49				07:27 (C17)	04:46		07:32 (C17)	04:26		07:52 (C17)			
	16:28	13	09:20 (C2)	17:36			18:36		20:41	78	08:45 (C17)	21:40		21:40	58	08:30 (C17)	22:10	25	08:17 (C17)			
25	08:27		09:05 (C2)	07:21			06:07		05:47				07:26 (C17)	04:45		07:33 (C17)	04:26		07:52 (C17)			
	16:30	17	09:22 (C2)	17:39			18:38		20:43	78	08:44 (C17)	21:42		21:42	57	08:30 (C17)	22:10	26	08:18 (C17)			
26	08:25		09:04 (C2)	07:18			06:05		05:44				07:25 (C17)	04:43		07:33 (C17)	04:27		07:52 (C17)			
	16:32	19	09:23 (C2)	17:41			18:40		20:45	79	08:44 (C17)	21:43		21:43	55	08:28 (C17)	22:10	26	08:18 (C17)			
27	08:24		09:03 (C2)	07:16			06:02		05:42				07:25 (C17)	04:42		07:33 (C17)	04:27		07:52 (C17)			
	16:34	22	09:25 (C2)	17:43			18:42		20:47	80	08:45 (C17)	21:45		21:45	55	08:28 (C17)	22:10	27	08:19 (C17)			
28	08:22		09:02 (C2)	07:13			05:59		05:39				07:25 (C17)	04:41		07:34 (C17)	04:28		07:51 (C17)			
	16:36	24	09:26 (C2)	17:45			18:45		20:49	80	08:45 (C17)	21:47		21:47	53	08:27 (C17)	22:10	28	08:19 (C17)			
29	08:20		09:01 (C2)				06:57		05:37				07:24 (C17)	04:39		07:35 (C17)	04:28		07:51 (C17)			
	16:38	26	09:27 (C2)				19:47		20:51	80	08:44 (C17)	21:48		21:48	52	08:27 (C17)	22:10	29	08:20 (C17)			
30	08:18		09:01 (C2)				06:54		05:35				07:24 (C17)	04:38		07:36 (C17)	04:29		07:50 (C17)			
	16:41	27	09:28 (C2)				19:49		20:53	80	08:44 (C17)	21:50		21:50	50	08:26 (C17)	22:09	31	08:21 (C17)			
31	08:17		09:01 (C2)				06:51							04:37		07:37 (C17)						
	16:43	28	09:29 (C2)				19:51							21:51	48	08:25 (C17)						
Potential sun hours	235			266			366		426					508			529					
Total, worst case		829			391				1787					2080				942				
Sun reduction		0.13			0.20				0.50					0.57				0.56				
Oper. time red.		0.98			0.98				0.98					0.98				0.98				
Wind dir. red.		0.62			0.59				0.65					0.65				0.65				
Total reduction		0.08			0.11				0.31					0.36				0.35				
Total, real		66			45				562					743				331				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Vipmali - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (115)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July		August		September		October		November		December							
1	04:30		07:50 (C17)	05:15		07:36 (C17)	06:17		07:39 (C17)	07:17		07:22	08:31 (C2)	08:24	09:23 (C6)			
	22:09	32	08:22 (C17)	21:28	73	08:49 (C17)	20:14	59	08:38 (C17)	18:53		16:36	27	08:58 (C2)	15:45	37	12:52 (C1)	
2	04:31		07:50 (C17)	05:17		07:35 (C17)	06:19		07:40 (C17)	07:19		07:25		08:30 (C2)	08:26		09:23 (C6)	
	22:09	33	08:23 (C17)	21:26	75	08:50 (C17)	20:11	56	08:36 (C17)	18:51		16:34	29	08:59 (C2)	15:44	40	12:53 (C1)	
3	04:31		07:50 (C17)	05:19		07:35 (C17)	06:21		07:42 (C17)	07:21		07:27		08:31 (C2)	08:28		09:22 (C6)	
	22:08	34	08:24 (C17)	21:24	75	08:50 (C17)	20:09	53	08:35 (C17)	18:48		16:31	29	09:00 (C2)	15:43	42	12:53 (C1)	
4	04:32		07:49 (C17)	05:21		07:34 (C17)	06:23		07:42 (C17)	07:23		07:29		08:30 (C2)	08:29		09:23 (C6)	
	22:07	36	08:25 (C17)	21:22	76	08:50 (C17)	20:06	49	08:31 (C17)	18:45		16:29	30	09:00 (C2)	15:42	44	12:55 (C1)	
5	04:33		07:49 (C17)	05:23		07:34 (C17)	06:25		07:44 (C17)	07:25		07:31		08:29 (C2)	08:31		09:23 (C6)	
	22:07	37	08:26 (C17)	21:19	77	08:51 (C17)	20:03	45	08:29 (C17)	18:43		16:27	30	08:59 (C2)	15:41	45	12:56 (C1)	
6	04:34		07:49 (C17)	05:25		07:34 (C17)	06:27		07:46 (C17)	07:27		07:33		08:30 (C2)	08:32		09:24 (C6)	
	22:06	38	08:27 (C17)	21:17	77	08:51 (C17)	20:01	40	08:26 (C17)	18:40		16:25	30	09:00 (C2)	15:41	45	12:57 (C1)	
7	04:35		07:48 (C17)	05:27		07:34 (C17)	06:29		07:49 (C17)	07:29		07:36		08:30 (C2)	08:34		09:23 (C6)	
	22:05	40	08:28 (C17)	21:15	78	08:52 (C17)	19:58	34	08:23 (C17)	18:38		16:23	30	09:00 (C2)	15:40	47	12:57 (C1)	
8	04:37		07:48 (C17)	05:29		07:34 (C17)	06:31		07:52 (C17)	07:31		07:38		08:31 (C2)	08:35		09:24 (C6)	
	22:04	41	08:29 (C17)	21:13	78	08:52 (C17)	19:55	27	08:19 (C17)	18:35		16:21	29	09:00 (C2)	15:39	54	12:58 (C1)	
9	04:38		07:47 (C17)	05:31		07:34 (C17)	06:33		07:57 (C17)	07:34		07:40		08:30 (C2)	08:37		09:24 (C6)	
	22:03	43	08:30 (C17)	21:11	78	08:52 (C17)	19:53	17	08:14 (C17)	18:32		16:19	30	09:00 (C2)	15:39	57	12:59 (C1)	
10	04:39		07:46 (C17)	05:33		07:33 (C17)	06:35			07:36		07:42		08:30 (C2)	08:38		09:25 (C6)	
	22:02	45	08:31 (C17)	21:08	79	08:52 (C17)	19:50			18:30		16:17	29	08:59 (C2)	15:39	59	13:00 (C1)	
11	04:40		07:46 (C17)	05:35		07:33 (C17)	06:37			07:38		07:44		08:32 (C2)	08:39		09:25 (C6)	
	22:01	45	08:31 (C17)	21:06	79	08:52 (C17)	19:47			18:27		16:15	27	08:59 (C2)	15:38	62	13:00 (C1)	
12	04:42		07:45 (C17)	05:37		07:33 (C17)	06:39			07:40		07:46		08:32 (C2)	08:40		09:26 (C6)	
	22:00	47	08:32 (C17)	21:04	79	08:52 (C17)	19:45			18:24		16:13	27	08:59 (C2)	15:38	63	13:01 (C1)	
13	04:43		07:45 (C17)	05:39		07:33 (C17)	06:41			07:42		07:49		08:33 (C2)	08:42		09:26 (C6)	
	21:59	49	08:34 (C17)	21:01	79	08:52 (C17)	19:42			18:22		16:11	26	08:59 (C2)	15:38	66	13:02 (C1)	
14	04:45		07:44 (C17)	05:41		07:33 (C17)	06:43			07:44		07:51		08:34 (C2)	08:43		09:26 (C6)	
	21:58	51	08:35 (C17)	20:59	79	08:52 (C17)	19:39			18:19		16:09	24	08:58 (C2)	15:38	66	13:02 (C1)	
15	04:46		07:43 (C17)	05:43		07:33 (C17)	06:45			07:46		07:53		08:35 (C2)	08:44		09:27 (C6)	
	21:57	52	08:35 (C17)	20:57	79	08:52 (C17)	19:37			18:17		16:07	21	08:56 (C2)	15:38	67	13:03 (C1)	
16	04:47		07:43 (C17)	05:45		07:32 (C17)	06:47			07:48		07:55		08:37 (C2)	08:45		09:27 (C6)	
	21:55	54	08:37 (C17)	20:54	79	08:51 (C17)	19:34			18:14		16:06	19	08:56 (C2)	15:38	67	13:03 (C1)	
17	04:49		07:43 (C17)	05:47		07:32 (C17)	06:49			07:50		07:57		08:38 (C2)	08:46		09:28 (C6)	
	21:54	54	08:37 (C17)	20:52	79	08:51 (C17)	19:31			18:12		16:04	17	08:55 (C2)	15:38	67	13:04 (C1)	
18	04:51		07:42 (C17)	05:49		07:32 (C17)	06:51			07:52		07:59		08:41 (C2)	08:46		09:29 (C6)	
	21:52	56	08:38 (C17)	20:49	79	08:51 (C17)	19:28			18:09		16:02	13	08:54 (C2)	15:38	69	13:05 (C1)	
19	04:52		07:42 (C17)	05:51		07:32 (C17)	06:53			07:54		08:01		08:43 (C2)	08:47		09:29 (C6)	
	21:51	57	08:39 (C17)	20:47	78	08:50 (C17)	19:26			18:07		16:01	8	08:51 (C2)	15:38	68	13:05 (C1)	
20	04:54		07:41 (C17)	05:53		07:33 (C17)	06:55			07:57		08:03			08:48		09:29 (C6)	
	21:49	59	08:40 (C17)	20:45	77	08:50 (C17)	19:23			18:04		15:59			15:38	68	13:05 (C1)	
21	04:56		07:41 (C17)	05:55		07:33 (C17)	06:57			07:59		08:05			08:48		09:30 (C6)	
	21:48	60	08:41 (C17)	20:42	77	08:50 (C17)	19:20			18:02		15:57			15:39	68	13:06 (C1)	
22	04:57		07:41 (C17)	05:57		07:33 (C17)	06:59			08:01		08:07			08:49		09:30 (C6)	
	21:46	62	08:43 (C17)	20:40	76	08:49 (C17)	19:18			17:59		15:56			15:39	69	13:06 (C1)	
23	04:59		07:39 (C17)	05:59		07:34 (C17)	07:01			08:03		08:09			08:50		09:31 (C6)	
	21:45	64	08:43 (C17)	20:37	75	08:49 (C17)	19:15			17:57		15:54			15:40	68	13:07 (C1)	
24	05:01		07:39 (C17)	06:01		07:34 (C17)	07:03			08:05		08:11			08:50		09:31 (C6)	
	21:43	65	08:44 (C17)	20:35	74	08:48 (C17)	19:12			17:54		15:53			15:40	68	13:07 (C1)	
25	05:02		07:38 (C17)	06:03		07:34 (C17)	07:05			07:07		08:13			08:50		09:31 (C6)	
	21:41	66	08:44 (C17)	20:32	72	08:46 (C17)	19:10			16:52		15:52			15:41	70	13:08 (C1)	
26	05:04		07:38 (C17)	06:05		07:34 (C17)	07:07			07:09		08:15			08:51		09:32 (C6)	
	21:39	67	08:45 (C17)	20:29	71	08:45 (C17)	19:07			16:50	6	08:48 (C2)	15:50	2	09:29 (C6)	15:42	68	13:08 (C1)
27	05:06		07:38 (C17)	06:07		07:35 (C17)	07:09			07:12		08:38 (C2)	08:17		09:25 (C6)	15:41		09:32 (C6)
	21:38	68	08:46 (C17)	20:27	69	08:44 (C17)	19:04			16:47	14	08:52 (C2)	15:49	18	12:45 (C1)	15:42	67	13:08 (C1)
28	05:08		07:37 (C17)	06:09		07:35 (C17)	07:11			07:14		08:35 (C2)	08:19		09:24 (C6)	15:41		09:33 (C6)
	21:36	69	08:46 (C17)	20:24	68	08:43 (C17)	19:01			16:45	19	08:54 (C2)	15:48	25	12:47 (C1)	15:43	67	13:09 (C1)
29	05:10		07:37 (C17)	06:11		07:36 (C17)	07:13			07:16		08:34 (C2)	08:21		09:24 (C6)	15:41		09:33 (C6)
	21:34	70	08:47 (C17)	20:22	66	08:42 (C17)	18:59			16:43	22	08:56 (C2)	15:47	30	12:49 (C1)	15:44	67	13:09 (C1)
30	05:12		07:37 (C17)	06:13		07:37 (C17)	07:15			07:18		08:33 (C2)	08:22		09:23 (C6)	15:41		09:34 (C6)
	21:32	71	08:48 (C17)	20:19	64	08:41 (C17)	18:56			16:40	24	08:57 (C2)	15:46	35	12:51 (C1)	15:45	65	13:10 (C1)
31	05:14		07:36 (C17)	06:15		07:38 (C17)				07:20		08:31 (C2)			08:51			09:35 (C6)
	21:30	72	08:48 (C17)	20:17	62	08:40 (C17)				16:38	26	08:57 (C2)			15:46	64	13:10 (C1)	
Potential sun hours		529		469		385				324		247			216			
Total, worst case		1637		2327		380				111		585			1874			
Sun reduction		0.49		0.50		0.43				0.26		0.08			0.07			
Oper. time red.		0.98		0.98		0.98				0.98		0.98			0.98			
Wind dir. red.		0.65		0.65		0.65				0.59		0.59			0.62			
Total reduction		0.31		0.31		0.27				0.15		0.05			0.04			
Total, real		508		729		102				16		28			80			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Zalumi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (178)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	05:50 (C16) 06:05 (C16)	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	05:51 (C16) 06:03 (C16)	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:24	05:53 (C16) 06:03 (C16)	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:56	04:33 22:07	05:22 21:22	05:55 (C16) 06:02 (C16)	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:19	05:57 (C16) 06:02 (C16)	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	05:58 (C16) 05:59 (C16)	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:05	05:19 21:08	05:48 (C16) 05:50 (C16)	04:36 22:00	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41	
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:08	05:17 21:10	05:46 (C16) 05:52 (C16)	04:37 22:01	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	08:35 15:40	
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	05:44 (C16) 05:52 (C16)	04:38 22:02	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:36 15:39	
10	08:46 16:01	07:56 17:06	06:47 18:07	06:25 20:12	05:13 21:14	05:42 (C16) 05:53 (C16)	04:40 22:03	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39	
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	05:40 (C16) 05:53 (C16)	04:41 22:02	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39	
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	05:38 (C16) 05:53 (C16)	04:42 22:01	05:37 21:06	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38	
13	08:43 16:06	07:49 17:12	06:40 18:13	06:17 20:18	05:07 21:20	05:37 (C16) 05:54 (C16)	04:44 22:06	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38	
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	05:36 (C16) 05:54 (C16)	04:45 22:06	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:42 15:38	
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:23	05:36 (C16) 05:54 (C16)	04:47 22:07	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38	
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:25	05:36 (C16) 05:53 (C16)	04:48 22:08	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:44 15:38	
