

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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 15:50	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	04:33 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	06:58 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 16:15	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 16:21	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	08:01 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 15:54	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	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 20:43	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	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 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	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)

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## 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		08:15	09:00 (E14)	07:11		06:49	05:33	04:36
	15:48		16:45	19	09:19 (E14)	17:48	19:53	20:56	21:53
2	08:51		08:13	09:02 (E14)	07:08		06:46	05:30	04:35
	15:49		16:48	16	09:18 (E14)	17:50	19:55	20:58	21:54
3	08:50		08:11	09:03 (E14)	07:06		06:44	05:28	04:34
	15:51		16:50	15	09:18 (E14)	17:52	19:57	21:00	21:55
4	08:50		08:09	09:05 (E14)	07:03		06:41	05:26	04:33
	15:52		16:52	12	09:17 (E14)	17:54	19:59	21:02	21:57
5	08:49		08:07	09:07 (E14)	07:01		06:38	05:24	04:32
	15:53		16:54	8	09:15 (E14)	17:56	20:01	21:04	21:58
6	08:49		08:05		06:58	07:24 (E13)	06:36	05:21	04:31
	15:55		16:56		17:58	1	07:25 (E13)	20:03	21:06
7	08:48		08:03		06:55		07:21 (E13)	06:33	05:19
	15:56		16:59		18:01	6	07:27 (E13)	20:06	21:08
8	08:48		08:01		06:53		07:18 (E13)	06:30	05:17
	15:58		17:01		18:03	10	07:28 (E13)	20:08	21:10
9	08:47		07:58		06:50		07:16 (E13)	06:28	05:15
	16:00		17:03		18:05	13	07:29 (E13)	20:10	21:12
10	08:46		07:56		06:48		07:13 (E13)	06:25	05:13
	16:01		17:05		18:07	16	07:29 (E13)	20:12	21:14
11	08:45		07:54		06:45		07:10 (E13)	06:22	05:11
	16:03		17:08		18:09	19	07:29 (E13)	20:14	21:16
12	08:44		07:52		06:42		07:11 (E13)	06:20	05:09
	16:05		17:10		18:11	18	07:29 (E13)	20:16	21:18
13	08:43		07:50		06:40		07:10 (E13)	06:17	05:07
	16:06		17:12		18:13	18	07:28 (E13)	20:18	21:20
14	08:42		07:47		06:37		07:10 (E13)	06:15	05:05
	16:08		17:14		18:15	17	07:27 (E13)	20:20	21:22
15	08:41		07:45		06:34		07:12 (E13)	06:12	05:03
	16:10		17:17		18:18	15	07:27 (E13)	20:22	21:24
16	08:40		07:43		06:32		07:13 (E13)	06:09	05:01
	16:12		17:19		18:20	11	07:24 (E13)	20:24	21:26
17	08:39		07:40		06:29		07:15 (E13)	06:07	04:59
	16:14		17:21		18:22	6	07:21 (E13)	20:26	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	09:10 (E14)	07:36		06:24		06:02	04:55	04:25
	16:18	2	09:12 (E14)	17:26	18:26		20:31	21:31	22:09
20	08:35	09:09 (E14)	07:33		06:21		05:59	04:53	04:25
	16:20	5	09:14 (E14)	17:28	18:28		20:33	21:33	22:10
21	08:33	09:07 (E14)	07:31		06:18		05:57	04:52	04:25
	16:22	8	09:15 (E14)	17:30	18:30		20:35	21:35	22:10
22	08:32	09:05 (E14)	07:28		06:16		05:54	04:50	04:26
	16:24	11	09:16 (E14)	17:32	18:32		20:37	21:37	22:10
23	08:30	09:03 (E14)	07:26		06:13		05:52	04:48	04:26
	16:26	14	09:17 (E14)	17:34	18:34		20:39	21:38	22:10
24	08:29	09:02 (E14)	07:23		06:10		05:49	04:47	04:26
	16:28	16	09:18 (E14)	17:37	18:36		20:41	21:40	22:10
25	08:27	09:00 (E14)	07:21		06:08		05:47	04:45	04:26
	16:30	19	09:19 (E14)	17:39	18:39		20:43	21:42	22:10
26	08:26	08:59 (E14)	07:18		06:05		05:44	04:44	04:27
	16:32	20	09:19 (E14)	17:41	18:41		20:45	21:43	22:10
27	08:24	08:59 (E14)	07:16		06:02		05:42	04:42	04:27
	16:34	21	09:20 (E14)	17:43	18:43		20:47	21:45	22:10
28	08:22	08:59 (E14)	07:13		06:00		05:40	04:41	04:28
	16:37	21	09:20 (E14)	17:45	18:45		20:49	21:47	22:10
29	08:20	09:00 (E14)			06:57		05:37	04:40	04:29
	16:39	20	09:20 (E14)		19:47		20:51	21:48	22:10
30	08:19	09:00 (E14)			06:54		05:35	04:38	04:29
	16:41	20	09:20 (E14)		19:49		20:53	21:50	22:09
31	08:17	09:01 (E14)			06:52			04:37	
	16:43	19	09:20 (E14)		19:51			21:51	
Potential sun hours	235		266		366		426	508	529
Total, worst case		196		70		150			
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		0.12		0.25			
Total, real		15		8		38			

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)
	Minutes with flicker		

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25/06/2024 23:53/4.0.540

## SHADOW - Calendar

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Assumptions for shadow calculations

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

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	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	07:50 (E13)	07:23
	22:09	21:28	20:14	18:54	08:08 (E13)	16:36
2	04:31	05:18	06:19	07:19	07:49 (E13)	07:25
	22:09	21:26	20:11	18:51	08:08 (E13)	16:34
3	04:32	05:20	06:21	07:21	07:50 (E13)	07:27
	22:08	21:24	20:09	18:48	08:07 (E13)	16:32
4	04:33	05:22	06:23	07:23	07:52 (E13)	07:29
	22:07	21:22	20:06	18:46	08:07 (E13)	16:29
5	04:34	05:23	06:25	07:26	07:54 (E13)