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	05:37 (C16) 05:54 (C16)	04:50 22:08	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38	
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	05:37 (C16) 05:53 (C16)	04:51 22:09	05:49 20:51	06:51 19:29	07:52 18:09	07:59 16:03	08:46 15:38	
19	08:36 16:18	07:35 17:26	06:24 18:26	06:02 20:30	04:55 21:31	05:38 (C16) 05:53 (C16)	04:53 22:09	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39	
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	05:38 (C16) 05:52 (C16)	04:54 22:10	05:53 (C16) 05:57 (C16)	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39	
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	05:39 (C16) 05:52 (C16)	04:56 22:10	05:51 (C16) 05:59 (C16)	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39	
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	05:40 (C16) 05:50 (C16)	04:58 22:10	05:50 (C16) 06:01 (C16)	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40	
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:49 21:38	05:42 (C16) 05:49 (C16)	04:59 22:10	05:48 (C16) 06:01 (C16)	06:59 19:15	08:03 17:57	08:09 15:55	08:49 15:40	
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	05:49 (C16) 22:10	05:01 21:43	06:01 (C16) 06:03 (C16)	07:01 19:12	08:05 17:55	08:11 15:53	08:50 15:41	
25	08:27 16:30	07:21 17:39	06:08 18:38	05:47 20:43	04:45 21:42	05:54 (C16) 22:10	05:03 21:41	06:03 (C16) 06:04 (C16)	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41	
26	08:25 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	05:57 (C16) 22:10	05:05 21:39	06:05 (C16) 06:03 (C16)	07:07 19:07	07:10 16:50	08:15 15:51	08:50 15:42	
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	05:58 (C16) 22:10	05:07 21:37	06:04 (C16) 06:05 (C16)	07:09 19:04	07:12 16:48	08:17 15:50	08:51 15:43	
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:46	05:58 (C16) 22:10	05:08 21:36	06:05 (C16) 06:06 (C16)	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44	
29	08:20 16:39	07:11 17:57	06:57 18:57	05:37 20:51	04:40 21:48	05:59 (C16) 22:10	05:10 21:34	06:11 (C16) 06:12 (C16)	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45	
30	08:18 16:41	07:08 17:59	06:54 18:54	05:35 20:53	04:38 21:49	05:59 (C16) 22:09	05:12 21:32	06:13 (C16) 06:14 (C16)	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46	
31	08:17 16:43	07:07 17:59	06:51 18:51	05:33 20:51	04:37 21:51	05:59 (C16) 22:10	05:14 21:30	06:15 (C16) 06:05 (C16)	07:16 18:56	07:20 16:38	08:23 15:47	08:51 15:47	
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216	
Total, worst case					217		171	50					
Sun reduction					0.57		0.49	0.50					
Oper. time red.					0.98		0.98	0.98					
Wind dir. red.					0.67		0.67	0.67					
Total reduction					0.37		0.32	0.33					
Total, real					81		55	16					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Zemturi - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (39)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:23 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:18	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:39
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:51 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:49	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:54	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Zemites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (194)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:15 21:27	20:41 (C12)	06:17 18:53	07:17 16:36	07:22 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	20:42 (C12)	06:19 18:51	07:19 16:33	07:24 15:44
3	08:50 15:50	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:33 21:55	04:32 22:07	05:19 21:23	20:43 (C12)	06:21 18:48	07:21 16:31	07:26 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	20:43 (C12)	06:23 18:45	07:23 16:29	07:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:33 22:06	05:23 21:19	20:47 (C12)	06:25 18:43	07:25 16:27	07:31 15:41
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:58	04:35 22:05	05:25 21:17	20:47 (C12)	06:27 18:40	07:27 16:25	07:33 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	20:47 (C12)	06:29 18:37	07:29 16:23	07:35 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	20:35 (C12)	04:29 22:04	05:29 21:12	20:47 (C12)	06:31 18:35	07:31 16:21	07:37 15:40
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:11	20:34 (C12)	04:28 22:02	05:31 21:10	20:47 (C12)	06:33 18:32	07:33 16:19	07:39 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	20:32 (C12)	04:28 22:03	05:33 21:08	20:47 (C12)	06:35 18:30	07:35 16:17	07:42 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	20:32 (C12)	04:27 22:02	05:35 21:06	20:47 (C12)	06:37 18:27	07:37 16:15	07:44 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	20:31 (C12)	04:27 22:05	05:37 21:03	20:47 (C12)	06:39 18:24	07:39 16:13	07:46 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	20:30 (C12)	04:26 22:05	05:39 21:01	20:47 (C12)	06:41 18:22	07:42 16:11	07:48 15:38
14	08:42 16:08	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	20:30 (C12)	04:26 22:06	05:41 21:01	20:47 (C12)	06:43 18:19	07:44 16:09	07:50 15:38
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	20:29 (C12)	04:26 22:07	05:43 21:05	20:47 (C12)	06:45 18:17	07:46 16:07	07:52 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	20:28 (C12)	04:25 22:07	05:45 21:05	20:47 (C12)	06:47 18:14	07:48 16:06	07:54 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	20:27 (C12)	04:25 22:08	05:47 21:05	20:47 (C12)	06:49 18:12	07:50 16:04	07:57 15:38
18	08:37 16:15	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	20:26 (C12)	04:25 22:08	05:49 21:05	20:47 (C12)	06:51 18:09	07:52 16:02	07:59 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	20:25 (C12)	04:25 22:09	05:51 21:05	20:47 (C12)	06:53 18:07	07:54 16:01	08:01 15:38
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	20:24 (C12)	04:25 22:09	05:53 21:05	20:47 (C12)	06:55 18:04	07:56 15:59	08:03 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	20:23 (C12)	04:25 22:09	05:55 21:05	20:47 (C12)	06:57 18:02	07:58 15:57	08:05 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	20:22 (C12)	04:25 22:10	05:57 21:05	20:47 (C12)	06:59 18:01	08:01 15:56	08:07 15:39
23	08:30 16:26	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	20:21 (C12)	04:26 22:10	05:59 21:05	20:47 (C12)	07:01 18:03	08:03 15:54	08:09 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	20:20 (C12)	04:26 22:10	06:01 21:42	20:47 (C12)	07:03 18:05	08:11 15:53	08:19 15:40
25	08:27 16:30	07:20 17:38	06:07 18:38	05:47 20:43	04:45 21:41	20:19 (C12)	04:26 22:10	06:03 21:41	20:47 (C12)	07:05 18:07	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:44 21:43	20:18 (C12)	04:27 22:10	06:05 21:39	20:47 (C12)	07:07 18:09	08:15 15:50	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	20:17 (C12)	04:27 22:10	06:07 21:37	20:47 (C12)	07:09 18:11	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	20:16 (C12)	04:28 22:09	06:09 21:35	20:47 (C12)	07:11 18:13	08:18 15:48	08:50 15:43
29	08:20 16:38	07:10 17:46	05:56 18:46	05:37 20:51	04:39 21:48	20:15 (C12)	04:28 22:09	06:11 21:33	20:47 (C12)	07:13 18:15	08:20 15:47	08:50 15:44
30	08:18 16:41	07:04 17:48	05:54 18:48	05:35 20:53	04:38 21:49	20:14 (C12)	04:29 22:09	06:13 21:31	20:47 (C12)	07:15 18:16	08:22 15:46	08:50 15:45
31	08:16 16:43	07:01 17:51	05:51 18:51	05:37 20:51	04:37 21:51	20:13 (C12)	04:29 22:09	06:15 21:29	20:47 (C12)	07:17 18:18	08:24 15:46	08:50 15:46
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case					204		177	31				
Sun reduction					0.57		0.49	0.50				
Oper. time red.					0.98		0.98	0.98				
Wind dir. red.					0.62		0.62	0.62				
Total reduction					0.35		0.30	0.30				
Total, real					71		53	9				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ziedini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (111)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January		February		March	April	May	June
1	08:51	09:54 (C13)	08:15	07:11	06:49		05:33	04:36
	15:48	29	10:23 (C13)	16:45	17:48	19:53	20:55	21:53
2	08:51	09:55 (C13)	08:13	07:08	06:46		05:30	04:35
	15:49	29	10:24 (C13)	16:47	17:50	19:55	20:58	21:54
3	08:50	09:55 (C13)	08:11	07:06	06:43		05:28	04:34
	15:51	29	10:24 (C13)	16:50	17:52	19:57	21:00	21:55
4	08:50	09:55 (C13)	08:09	07:03	06:41		05:26	04:33
	15:52	30	10:25 (C13)	16:52	17:54	19:59	21:02	21:57
5	08:49	09:56 (C13)	08:07	07:01	06:38		05:23	04:32
	15:53	30	10:26 (C13)	16:54	17:56	20:01	21:04	21:58
6	08:49	09:56 (C13)	08:05	06:58	06:35		05:21	04:31
	15:55	30	10:26 (C13)	16:56	17:58	20:03	21:06	21:59
7	08:48	09:56 (C13)	08:03	06:55	06:33		05:19	04:30
	15:56	31	10:27 (C13)	16:59	18:01	20:05	21:08	22:00
8	08:48	09:56 (C13)	08:01	06:53	06:30		05:17	04:29
	15:58	31	10:27 (C13)	17:01	18:03	20:08	21:10	22:01
9	08:47	09:56 (C13)	07:58	06:50	06:28		05:15	04:28
	15:59	32	10:28 (C13)	17:03	18:05	20:10	21:12	22:02
10	08:46	09:57 (C13)	07:56	06:47	06:25		05:13	04:28
	16:01	31	10:28 (C13)	17:05	18:07	20:12	21:14	22:03
11	08:45	09:57 (C13)	07:54	06:45	06:22		05:11	04:27
	16:03	32	10:29 (C13)	17:08	18:09	20:14	21:16	22:04
12	08:44	09:58 (C13)	07:52	06:42	06:20		05:08	04:27
	16:04	32	10:30 (C13)	17:10	18:11	20:16	21:18	22:05
13	08:43	09:57 (C13)	07:50	06:40	06:17		05:06	04:26
	16:06	32	10:29 (C13)	17:12	18:13	20:18	21:20	22:06
14	08:42	09:58 (C13)	07:47	06:37	06:15		05:04	04:26
	16:08	32	10:30 (C13)	17:14	18:15	20:20	21:22	22:07
15	08:41	09:59 (C13)	07:45	06:34	06:12		05:03	04:26
	16:10	32	10:31 (C13)	17:17	18:18	20:22	21:24	22:07
16	08:40	09:59 (C13)	07:43	06:32	06:09		05:01	04:25
	16:12	32	10:31 (C13)	17:19	18:20	20:24	21:26	22:08
17	08:39	10:00 (C13)	07:40	06:29	06:07		06:33 (C1)	04:59
	16:14	31	10:31 (C13)	17:21	18:22	20:26	1	06:34 (C1)
18	08:38	10:00 (C13)	07:38	06:26	06:04		06:30 (C1)	04:57
	16:16	31	10:31 (C13)	17:23	18:24	20:28	6	06:36 (C1)
19	08:36	10:00 (C13)	07:36	06:24	06:02		06:28 (C1)	04:55
	16:18	31	10:31 (C13)	17:26	18:26	20:30	9	06:37 (C1)
20	08:35	10:02 (C13)	07:33	06:21	05:59		06:25 (C1)	04:53
	16:20	29	10:31 (C13)	17:28	18:28	20:33	12	06:37 (C1)
21	08:33	10:02 (C13)	07:31	06:18	05:57		06:23 (C1)	04:52
	16:22	29	10:31 (C13)	17:30	18:30	20:35	15	06:38 (C1)
22	08:32	10:02 (C13)	07:28	06:16	05:54		06:21 (C1)	04:50
	16:24	28	10:30 (C13)	17:32	18:32	20:37	18	06:39 (C1)
23	08:30	10:03 (C13)	07:26	06:13	05:52		06:20 (C1)	04:48
	16:26	27	10:30 (C13)	17:34	18:34	20:39	18	06:38 (C1)
24	08:29	10:05 (C13)	07:23	06:10	05:49		06:20 (C1)	04:47
	16:28	25	10:30 (C13)	17:37	18:36	20:41	18	06:38 (C1)
25	08:27	10:06 (C13)	07:21	06:07	05:47		06:20 (C1)	04:45
	16:30	23	10:29 (C13)	17:39	18:38	20:43	18	06:38 (C1)
26	08:26	10:07 (C13)	07:18	06:05	05:44		06:20 (C1)	04:44
	16:32	22	10:29 (C13)	17:41	18:41	20:45	16	06:36 (C1)
27	08:24	10:09 (C13)	07:16	06:02	05:42		06:21 (C1)	04:42
	16:34	18	10:27 (C13)	17:43	18:43	20:47	15	06:36 (C1)
28	08:22	10:11 (C13)	07:13	05:59	05:40		06:22 (C1)	04:41
	16:36	15	10:26 (C13)	17:45	18:45	20:49	13	06:35 (C1)
29	08:20	10:14 (C13)		06:57	05:37		06:24 (C1)	04:40
	16:39	9	10:23 (C13)		19:47	20:51	9	06:33 (C1)
30	08:19			06:54	05:35			04:38
	16:41			19:49	20:53			21:50
31	08:17			06:51				04:37
	16:43			19:51				21:51
Potential sun hours	235		266	366	426		508	529
Total, worst case		812				168		
Sun reduction		0.13				0.50		
Oper. time red.		0.98				0.98		
Wind dir. red.		0.61				0.65		
Total reduction		0.08				0.31		
Total, real		64				52		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ziedini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (111)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45 32 10:11 (C13)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44 32 10:12 (C13)
3	04:32 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43 32 10:12 (C13)
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42 31 10:11 (C13)
5	04:34 22:07	05:23 21:20	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42 31 10:12 (C13)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41 30 10:12 (C13)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40 30 10:12 (C13)
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	07:38 16:21	08:35 15:40 30 10:13 (C13)
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:37 15:39 30 10:13 (C13)
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39 29 10:13 (C13)
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38 29 10:13 (C13)
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38 29 10:14 (C13)
13	04:43 21:59	05:39 21:02	06:33 (C1) 06:38 (C1)	06:41 19:42	07:42 18:22	07:49 16:11 10 09:45 (C13) 15:38 28 10:14 (C13)
14	04:45 21:58	05:41 20:59	06:31 (C1) 06:41 (C1)	06:43 19:39	07:44 18:20	07:51 16:09 15 09:58 (C13) 15:38 28 10:14 (C13)
15	04:46 21:57	05:43 20:57	06:29 (C1) 06:42 (C1)	06:45 19:37	07:46 18:17	07:53 16:08 18 09:59 (C13) 15:38 28 10:15 (C13)
16	04:48 21:55	05:45 20:54	06:28 (C1) 06:43 (C1)	06:47 19:34	07:48 18:14	07:55 16:06 22 10:02 (C13) 15:38 28 10:15 (C13)
17	04:49 21:54	05:47 20:52	06:27 (C1) 06:44 (C1)	06:49 19:31	07:50 18:12	07:57 16:04 23 10:03 (C13) 15:38 27 10:15 (C13)
18	04:51 21:52	05:49 20:50	06:26 (C1) 06:43 (C1)	06:51 19:29	07:52 18:09	07:59 16:02 25 10:04 (C13) 15:38 27 10:16 (C13)
19	04:52 21:51	05:51 20:47	06:25 (C1) 06:44 (C1)	06:53 19:26	07:55 18:07	08:01 16:01 27 10:05 (C13) 15:38 27 10:17 (C13)
20	04:54 21:49	05:53 20:45	06:25 (C1) 06:44 (C1)	06:55 19:23	07:57 18:04	08:03 15:59 28 10:05 (C13) 15:39 27 10:16 (C13)
21	04:56 21:48	05:55 20:42	06:26 (C1) 06:43 (C1)	06:57 19:20	07:59 18:02	08:05 15:58 29 10:06 (C13) 15:39 27 10:17 (C13)
22	04:57 21:46	05:57 20:40	06:28 (C1) 06:43 (C1)	06:59 19:18	08:01 17:59	08:07 15:56 29 10:07 (C13) 15:39 27 10:17 (C13)
23	04:59 21:45	05:59 20:37	06:30 (C1) 06:42 (C1)	07:01 19:15	08:03 17:57	08:09 15:55 31 10:08 (C13) 15:40 27 10:18 (C13)
24	05:01 21:43	06:01 20:35	06:32 (C1) 06:41 (C1)	07:03 19:12	08:05 17:55	08:11 15:53 31 10:08 (C13) 15:41 28 10:19 (C13)
25	05:03 21:41	06:03 20:32	06:34 (C1) 06:39 (C1)	07:05 19:10	08:13 16:52	08:19 15:52 31 10:08 (C13) 15:41 27 10:19 (C13)
26	05:04 21:39	06:05 20:30	06:36 (C1) 06:37 (C1)	07:07 19:07	08:15 16:50	08:21 15:51 32 10:10 (C13) 15:42 27 10:19 (C13)
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	08:23 15:47 32 10:10 (C13) 15:43 28 10:20 (C13)
28	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	08:25 15:46 32 10:11 (C13) 15:44 28 10:22 (C13)
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:27 15:45 31 10:10 (C13) 15:45 28 10:21 (C13)
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:28 15:46 32 10:11 (C13) 15:46 28 10:22 (C13)
31	05:14 21:30	06:15 20:17	07:20 16:38	07:23 16:38	08:25 15:47	08:31 15:47 29 10:23 (C13)
Potential sun hours	529	469	385	324	247	216
Total, worst case		174			478	888
Sun reduction		0.50			0.08	0.07
Oper. time red.		0.98			0.98	0.98
Wind dir. red.		0.65			0.61	0.61
Total reduction		0.31			0.05	0.04
Total, real		54			23	37

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ziemeli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (125)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	07:26 (C15) 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	07:24 (C15) 20:03	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	07:21 (C15) 20:06	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	07:18 (C15) 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	07:16 (C14) 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:06	06:48 18:07	07:13 (C14) 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	07:10 (C14) 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	07:08 (C14) 20:16	05:09 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	07:05 (C14) 20:18	05:07 21:20	04:27 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	07:02 (C14) 20:20	05:05 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	07:02 (C14) 20:22	05:03 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	07:01 (C14) 20:24	05:01 21:26	04:26 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	07:00 (C14) 20:26	04:59 21:27	04:25 22:08
18	08:38 16:16	07:38 17:23	06:26 18:24	07:00 (C14) 20:28	06:30 (C13) 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	07:01 (C14) 20:31	06:28 (C13) 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	07:01 (C14) 20:33	06:26 (C13) 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	07:01 (C14) 20:35	06:23 (C13) 21:35	04:25 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	07:03 (C14) 20:37	06:21 (C13) 21:37	04:26 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	07:04 (C14) 20:39	06:18 (C13) 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	07:07 (C14) 20:41	06:16 (C13) 21:40	04:26 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	06:16 (C13) 21:42	04:27 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	06:15 (C13) 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:16 (C13) 21:45	04:28 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	06:17 (C13) 21:47	04:28 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	06:19 (C13) 21:48	04:29 22:10
30	08:19 16:41		06:54 19:49	05:35 20:53	06:21 (C13) 21:50	04:29 22:09
31	08:17 16:43		06:52 19:51		06:28 (C13) 21:51	04:37 21:51
Potential sun hours	235	266	366	426	508	528
Total, worst case			340	158		
Sun reduction			0.41	0.50		
Oper. time red.			0.98	0.98		
Wind dir. red.			0.63	0.65		
Total reduction			0.25	0.32		
Total, real			86	50		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ziemeli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (125)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	07:46 (C14)	07:23
	22:09	21:28	20:14	18:54	20	16:36
2	04:31	05:18	06:19	07:19	07:48 (C14)	07:25
	22:09	21:26	20:11	18:51	19	16:34
3	04:32	05:20	06:21	07:21	07:50 (C14)	07:27
	22:08	21:24	20:09	18:48	17	16:32
4	04:33	05:22	06:23	07:23	07:52 (C14)	07:29
	22:07	21:22	20:06	18:46	15	16:30
5	04:34	05:24	06:25	07:26	07:54 (C15)	07:31
	22:07	21:20	20:04	18:43	13	16:27
6	04:35	05:25	06:27	07:28	07:56 (C15)	07:34
	22:06	21:17	20:01	18:40	10	16:25
7	04:36	05:27	06:29	07:30	07:58 (C15)	07:36
	22:05	21:15	19:58	18:38	7	16:23
8	04:37	05:29	06:31	07:32	08:00 (C15)	07:38
	22:04	21:13	19:56	18:35	4	16:21
9	04:38	05:31	06:33	07:34		07:40
	22:03	21:11	19:53	18:33		16:19
10	04:40	05:33	06:35	07:36		07:42
	22:02	21:08	19:50	18:30		16:17
11	04:41	05:35	06:37	07:38		07:44
	22:01	21:06	19:48	18:27		16:15
12	04:42	05:37	06:39	07:40		07:46
	22:00	21:04	19:45	18:25		16:13
13	04:44	05:39	06:41	07:42		07:49
	21:59	21:02	8	18:22		16:11
14	04:45	05:41	06:43	07:44		07:51
	21:58	20:59	12	18:20		16:10
15	04:46	05:43	06:45	07:46		07:53
	21:57	20:57	15	18:17		16:08
16	04:48	05:45	06:47	07:48		07:55
	21:55	20:54	16	18:15		16:06
17	04:49	05:47	06:49	07:50		07:57
	21:54	20:52	17	18:12		16:04
18	04:51	05:49	06:51	07:53		07:59
	21:52	20:50	19	18:09		16:03
19	04:53	05:51	06:53	07:55		08:01
	21:51	20:47	18	18:07		16:01
20	04:54	05:53	06:55	07:57		08:03
	21:49	20:45	16	18:04		15:59
21	04:56	05:55	06:57	07:59		08:05
	21:48	20:42	13	18:02		15:58
22	04:58	05:57	06:59	08:01		08:07
	21:46	20:40	11	18:00		15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	8	17:57		15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	5	17:55		15:53
25	05:03	06:03	07:05	08:07		08:13
	21:41	20:32	1	16:52		15:52
26	05:05	06:05	07:07	08:09		08:15
	21:39	20:30	19:07	16:50		15:51
27	05:06	06:07	07:09	08:11		08:17
	21:38	20:27	19:04	16:48		15:50
28	05:08	06:09	07:11	08:13		08:19
	21:36	20:24	19:02	16:45		15:48
29	05:10	06:11	07:13	08:15		08:21
	21:34	20:22	18:59	16:43		15:47
30	05:12	06:13	07:15	08:17		08:22
	21:32	20:19	18:56	16:41		15:46
31	05:14	06:15		07:20		08:51
	21:30	20:17		16:38		15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		159	241		105	
Sun reduction		0.50	0.43		0.26	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.65	0.63		0.62	
Total reduction		0.32	0.26		0.16	
Total, real		50	63		16	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Anna / anna@environment.lv  
Calculated:  
10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ziemeļnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (27)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:50 15:48	08:14 16:45	07:11 17:47	06:49 19:53	05:32 20:55	04:36 21:52	05:47 (C12) 20:43 (C15)	04:30 22:09	20:12 (C16) 20:41 (C16)	05:16 21:28	06:17 18:53	07:17 16:36	08:24 15:45
2	08:50 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	05:48 (C12) 20:42 (C15)	04:31 22:08	20:12 (C16) 20:42 (C16)	05:18 21:26	06:19 18:51	07:19 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	05:28 20:59	2 20:25 (C14) 20:27 (C14)	04:34 21:55	04:32 22:08	20:12 (C16) 20:42 (C16)	05:19 21:23	06:21 18:48	07:21 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	20:24 (C14) 20:29 (C14)	04:33 21:56	04:33 22:07	20:12 (C16) 20:43 (C16)	05:21 21:21	06:23 18:45	07:23 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	20:23 (C14) 20:31 (C14)	04:32 21:58	04:34 22:06	20:12 (C16) 20:43 (C16)	05:23 21:19	06:25 18:43	07:25 16:27	08:30 15:42
6	08:48 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	20:21 (C14) 20:33 (C14)	04:31 21:59	04:35 22:06	20:12 (C16) 20:44 (C16)	05:25 21:17	06:27 18:40	07:27 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	20:20 (C14) 20:35 (C14)	04:30 22:00	04:36 22:05	20:12 (C16) 20:44 (C16)	05:27 21:15	06:29 18:38	07:29 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:09	20:19 (C14) 20:36 (C14)	04:29 22:01	04:37 22:04	05:59 (C12) 20:45 (C16)	05:29 21:13	06:31 18:35	07:31 16:21	08:35 15:40
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:11	20:18 (C14) 20:38 (C14)	04:38 22:02	04:38 22:03	05:57 (C12) 20:47 (C15)	05:31 21:10	06:33 18:32	07:33 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:13	20:17 (C14) 20:40 (C15)	04:39 22:03	04:39 22:02	05:56 (C12) 20:49 (C15)	05:33 21:08	06:35 18:30	07:36 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:10 21:15	20:16 (C14) 20:41 (C15)	04:41 22:04	04:41 22:01	05:55 (C12) 20:50 (C15)	05:35 21:06	06:37 18:27	07:38 16:15	08:39 15:38
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:08 21:17	20:15 (C14) 20:43 (C15)	04:42 22:05	04:42 22:00	05:55 (C12) 20:52 (C15)	05:37 21:04	06:39 18:25	07:40 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	20:14 (C14) 20:45 (C15)	04:43 22:06	04:43 22:07	05:54 (C12) 20:53 (C15)	05:39 21:01	06:41 18:22	07:42 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	20:13 (C14) 20:46 (C15)	04:45 22:06	04:45 22:08	05:53 (C12) 20:53 (C15)	05:41 20:59	06:43 18:19	07:44 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	20:12 (C14) 20:46 (C15)	04:46 22:07	04:46 22:09	05:53 (C12) 20:53 (C15)	05:43 20:57	06:45 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:01 21:25	20:11 (C14) 20:46 (C15)	04:48 22:08	04:48 22:10	05:53 (C12) 20:54 (C15)	05:45 20:54	06:47 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	20:10 (C14) 20:47 (C15)	04:49 22:08	04:49 22:10	05:52 (C12) 20:55 (C15)	05:47 20:52	06:49 18:12	07:50 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	20:09 (C14) 20:47 (C15)	04:51 22:09	04:51 22:12	05:52 (C12) 20:56 (C15)	05:49 20:49	06:51 18:09	07:52 16:02	08:46 15:38
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	20:08 (C14) 20:46 (C15)	04:52 22:09	04:52 22:11	05:51 (C12) 20:56 (C15)	05:51 20:47	06:53 18:07	07:54 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	20:07 (C14) 20:47 (C15)	04:54 22:09	04:54 22:10	05:52 (C12) 20:57 (C15)	05:53 20:44	06:55 18:04	07:56 15:59	08:48 15:39
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:52 21:34	20:06 (C14) 20:46 (C15)	04:56 22:10	04:56 22:11	05:51 (C12) 20:56 (C15)	05:55 20:42	06:57 18:02	07:59 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	20:05 (C14) 20:47 (C15)	04:57 22:10	04:57 22:12	05:51 (C12) 20:57 (C15)	05:57 20:39	06:59 17:59	08:01 15:56	08:49 15:39
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	20:04 (C14) 20:47 (C15)	04:59 22:10	04:59 22:12	05:51 (C12) 20:57 (C15)	05:59 20:37	07:01 17:57	08:03 15:55	08:49 15:40
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 21:40	20:03 (C14) 20:46 (C15)	05:01 22:10	05:01 22:12	05:51 (C12) 20:57 (C15)	06:01 20:34	07:03 17:55	08:05 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	20:02 (C14) 20:46 (C15)	05:03 22:10	05:03 22:12	05:50 (C12) 20:57 (C15)	06:03 20:32	07:05 16:52	07:07 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	20:01 (C14) 20:46 (C15)	05:04 22:10	05:04 22:12	05:51 (C12) 20:57 (C15)	06:05 20:29	07:07 16:50	07:09 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	20:00 (C14) 20:45 (C15)	05:06 22:10	05:06 22:12	05:51 (C12) 20:57 (C15)	06:07 20:27	07:09 16:47	07:11 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	20:00 (C14) 20:45 (C15)	05:08 22:10	05:08 22:12	05:51 (C12) 20:56 (C15)	06:09 20:24	07:11 16:45	07:14 15:48	08:51 15:44
29	08:20 16:39	07:11 17:47	05:57 18:47	05:37 20:51	04:40 21:48	20:00 (C14) 20:44 (C15)	05:10 22:09	05:10 22:13	05:51 (C12) 20:56 (C15)	06:11 20:22	07:13 16:43	07:16 15:47	08:51 15:45
30	08:18 16:41	07:04 17:49	05:54 18:49	05:35 20:53	04:38 21:49	20:00 (C14) 20:44 (C15)	05:12 22:09	05:12 22:13	05:52 (C12) 20:56 (C15)	06:13 20:19	07:15 16:40	07:18 15:46	08:51 15:46
31	08:16 16:43	07:01 17:51	05:51 18:49	05:37 20:51	04:37 21:51	20:00 (C14) 20:43 (C15)	05:14 22:09	05:14 21:30	05:52 (C12) 20:55 (C15)	06:15 20:16	07:20 16:38	07:21 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216	
Total, worst case					1572		937	1718	295				
Sun reduction					0.57		0.56	0.49	0.50				
Oper. time red.					0.98		0.98	0.98	0.98				
Wind dir. red.					0.64		0.63	0.64	0.64				
Total reduction					0.35		0.34	0.31	0.31				
Total, real					557		321	527	92				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Zvirgzdini - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (24)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:35	08:24 15:44
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:43
3	08:50 15:50	08:11 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:50 15:51	08:09 16:51	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:57	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:18 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:34 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:20	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:12	04:28 22:02	04:37 22:03	05:31 21:11	06:33 19:52	07:33 18:32	07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:07	06:24 20:11	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:14	08:39 15:38
12	08:44 16:04	07:52 17:09	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:04	08:45 15:37
18	08:37 16:15	07:38 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:24 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:06	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:29	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:01	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:12 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:50 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:41 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:10	05:09 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:46	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:51		04:36 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Zilites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (97)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

January		February		March		April		May		June	
1	08:51 15:48	13 13:33 (C13)	08:15 16:45	07:11 17:47		06:49 19:53		05:32 20:55		06:24 (C1) 21:53	
2	08:50 15:49	11 13:33 (C13)	08:13 16:47	07:08 17:50		06:46 19:55		05:30 20:57	38	06:24 (C1) 21:54	
3	08:50 15:51	9 13:32 (C13)	08:11 16:50	07:06 17:52		06:43 19:57		05:28 21:00	38	06:24 (C1) 21:55	
4	08:50 15:52	7 13:31 (C13)	08:09 16:52	07:03 17:54		06:41 19:59		05:26 21:02	38	06:24 (C1) 21:57	
5	08:49 15:53		08:07 16:54	07:00 17:56		06:38 20:01		05:23 21:04	38	06:24 (C1) 21:58	
6	08:49 15:55		08:05 16:56	06:58 17:58		06:35 20:03		05:21 21:06	36	06:25 (C1) 21:59	
7	08:48 15:56		08:03 16:59	06:55 18:00		06:33 20:05		05:19 21:08	36	06:25 (C1) 22:00	05:05 (C17)
8	08:48 15:58		08:00 17:01	06:53 18:03		06:30 20:08		05:17 21:10	35	06:25 (C1) 22:01	05:05 (C17)
9	08:47 15:59		07:58 17:03	06:50 18:05		06:27 20:10		05:15 21:12	35	06:25 (C1) 22:02	05:04 (C17)
10	08:46 16:01		07:56 17:05	06:47 18:07	07:13 (C6)	06:25 20:12		05:13 21:14	35	06:26 (C1) 22:03	05:04 (C17)
11	08:45 16:03		07:54 17:08	06:45 18:09	1	06:22 20:14		05:10 21:16	33	06:26 (C1) 22:04	05:03 (C17)
12	08:44 16:04		07:52 17:10	06:42 18:11	5	06:20 20:16		05:08 21:18	32	06:27 (C1) 22:05	05:10 (C17)
13	08:43 16:06		07:49 17:12	06:39 18:13	8	06:17 20:18	06:43 (C2)	05:06 21:20	30	06:27 (C1) 22:06	05:11 (C17)
14	08:42 16:08		07:47 17:14	06:37 18:15	11	06:14 20:20	5	05:04 21:22	29	06:29 (C1) 22:07	05:12 (C17)
15	08:41 16:10		07:45 17:17	06:34 18:17	14	06:12 20:22	9	05:02 21:24	27	06:30 (C1) 22:08	05:11 (C17)
16	08:40 16:12		07:43 17:19	06:32 18:20	15	06:09 20:24	12	05:01 21:25	25	06:30 (C1) 22:09	05:12 (C17)
17	08:39 16:14		07:40 17:21	06:29 18:22	18	06:07 20:26	15	04:59 21:27	23	06:32 (C1) 22:10	05:12 (C17)
18	08:37 16:16		07:38 17:23	06:26 18:24	19	06:04 20:28	17	04:57 21:29	21	06:33 (C1) 22:11	05:13 (C17)
19	08:36 16:18		07:35 17:25	06:23 18:26	19	06:02 20:30	18	04:55 21:31	16	06:34 (C1) 22:12	05:13 (C17)
20	08:35 16:20		07:33 17:28	06:21 18:28	18	06:00 20:33	19	04:53 21:33	13	06:35 (C1) 22:13	05:13 (C17)
21	08:33 16:22		07:31 17:30	06:18 18:30	20	05:59 20:35	22	04:51 21:35	5	06:36 (C1) 22:14	05:13 (C17)
22	08:32 16:24		07:28 17:32	06:15 18:32	20	05:54 20:37	24	04:50 21:36		06:37 (C1) 22:15	05:13 (C17)
23	08:30 16:26		07:26 17:34	06:13 18:34	21	05:52 20:39	25	04:48 21:38		06:38 (C1) 22:16	05:14 (C17)
24	08:29 16:28		07:23 17:37	06:10 18:36	21	05:49 20:41	28	04:47 21:40		06:39 (C1) 22:17	05:14 (C17)
25	08:27 16:30		07:21 17:39	06:07 18:38	19	05:47 20:43	30	04:45 21:42		06:40 (C1) 22:18	05:14 (C17)
26	08:26 16:32		07:18 17:41	06:05 18:40	17	05:44 20:45	32	04:44 21:43		06:41 (C1) 22:19	05:15 (C17)
27	08:24 16:34		07:16 17:43	06:02 18:43	14	05:42 20:47	34	04:42 21:45		06:42 (C1) 22:20	05:15 (C17)
28	08:22 16:36		07:13 17:45	05:59 18:45	11	05:39 20:49	36	04:41 21:47		06:43 (C1) 22:21	05:15 (C17)
29	08:20 16:39			06:57 19:47	2	05:37 20:51	37	04:39 21:50		06:44 (C1) 22:22	05:16 (C17)
30	08:18 16:41			06:54 19:49		05:35 20:53		04:38 21:52		06:45 (C1) 22:23	05:16 (C17)
31	08:17 16:43			06:51 19:51				04:37 21:51		06:46 (C1) 22:24	05:16 (C17)
Potential sun hours	235		266	366		426		508		529	
Total, worst case	40			272		433		586		212	
Sun reduction	0.13			0.41		0.50		0.57		0.56	
Oper. time red.	0.98			0.98		0.98		0.98		0.98	
Wind dir. red.	0.64			0.64		0.65		0.65		0.66	
Total reduction	0.08			0.26		0.32		0.36		0.36	
Total, real	3			70		138		211		77	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Zilites - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (97)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

July		August		September		October		November		December	
1	04:30	05:07 (C17)	05:16	06:37 (C1)	06:17	07:17	07:46 (C6)	07:23	08:24		
	22:09	7 05:14 (C17)	21:28	31 07:08 (C1)	20:14	18:54	10 07:56 (C6)	16:36	15:45		
2	04:31	05:08 (C17)	05:17	06:36 (C1)	06:19	07:19	07:48 (C6)	07:25	08:26		
	22:09	6 05:14 (C17)	21:26	33 07:09 (C1)	20:11	18:51	7 07:55 (C6)	16:34	15:44		
3	04:32	05:09 (C17)	05:19	06:36 (C1)	06:21	07:21	07:50 (C6)	07:27	08:28		
	22:08	5 05:14 (C17)	21:24	34 07:10 (C1)	20:09	18:48	3 07:53 (C6)	16:31	15:43		
4	04:33	05:10 (C17)	05:21	06:36 (C1)	06:23	07:23		07:29	08:29		
	22:07	4 05:14 (C17)	21:22	34 07:10 (C1)	20:06	18:46		16:29	15:42		
5	04:34	05:11 (C17)	05:23	06:34 (C1)	06:25	07:25		07:31	08:31		
	22:07	3 05:14 (C17)	21:19	36 07:10 (C1)	20:03	18:43		16:27	15:42		
6	04:35	05:12 (C17)	05:25	06:34 (C1)	06:27	07:27		07:33	08:32		
	22:06	1 05:13 (C17)	21:17	36 07:10 (C1)	20:01	18:40		16:25	15:41		
7	04:36		05:27	06:34 (C1)	06:29	07:29		07:36	08:34		
	22:05		21:15	37 07:11 (C1)	19:58	18:38		16:23	15:40		
8	04:37		05:29	06:34 (C1)	06:31	07:32		07:38	08:35		13:13 (C13)
	22:04		21:13	37 07:11 (C1)	19:55	18:35		16:21	15:40	6	13:19 (C13)
9	04:38		05:31	06:34 (C1)	06:33	07:34		07:40	08:37		13:11 (C13)
	22:03		21:11	37 07:11 (C1)	19:53	18:32		16:19	15:39	9	13:20 (C13)
10	04:39		05:33	06:33 (C1)	06:35	07:36		07:42	08:38		13:11 (C13)
	22:02		21:08	37 07:10 (C1)	19:50	18:30		16:17	15:39	11	13:22 (C13)
11	04:41		05:35	06:33 (C1)	06:37	07:38		07:44	08:39		13:10 (C13)
	22:01		21:06	37 07:10 (C1)	19:47	18:27		16:15	15:38	13	13:23 (C13)
12	04:42		05:37	06:33 (C1)	06:39	07:40		07:46	08:40		13:11 (C13)
	22:00		21:04	37 07:10 (C1)	19:45	18:25		16:13	15:38	14	13:25 (C13)
13	04:43		05:39	06:33 (C1)	06:41	07:42		07:49	08:42		13:10 (C13)
	21:59		21:01	37 07:10 (C1)	19:42	18:22		16:11	15:38	16	13:26 (C13)
14	04:45		05:41	06:33 (C1)	06:43	07:44		07:51	08:43		13:10 (C13)
	21:58		20:59	37 07:10 (C1)	19:39	18:19		16:09	15:38	16	13:26 (C13)
15	04:46		05:43	06:34 (C1)	06:45	07:46		07:53	08:44		13:10 (C13)
	21:57		20:57	35 07:09 (C1)	19:37	18:17		16:07	15:38	17	13:27 (C13)
16	04:48		05:45	06:34 (C1)	06:47	07:48		07:55	08:45		13:10 (C13)
	21:55		20:54	35 07:09 (C1)	19:34	18:14		16:06	15:38	18	13:28 (C13)
17	04:49		05:47	06:34 (C1)	06:49	07:50		07:57	08:46		13:11 (C13)
	21:54		20:52	33 07:07 (C1)	19:31	18:12		16:04	15:38	18	13:29 (C13)
18	04:51		05:49	06:34 (C1)	06:51	07:52		07:59	08:46		13:11 (C13)
	21:52		20:50	32 07:06 (C1)	19:29	18:09		16:02	15:38	18	13:29 (C13)
19	04:52		05:51	06:35 (C1)	06:53	07:55		08:01	08:47		13:11 (C13)
	21:51		20:47	30 07:05 (C1)	19:26	18:07		16:01	15:38	18	13:29 (C13)
20	04:54		05:53	06:36 (C1)	06:55	07:57		08:03	08:48		13:11 (C13)
	21:49		20:45	28 07:04 (C1)	19:23	18:04		15:59	15:38	19	13:30 (C13)
21	04:56		05:55	06:38 (C1)	06:57	07:59		08:05	08:48		13:12 (C13)
	21:48		20:42	24 07:02 (C1)	19:20	18:02		15:58	15:39	19	13:31 (C13)
22	04:57		05:57	06:37 (C2)	06:59	08:01		08:07	08:49		13:12 (C13)
	21:46		20:40	24 07:01 (C1)	19:18	17:59		15:56	15:39	19	13:31 (C13)
23	04:59		05:59	06:36 (C2)	07:01	08:03		08:09	08:50		13:13 (C13)
	21:45		20:37	22 06:58 (C1)	19:15	17:57		15:55	15:40	19	13:32 (C13)
24	05:01	06:48 (C1)	06:01	06:36 (C2)	07:03	08:05		08:11	08:50		13:14 (C13)
	21:43	9 06:57 (C1)	20:35	18 06:54 (C1)	19:12	17:55		15:53	15:40	18	13:32 (C13)
25	05:03	06:45 (C1)	06:03	06:35 (C2)	07:05	08:07		08:13	08:50		13:14 (C13)
	21:41	14 06:59 (C1)	20:32	18 06:53 (C2)	19:10	16:52		15:52	15:41	18	13:32 (C13)
26	05:04	06:43 (C1)	06:05	06:35 (C2)	07:07	08:10		08:15	08:51		13:14 (C13)
	21:39	19 07:02 (C1)	20:29	17 06:52 (C2)	19:07	16:50		15:51	15:42	19	13:33 (C13)
27	05:06	06:42 (C1)	06:07	06:37 (C2)	07:09	08:12		08:17	08:51		13:15 (C13)
	21:38	21 07:03 (C1)	20:27	15 06:52 (C2)	19:04	16:47		15:49	15:43	18	13:33 (C13)
28	05:08	06:40 (C1)	06:09	06:39 (C2)	07:11	08:14		08:19	08:51		13:16 (C13)
	21:36	24 07:04 (C1)	20:24	12 06:51 (C2)	19:02	16:45		15:48	15:44	17	13:33 (C13)
29	05:10	06:39 (C1)	06:11	06:41 (C2)	07:13	08:16		08:21	08:51		13:17 (C13)
	21:34	27 07:06 (C1)	20:22	9 06:50 (C2)	18:59	16:43		15:47	15:44	16	13:33 (C13)
30	05:12	06:39 (C1)	06:13	06:43 (C2)	07:15	08:18		08:22	08:51		13:18 (C13)
	21:32	28 07:07 (C1)	20:19	5 06:48 (C2)	18:56	16:40		15:46	15:45	16	13:34 (C13)
31	05:14	06:38 (C1)	06:15			07:20		08:51			13:19 (C13)
	21:30	30 07:08 (C1)	20:17			16:38		15:47		15	13:34 (C13)
Potential sun hours	529		469		385	324		247	216		
Total, worst case	198		857		256	20					387
Sun reduction	0.49		0.50		0.43	0.26					0.07
Oper. time red.	0.98		0.98		0.98	0.98					0.98
Wind dir. red.	0.65		0.65		0.64	0.63					0.64
Total reduction	0.31		0.32		0.27	0.16					0.04
Total, real	62		271		68	3					17

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Zilusala - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (150)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:22 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:58	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:34 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:06	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:21	04:26 22:06	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:26	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Abeles - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (153)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	07:53 (C13)	06:49	05:33
	15:48	16:45	17:48	7 08:00 (C13)	19:53	20:56
2	08:51	08:13	07:08		06:46	05:30
	15:49	16:48	17:50		19:55	20:58
3	08:50	08:11	07:06		06:44	05:28
	15:51	16:50	17:52		19:57	21:00
4	08:50	08:09	07:03		06:41	05:26
	15:52	16:52	17:54		19:59	21:02
5	08:49	08:07	07:01		06:38	05:24
	15:53	16:54	17:56		20:01	21:04
6	08:49	08:05	06:58		06:36	05:21
	15:55	16:56	17:58		20:04	21:06
7	08:48	08:03	06:55		06:33	05:19
	15:56	16:59	18:01		20:06	21:08
8	08:48	08:01	06:53		06:30	05:17
	15:58	17:01	18:03		20:08	21:10
9	08:47	07:58	06:50		06:28	05:15
	16:00	17:03	18:05		20:10	21:12
10	08:46	09:23 (C14)	07:56		06:25	05:13
	16:01	2 09:25 (C14)	17:05		20:12	21:14
11	08:45	09:22 (C14)	07:54		06:22	05:11
	16:03	4 09:26 (C14)	17:08		20:14	21:16
12	08:44	09:21 (C14)	07:52		06:20	05:09
	16:05	6 09:27 (C14)	17:10		20:16	21:18
13	08:43	09:19 (C14)	07:50		06:17	05:07
	16:06	8 09:27 (C14)	17:12		20:18	21:20
14	08:42	09:18 (C14)	07:47		06:15	05:05
	16:08	10 09:28 (C14)	17:14		20:20	21:22
15	08:41	09:17 (C14)	07:45		06:12	05:03
	16:10	12 09:29 (C14)	17:17		20:22	21:24
16	08:40	09:15 (C14)	07:43		06:09	05:01
	16:12	14 09:29 (C14)	17:19		20:24	21:26
17	08:39	09:14 (C14)	07:40		06:07	04:59
	16:14	16 09:30 (C14)	17:21		20:26	21:27
18	08:38	09:14 (C14)	07:38		06:04	04:57
	16:16	16 09:30 (C14)	17:23		20:28	21:29
19	08:36	09:14 (C14)	07:36		06:02	04:55
	16:18	16 09:30 (C14)	17:26		20:31	21:31
20	08:35	09:15 (C14)	07:33	08:00 (C13)	05:59	04:53
	16:20	15 09:30 (C14)	17:28	3 08:03 (C13)	20:33	21:33
21	08:33	09:15 (C14)	07:31	07:58 (C13)	05:57	04:52
	16:22	15 09:30 (C14)	17:30	6 08:04 (C13)	20:35	21:35
22	08:32	09:16 (C14)	07:28	07:55 (C13)	05:54	04:50
	16:24	14 09:30 (C14)	17:32	10 08:05 (C13)	20:37	21:37
23	08:30	09:18 (C14)	07:26	07:53 (C13)	05:52	04:48
	16:26	12 09:30 (C14)	17:34	13 08:06 (C13)	20:39	21:38
24	08:29	09:19 (C14)	07:23	07:50 (C13)	05:49	04:47
	16:28	10 09:29 (C14)	17:37	15 08:05 (C13)	20:41	21:40
25	08:27	09:21 (C14)	07:21	07:50 (C13)	05:47	04:45
	16:30	6 09:27 (C14)	17:39	16 08:06 (C13)	20:43	21:42
26	08:26		07:18	07:49 (C13)	05:44	04:44
	16:32		17:41	16 08:05 (C13)	20:45	21:43
27	08:24		07:16	07:50 (C13)	05:42	04:42
	16:34		17:43	14 08:04 (C13)	20:47	21:45
28	08:22		07:13	07:51 (C13)	05:40	04:41
	16:37		17:45	12 08:03 (C13)	20:49	21:47
29	08:20				05:37	04:40
	16:39				20:51	21:48
30	08:19				05:35	04:38
	16:41				20:53	21:50
31	08:17					04:37
	16:43					21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case	176	105	7			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.59	0.63	0.63			
Total reduction	0.08	0.12	0.25			
Total, real	14	13	2			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Abeles - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (153)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October		November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54		07:23 16:36	08:24 15:45 4 09:04 (C14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34	08:26 15:44 2 09:08 (C14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43		07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40		07:34 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38		07:36 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35		07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33		07:40 16:19	08:37 15:39
10	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30		07:42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27		07:44 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	1 08:29 (C13)	07:47 16:13	08:41 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	9 08:25 (C13)	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	12 08:24 (C13)	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	15 08:22 (C13)	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	16 08:21 (C13)	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	16 08:21 (C13)	07:57 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	14 08:22 (C13)	07:59 16:03	08:47 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	12 08:25 (C13)	08:01 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	9 08:27 (C13)	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	5 08:36 (C13)	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	1 08:32 (C13)	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	08:51 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	08:51 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50		08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:49	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45		08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41		08:23 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		08:20 16:38			08:51 15:47
Potential sun hours	529	469	385	324		247	216
Total, worst case				110		171	6
Sun reduction				0.26		0.08	0.07
Oper. time red.				0.98		0.98	0.98
Wind dir. red.				0.63		0.59	0.59
Total reduction				0.16		0.05	0.04
Total, real				17		8	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Arsmeniek (kad. apz. 76860060006001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (196)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:57 17:58	06:35 20:03	05:21 21:05	04:31 21:58	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:12	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:39 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27 22:04	04:42 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:58	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:51	06:49 19:31	07:50 18:12	07:56 16:04	08:45 15:38
18	08:37 16:16	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:25	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:00 17:59	08:07 15:56	08:48 15:39
23	08:30 16:26	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:38	06:07 18:38	05:47 20:42	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:44
30	08:18 16:41		06:54 19:48	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Arsmeniki (kad. apz. 76860060006008) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (200)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:36 21:52	04:30 22:08	05:15 21:27	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:53	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34	08:25 15:44
3	08:50 15:51	08:10 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:07	05:19 21:23	06:21 20:08	07:21 18:48	07:26 16:31	08:27 15:43
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:33 21:56	04:33 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:57	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:57 17:58	06:35 20:03	05:21 21:05	04:31 21:58	04:35 22:05	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01	04:37 22:04	05:29 21:12	06:31 19:55	07:31 18:35	07:37 16:21	08:35 15:40
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:15 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:39 16:19	08:36 15:39
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:37 15:39
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	04:27 22:04	04:42 22:00	05:37 21:03	06:39 19:44	07:39 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:05	04:43 21:58	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:45 21:57	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	07:52 16:07	08:43 15:38
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:07	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:54 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:21	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:53	05:47 20:51	06:49 19:31	07:50 18:12	07:56 16:04	08:45 15:38
18	08:37 16:16	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	04:25 22:08	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:50	05:51 20:47	06:53 19:25	07:54 18:07	08:01 16:01	08:47 15:38
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:47 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	04:25 22:09	04:56 21:47	05:55 20:42	06:57 19:20	07:58 18:02	08:05 15:57	08:48 15:39
22	08:31 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:00 17:59	08:07 15:56	08:48 15:39
23	08:30 16:26	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	04:26 22:10	05:01 21:42	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:49 15:40
25	08:27 16:30	07:20 17:38	06:07 18:38	05:47 20:42	04:45 21:41	04:26 22:10	05:03 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:16 15:49	08:50 15:43
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:09	05:08 21:35	06:09 20:24	07:11 19:01	07:13 16:45	08:18 15:48	08:50 15:44
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:50 15:44
30	08:18 16:41		06:54 19:48	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:31	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:29	06:15 20:16		07:20 16:38		08:50 15:47
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Anna / anna@environment.lv  
Calculated:  
10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ergliš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (208)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

		January	February	March		April	May	June	July	August	September		October		November	December	
1	08:50 15:48	08:14 16:45	07:10 17:47			06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:27	06:17 20:14		07:17 18:53	22	17:58 (C3) 18:20 (C3)	07:22 16:35	08:24 15:44
2	08:50 15:49	08:12 16:47	07:08 17:49			06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:25	06:19 20:11		07:19 18:50	20	17:58 (C3) 18:18 (C3)	07:24 16:33	08:26 15:43
3	08:50 15:50	08:10 16:49	07:05 17:51			06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:23	06:21 20:08		07:21 18:48	18	17:59 (C3) 18:17 (C3)	07:27 16:31	08:27 15:43
4	08:49 15:51	08:08 16:51	07:03 17:54			06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06		07:23 18:45	14	18:01 (C3) 18:15 (C3)	07:29 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56			06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:06	05:23 21:19	06:25 20:03		07:25 18:42	9	18:03 (C3) 18:12 (C3)	07:31 16:27	08:30 15:41
6	08:48 15:54	08:04 16:56	06:57 17:58			06:35 20:03	05:21 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00		07:27 18:40			07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00			06:32 20:05	05:18 21:07	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58		07:29 18:37			07:35 16:23	08:33 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02		17:29 (C3)	06:30 20:07	05:16 21:09	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55		07:31 18:35			07:37 16:20	08:35 15:39
9	08:46 15:59	07:58 17:03	06:50 18:04		17:33 (C3)	06:27 20:09	05:14 21:11	04:28 22:02	04:37 22:03	05:31 21:10	06:33 19:52		07:33 18:32			07:40 16:18	08:36 15:39
10	08:46 16:00	07:56 17:05	06:47 18:06		17:22 (C3)	06:24 20:11	05:12 21:13	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50		07:35 18:29			07:42 16:16	08:38 15:38
11	08:45 16:02	07:54 17:07	06:44 18:09		17:38 (C3)	06:22 20:13	05:10 21:15	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47		07:37 18:27			07:44 16:14	08:39 15:38
12	08:44 16:04	07:51 17:09	06:42 18:11		17:21 (C3)	06:19 20:15	05:08 21:17	04:26 22:05	04:41 22:00	05:37 21:03	06:39 19:44		07:39 18:24			07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13		17:40 (C3)	06:17 20:18	05:06 21:19	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42		07:41 18:22			07:48 16:11	08:41 15:37
14	08:42 16:07	07:47 17:14	06:36 18:15		17:18 (C3)	06:14 20:20	05:04 21:21	04:25 22:06	04:44 21:58	05:41 20:59	06:43 19:39		07:44 18:19			07:50 16:09	08:42 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17		17:41 (C3)	06:11 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:56	06:45 19:36		07:46 18:16			07:52 16:07	08:43 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19		17:16 (C3)	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34		07:48 18:14			07:55 16:05	08:44 15:37
17	08:38 16:13	07:40 17:21	06:28 18:21		17:17 (C3)	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31		07:50 18:11			07:57 16:04	08:45 15:37
18	08:37 16:15	07:37 17:23	06:26 18:23		17:17 (C3)	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28		07:52 18:09			07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:25		17:17 (C3)	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:25		07:54 18:06			08:01 16:00	08:47 15:38
20	08:34 16:19	07:33 17:27	06:20 18:28		17:19 (C3)	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23		07:56 18:04			08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:29	06:18 18:30		17:19 (C3)	05:56 20:34	04:51 21:34	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	18:07 (C3)	07:58 18:01			08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32		17:21 (C3)	05:54 20:36	04:49 21:36	04:25 22:10	04:57 20:39	05:57 19:17	06:59 17:59	18:05 (C3)	08:01 17:59			08:07 15:56	08:49 15:39
23	08:30 16:25	07:25 17:34	06:12 18:34		17:33 (C3)	05:51 20:38	04:48 21:38	04:25 22:10	04:46 20:37	05:59 19:15	07:01 18:21	18:03 (C3)	08:03 17:56			08:09 15:54	08:49 15:39
24	08:28 16:27	07:23 17:36	06:10 18:36		17:27 (C3)	05:49 20:40	04:46 21:40	04:25 22:10	06:01 20:34	07:03 19:12	08:01 (C3)	08:05 17:54				08:11 15:53	08:50 15:40
25	08:27 16:29	07:20 17:38	06:07 18:38			05:46 20:43	04:45 21:41	04:26 22:10	06:03 20:32	07:05 19:09	08:00 (C3)	07:07 16:52				08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:40	06:04 18:40			05:44 20:45	04:43 21:43	04:26 22:10	06:05 20:29	07:07 19:07	08:03 (C3)	07:09 16:49				08:15 15:50	08:50 15:41
27	08:23 16:34	07:15 17:43	06:02 18:42			05:41 20:47	04:42 21:45	04:27 22:10	06:06 20:27	07:09 19:04	08:04 (C3)	07:11 16:47				08:17 15:49	08:50 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44			05:39 20:49	04:40 21:46	04:27 22:10	06:07 20:24	07:11 19:01	08:05 (C3)	07:13 16:45				08:18 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46			05:37 20:51	04:39 21:48	04:28 22:09	06:11 20:21	07:13 18:58	08:06 (C3)	07:16 16:42				08:20 15:47	08:51 15:44
30	08:18 16:40		06:54 19:48			05:34 20:53	04:38 21:49	04:29 22:09	06:13 20:19	07:15 18:56	08:07 (C3)	07:18 16:40				08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:50				04:36 21:51		05:13 21:29	06:15 20:16		07:20 16:38				08:51 15:46	
Potential sun hours	235	266	366			426	508	529	529	469	385		324		247	216	
Total, worst case			280								204		83				
Sun reduction			0.41								0.43		0.26				
Oper. time red.			0.98								0.98		0.98				
Wind dir. red.			0.65								0.65		0.65				
Total reduction			0.26								0.27		0.17				
Total, real			74								56		14				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ergli - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (34)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:44
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:05 17:51	06:43 19:57	05:27 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:50 15:51	08:09 16:51	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:57	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:19 21:08	04:29 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:34 15:40
8	08:47 15:57	08:00 17:00	06:52 18:02	06:30 20:07	05:16 21:10	04:29 22:01	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:18	08:37 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:14	04:27 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:52 17:09	06:42 18:11	06:19 20:16	05:08 21:18	04:26 22:05	04:41 22:00	05:37 21:04	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:37
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:25 22:07	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:51 16:09	08:43 15:37
15	08:41 16:09	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:25 22:07	04:46 21:57	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:44 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:45 15:37
17	08:39 16:13	07:40 17:21	06:29 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	07:57 16:04	08:45 15:37
18	08:37 16:15	07:38 17:23	06:26 18:23	06:04 20:28	04:56 21:29	04:25 22:09	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:37
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:06	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:01	08:05 15:57	08:48 15:38
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:37	04:49 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:39
24	08:29 16:27	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:29	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:51	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:51 15:41
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:10	05:09 21:34	06:11 20:22	07:13 18:59	07:16 16:42	08:21 15:47	08:51 15:44
30	08:18 16:40		06:54 19:49	05:34 20:53	04:38 21:50	04:29 22:09	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:45	08:51 15:45
31	08:16 16:43		06:51 19:51		04:36 21:51		05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ives - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (96)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51	08:15	07:11	07:39 (C15)	06:49	05:33
	15:48	16:45	17:48	27 08:06 (C14)	19:53	20:55
2	08:51	08:13	07:08	07:39 (C15)	06:46	05:30
	15:50	16:48	17:50	27 08:06 (C14)	19:55	20:58
3	08:50	08:11	07:06	07:40 (C14)	06:44	05:28
	15:51	16:50	17:52	26 08:06 (C14)	19:57	21:00
4	08:50	08:09	07:03	07:40 (C14)	06:41	05:26
	15:52	16:52	17:54	25 08:05 (C14)	19:59	21:02
5	08:49	08:07	07:01	07:40 (C14)	06:38	05:24
	15:54	16:54	17:56	25 08:05 (C14)	20:01	21:04
6	08:49	08:05	06:58	07:41 (C14)	06:36	05:21
	15:55	16:57	17:58	23 08:04 (C14)	20:03	21:06
7	08:48	08:03	06:55	07:41 (C14)	06:33	05:19
	15:56	16:59	18:01	22 08:03 (C14)	20:06	21:08
8	08:48	08:01	06:53	07:41 (C14)	06:30	05:17
	15:58	17:01	18:03	20 08:01 (C14)	20:08	21:10
9	08:47	07:58	06:50	07:44 (C14)	06:28	05:15
	16:00	17:03	18:05	16 08:00 (C14)	20:10	21:12
10	08:46	07:56	06:48	07:45 (C14)	06:25	05:13
	16:01	17:05	18:07	12 07:57 (C14)	20:12	21:14
11	08:45	07:54	06:45	06:22	06:48 (C13)	05:11
	16:03	17:08	18:09	20:14	10 06:58 (C13)	21:16
12	08:44	07:52	06:42	06:20	06:45 (C13)	05:09
	16:05	17:10	18:11	20:16	13 06:58 (C13)	21:18
13	08:43	07:50	06:40	06:17	06:43 (C13)	05:07
	16:06	17:12	18:13	20:18	16 06:59 (C13)	21:20
14	08:42	07:47	06:37	06:15	06:40 (C13)	05:05
	16:08	17:14	18:15	20:20	18 06:58 (C13)	21:22
15	08:41	07:45	06:34	06:12	06:38 (C13)	05:03
	16:10	17:17	18:18	20:22	21 06:59 (C13)	21:24
16	08:40	07:43	06:32	06:09	06:38 (C13)	05:01
	16:12	17:19	18:20	20:24	20 06:58 (C13)	21:26
17	08:39	07:40	06:29	06:07	06:38 (C13)	04:59
	16:14	17:21	18:22	20:26	20 06:58 (C13)	21:27
18	08:38	07:38	06:26	06:04	06:38 (C13)	04:57
	16:16	17:23	18:24	20:28	18 06:56 (C13)	21:29
19	08:36	07:36	06:24	06:02	06:39 (C13)	04:55
	16:18	17:26	18:26	20:31	17 06:56 (C13)	21:31
20	08:35	07:33	06:21	05:59	06:40 (C13)	04:53
	16:20	17:28	18:28	20:33	15 06:55 (C13)	21:33
21	08:33	07:31	06:18	05:57	06:41 (C13)	04:52
	16:22	17:30	18:30	20:35	11 06:52 (C13)	21:35
22	08:32	07:28	06:16	05:54	06:45 (C13)	04:50
	16:24	17:32	18:32	20:37	4 06:49 (C13)	21:37
23	08:30	07:26	07:53 (C14)	05:52		04:48
	16:26	17:34	8 08:01 (C14)	20:39		21:38
24	08:29	07:23	07:50 (C14)	05:49		04:47
	16:28	17:37	12 08:02 (C14)	20:41		21:40
25	08:27	07:21	07:48 (C14)	05:47		04:45
	16:30	17:39	16 08:04 (C14)	20:43		21:42
26	08:26	07:18	07:45 (C14)	05:44		04:44
	16:32	17:41	20 08:05 (C14)	20:45		21:43
27	08:24	07:16	07:42 (C14)	05:42		04:42
	16:34	17:43	23 08:05 (C14)	20:47		21:45
28	08:22	07:13	07:40 (C15)	05:40		04:41
	16:37	17:45	26 08:06 (C14)	20:49		21:47
29	08:20		06:57	05:37		04:40
	16:39		19:47	20:51		21:48
30	08:19		06:54	05:35		04:38
	16:41		19:49	20:53		21:50
31	08:17		06:52			04:37
	16:43		19:51			21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		105	223		192	
Sun reduction		0.20	0.41		0.50	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.63	0.63		0.66	
Total reduction		0.12	0.25		0.32	
Total, real		13	56	61		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Ives - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (96)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:16 21:28	06:17 20:14	06:47 (C13) 18:54	07:17 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	06:49 (C13) 18:51	07:19 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	06:51 (C13) 18:48	07:21 16:32	08:28 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	06:53 (C13) 18:46	07:23 16:30	08:29 15:43
5	04:34 22:07	05:24 21:20	06:25 20:04	07:25 18:43	08:33 (C14) 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	08:36 (C14) 16:25	08:33 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:38 (C14) 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:39 (C14) 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:41 (C14) 16:19	08:37 15:39
10	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:43 (C14) 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	08:44 (C14) 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:46 (C14) 16:13	08:40 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:48 (C14) 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:49 (C14) 16:10	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:51 (C14) 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	08:53 (C14) 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:55 (C14) 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:09	08:57 (C14) 16:03	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:59 (C14) 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	09:01 (C14) 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	09:03 (C14) 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	09:05 (C14) 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	09:07 (C14) 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	09:09 (C14) 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	09:11 (C14) 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 17:50	09:13 (C14) 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 17:48	09:15 (C14) 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 17:46	09:17 (C14) 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:43	09:19 (C14) 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:41	09:21 (C14) 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	07:17 18:53	08:19 17:38	09:23 (C14) 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		175	19	338		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.66	0.66	0.63		
Total reduction		0.32	0.27	0.16		
Total, real		56	5	53		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kirš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (78)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	07:37 (C14) 19:53	06:49 20:55	04:36 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	07:34 (C14) 19:55	06:46 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	07:33 (C14) 19:57	06:44 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:31 (C14) 19:59	06:41 21:02	04:33 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	07:30 (C14) 20:01	06:38 21:04	04:32 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	07:30 (C14) 20:03	06:36 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	07:30 (C14) 20:06	06:33 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	07:29 (C14) 20:08	06:30 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	07:30 (C14) 20:10	06:28 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	07:29 (C14) 20:12	06:25 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	07:29 (C14) 20:14	06:22 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	07:30 (C14) 20:16	06:20 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	07:31 (C14) 20:18	06:17 21:20	04:27 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	07:31 (C14) 20:20	06:15 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	07:34 (C14) 20:22	06:12 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	07:36 (C14) 20:24	06:09 21:25	04:26 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	07:48 (C14) 20:26	06:07 21:27	04:25 22:08
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	06:30 (C13) 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	06:28 (C13) 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	06:26 (C13) 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:23 (C13) 21:35	04:25 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	06:22 (C13) 21:37	04:26 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	06:21 (C13) 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	06:21 (C13) 21:40	04:26 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	06:22 (C13) 21:42	04:27 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	06:22 (C13) 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:22 (C13) 21:45	04:27 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	06:24 (C13) 21:47	04:28 22:10
29	08:20 16:39	07:11 17:47	05:57 19:47	05:37 20:51	06:25 (C13) 21:48	04:29 22:10
30	08:19 16:41	07:10 17:48	05:54 19:49	05:35 20:53	06:28 (C13) 21:50	04:29 22:09
31	08:17 16:43	07:09 17:49	05:51 19:51	05:33 20:51	06:30 (C13) 21:51	04:29 22:09
Potential sun hours	235	266	366	426	508	529
Total, worst case		26	388		237	
Sun reduction		0.20	0.41		0.50	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.62	0.62		0.65	
Total reduction		0.12	0.25		0.32	
Total, real		3	97		75	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kirš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (78)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:16	06:17	07:17	08:10 (C14)	07:23
	22:09	21:28	20:14	18:54	25 08:35 (C14)	16:36
2	04:31	05:18	06:19	07:19	08:09 (C14)	07:25
	22:09	21:26	20:11	18:51	26 08:35 (C14)	16:34
3	04:32	05:20	06:21	07:21	08:08 (C14)	07:27
	22:08	21:24	20:09	18:48	27 08:35 (C14)	16:32
4	04:33	05:22	06:23	07:23	08:07 (C14)	07:29
	22:07	21:22	20:06	18:46	28 08:35 (C14)	16:30
5	04:34	05:23	06:25	07:25	08:06 (C14)	07:31
	22:07	21:20	20:04	18:43	29 08:35 (C14)	16:27
6	04:35	05:25	06:27	07:28	08:06 (C14)	07:33
	22:06	21:17	20:01	18:40	29 08:35 (C14)	16:25
7	04:36	05:27	06:29	07:30	08:05 (C14)	07:36
	22:05	21:15	19:58	18:38	29 08:34 (C14)	16:23
8	04:37	05:29	06:31	07:32	08:05 (C14)	07:38
	22:04	21:13	19:56	18:35	28 08:33 (C14)	16:21
9	04:38	05:31	06:33	07:34	08:06 (C14)	07:40
	22:03	21:11	19:53	18:33	28 08:34 (C14)	16:19
10	04:40	05:33	06:35	07:36	08:07 (C14)	07:42
	22:02	21:08	19:50	18:30	25 08:32 (C14)	16:17
11	04:41	05:35	06:37	07:38	08:07 (C14)	07:44
	22:01	21:06	19:47	18:27	24 08:31 (C14)	16:15
12	04:42	05:37	06:39	07:40	08:09 (C14)	07:46
	22:00	21:04	19:45	18:25	20 08:29 (C14)	16:13
13	04:44	05:39	06:41	07:42	08:11 (C14)	07:49
	21:59	21:02	9 06:43 (C13)	18:22	16 08:27 (C14)	16:11
14	04:45	05:41	06:43	07:44	08:13 (C14)	07:51
	21:58	20:59	14 06:46 (C13)	18:20	12 08:25 (C14)	16:10
15	04:46	05:43	06:45	07:46	08:16 (C14)	07:53
	21:57	20:57	16 06:47 (C13)	18:17	6 08:22 (C15)	16:08
16	04:48	05:45	06:47	07:48	08:18 (C15)	07:55
	21:55	20:54	18 06:48 (C13)	18:15	3 08:21 (C15)	16:06
17	04:49	05:47	06:49	07:50		07:57
	21:54	20:52	20 06:49 (C13)	18:12		16:04
18	04:51	05:49	06:51	07:52		07:59
	21:52	20:50	21 06:49 (C13)	18:09		16:03
19	04:53	05:51	06:53	07:55		08:01
	21:51	20:47	21 06:48 (C13)	18:07		16:01
20	04:54	05:53	06:55	07:57		08:03
	21:49	20:45	21 06:48 (C13)	18:04		15:59
21	04:56	05:55	06:57	07:59		08:05
	21:48	20:42	22 06:48 (C13)	18:02		15:58
22	04:58	05:57	06:59	08:01		08:07
	21:46	20:40	20 06:48 (C13)	18:00		15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	17 06:47 (C13)	17:57		15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	15 06:47 (C13)	17:55		15:53
25	05:03	06:03	07:05	07:07		08:13
	21:41	20:32	12 06:46 (C13)	16:52		15:52
26	05:05	06:05	07:07	07:10		08:15
	21:39	20:30	8 06:44 (C13)	16:50		15:51
27	05:06	06:07	07:09	07:12		08:17
	21:38	20:27	4 06:42 (C13)	19:04	9 08:28 (C14)	16:48
28	05:08	06:09	07:11	07:14		08:19
	21:36	20:24	19:02	16 08:31 (C14)		15:48
29	05:10	06:11	07:13	07:16		08:21
	21:34	20:22	18:59	20 08:33 (C14)		15:47
30	05:12	06:13	07:15	07:18		08:22
	21:32	20:19	18:56	23 08:34 (C14)		15:46
31	05:14	06:15		07:20		08:51
	21:30	20:17		16:38		15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		238	68		355	
Sun reduction		0.50	0.43		0.26	
Oper. time red.		0.98	0.98		0.98	
Wind dir. red.		0.65	0.62		0.62	
Total reduction		0.32	0.26		0.16	
Total, real		75	18	56		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kikaukas (kad. apz. 56960030117001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (12)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:18	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:40	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:31 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:54	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Kikaukas (kad. apz. 56960030117008) - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (13)  
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:12	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:57	04:33 22:08	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:29 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	04:32 21:58	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:36 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:25 21:18	06:27 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:59 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:03	04:38 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:02	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26	04:26 22:08	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:28	04:25 22:09	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:29	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:47 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:10	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:34 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	08:31 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:11	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 19:10	08:08 17:52	08:13 15:52	08:51 15:41
26	08:26 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:44	04:27 22:11	05:05 21:40	06:05 20:30	07:07 19:07	08:10 17:50	08:15 15:51	08:51 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:25	07:11 19:02	08:14 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:49	05:35 20:54	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 17:41	08:23 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		07:21 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Lovani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (65)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:02 (C14) 21:53	04:36 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	06:02 (C14) 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	06:03 (C14) 21:55	04:34 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:28 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	06:03 (C14) 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	06:04 (C14) 21:58	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:57	06:58 17:59	06:36 20:03	05:21 21:06	06:06 (C14) 21:59	04:35 22:06	05:26 21:17	06:17 (C14) 20:01	07:28 18:40	07:34 16:25	08:32 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	06:15 (C14) 21:59	04:36 22:05	05:28 21:15	06:15 (C14) 20:01	07:29 18:38	07:36 16:23	08:34 15:41
8	08:48 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	06:11 (C14) 22:00	04:37 22:04	05:29 21:13	06:13 (C14) 20:04	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	06:09 (C14) 22:02	04:38 22:03	05:31 21:11	06:13 (C14) 20:04	07:34 18:33	07:40 16:19	08:37 15:40
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:12 (C14) 20:04	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:12 (C14) 20:04	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:10 (C14) 20:04	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	04:27 22:06	04:44 21:59	05:39 21:02	06:11 (C14) 20:04	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:13 (C14) 20:04	07:44 18:20	07:51 16:10	08:43 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	04:26 22:07	04:47 21:57	05:43 20:57	06:15 (C14) 20:04	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:17 (C14) 20:04	07:48 18:15	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:26 22:08	04:50 21:54	05:47 20:52	06:19 (C14) 20:04	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:50	06:21 (C14) 20:04	07:53 18:10	07:59 16:03	08:46 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:23 (C14) 20:04	07:55 18:07	08:01 16:01	08:47 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	04:25 22:10	04:54 21:49	05:53 20:45	06:25 (C14) 20:04	07:57 18:05	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	04:26 22:10	04:56 21:48	05:55 20:42	06:27 (C14) 20:04	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37	04:26 22:10	04:58 21:46	05:57 20:40	06:29 (C14) 20:04	08:01 18:00	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:54	08:50 15:41
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:50 15:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50	08:15 15:51	08:51 15:42
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	04:28 22:10	05:07 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17 15:50	08:51 15:43
28	08:22 16:37	07:13 17:46	06:00 18:45	05:40 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41		06:54 19:54	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43		06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17		08:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case				64	85			149				
Sun reduction				0.50	0.57			0.50				
Oper. time red.				0.98	0.98			0.98				
Wind dir. red.				0.66	0.66			0.66				
Total reduction				0.32	0.37			0.32				
Total, real				21	31			48				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Udensrozes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (185)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:22 16:36	08:24 15:45
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	04:35 21:54	04:31 22:08	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:01	04:33 21:56	04:33 22:07	05:22 21:21	06:23 20:06	07:23 18:46	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:58	04:34 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:30 15:42
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	07:29 18:38	07:35 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:07	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:09	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:10	06:33 19:53	07:34 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:17	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:07 21:19	04:27 22:06	04:44 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:05 21:21	04:26 22:06	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	05:03 21:23	04:26 22:07	04:46 21:56	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:20	06:09 20:24	05:01 21:25	04:26 22:08	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	08:38 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:18	07:35 17:26	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:34	04:52 21:34	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:48 15:39
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:37	04:50 21:36	04:26 22:10	04:58 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:40
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:51	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	04:28 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:50	08:50 15:43
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	08:51 15:44
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:45
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:16 16:43		06:51 19:51		04:37 21:51		05:14 21:30	06:15 20:16		07:20 16:38		08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Udri - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (186)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:37 (C16) 21:52
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	06:39 (C16) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 20:59	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	04:33 21:56
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:05	05:19 21:08	04:30 22:00
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	04:27 22:05
13	08:43 16:06	07:49 17:12	06:40 18:13	06:17 20:18	06:44 (C16) 21:20	05:07 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	06:40 (C16) 21:22	05:05 22:06
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	06:39 (C16) 21:23	05:03 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	06:37 (C16) 21:25	05:01 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	06:36 (C16) 21:27	04:59 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	06:35 (C16) 21:29	04:57 22:09
19	08:36 16:18	07:35 17:26	06:24 18:26	06:02 20:30	06:34 (C16) 21:31	04:55 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:32	06:34 (C16) 21:33	04:53 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:33 (C16) 21:35	04:52 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	06:33 (C16) 21:36	04:50 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	06:32 (C16) 21:38	04:48 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	06:33 (C16) 21:40	04:47 22:10
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	06:33 (C16) 21:42	04:45 22:10
26	08:25 16:32	07:18 17:41	06:05 18:41	05:44 20:45	06:33 (C16) 21:43	04:44 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:33 (C16) 21:45	04:42 22:10
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	06:34 (C16) 21:46	04:41 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	06:35 (C16) 21:48	04:40 22:10
30	08:18 16:41		06:54 19:49	05:35 20:53	06:37 (C16) 21:49	04:38 22:09
31	08:17 16:43		06:51 19:51		06:55 (C16) 21:51	
Potential sun hours	235	266	366	426	508	528
Total, worst case				426		737
Sun reduction				0.50	0.57	0.56
Oper. time red.				0.98	0.98	0.98
Wind dir. red.				0.66	0.66	0.67
Total reduction				0.32	0.36	0.37
Total, real				136	10	270

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 03:59/4.0.531

## SHADOW - Calendar

Shadow receptor: Udri - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (186)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30	05:18 (C15)	05:16	06:17	07:17	07:22
	22:09	27 05:45 (C15)	21:28	20:14	18:54	16:36
2	04:31	05:18 (C15)	05:18	06:19	07:19	07:25
	22:08	26 05:44 (C15)	21:26	20:11	18:51	16:34
3	04:32	05:19 (C15)	05:20	06:21	07:21	07:27
	22:08	25 05:44 (C15)	21:24	20:09	18:48	16:32
4	04:33	05:20 (C15)	05:22	06:23	07:23	07:29
	22:07	23 05:43 (C15)	21:22	20:06	18:46	16:29
5	04:34	05:21 (C15)	05:23	06:25	07:25	07:31
	22:07	22 05:43 (C15)	21:19	20:03	18:43	16:27
6	04:35	05:22 (C15)	05:25	06:27	07:27	07:33
	22:06	21 05:43 (C15)	21:17	20:01	18:40	16:25
7	04:36	05:23 (C15)	05:27	06:29	07:29	07:36
	22:05	19 05:42 (C15)	21:15	19:58	18:38	16:23
8	04:37	05:24 (C15)	05:29	06:31	07:32	07:38
	22:04	17 05:41 (C15)	21:13	19:55	18:35	16:21
9	04:38	05:25 (C15)	05:31	06:33	07:34	07:40
	22:03	15 05:40 (C15)	21:11	19:53	18:32	16:19
10	04:40	05:26 (C15)	05:33	06:35	07:36	07:42
	22:02	13 05:39 (C15)	21:08	19:50	18:30	16:17
11	04:41	05:29 (C15)	05:35	06:37	07:38	07:44
	22:01	9 05:38 (C15)	21:06	19:47	18:27	16:15
12	04:42		05:37	06:39	07:40	07:46
	22:00		21:04	19:45	18:25	16:13
13	04:44		05:39	06:41	07:42	07:48
	21:59		21:01	19:42	18:22	16:11
14	04:45		05:41	06:42	07:44	07:51
	21:58		20:59	19:39	18:20	16:09
15	04:46		05:43	06:44	07:46	07:53
	21:56		20:57	19:37	18:17	16:08
16	04:48		05:45	06:47	07:48	07:55
	21:55		20:54	19:34	18:14	16:06
17	04:49		05:47	06:49	07:50	07:57
	21:54		20:52	19:31	18:12	16:04
18	04:51		05:49	06:51	07:52	07:59
	21:52		20:49	19:29	18:09	16:03
19	04:53		05:51	06:53	07:55	08:01
	21:51		20:47	19:26	18:07	16:01
20	04:54		05:53	06:55	07:57	08:03
	21:49		20:45	19:23	18:04	15:59
21	04:56		05:55	06:57	07:59	08:05
	21:48		20:42	19:20	18:02	15:58
22	04:58		05:57	06:59	08:01	08:07
	21:46		20:40	19:18	18:00	15:56
23	04:59		05:59	07:01	08:03	08:09
	21:44		20:37	19:15	17:57	15:55
24	05:01		06:01	07:03	08:05	08:11
	21:43		20:35	19:12	17:55	15:53
25	05:03		06:03	07:05	07:07	08:13
	21:41		20:32	19:10	16:52	15:52
26	05:05		06:05	07:07	07:09	08:15
	21:39		20:29	19:07	16:50	15:51
27	05:06		06:07	07:09	07:12	08:17
	21:37		20:27	19:04	16:48	15:50
28	05:08		06:09	07:11	07:14	08:19
	21:36		20:24	19:02	16:45	15:48
29	05:10		06:11	07:13	07:16	08:21
	21:34		20:22	18:59	16:43	15:47
30	05:12		06:13	07:15	07:18	08:22
	21:32		20:19	18:56	16:41	15:46
31	05:14		06:15		07:20	08:51
	21:30		20:17		16:38	15:47
Potential sun hours	529	469	384	324	248	216
Total, worst case	217	462				
Sun reduction	0.49	0.50				
Oper. time red.	0.98	0.98				
Wind dir. red.	0.67	0.66				
Total reduction	0.32	0.32				
Total, real	70	147				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)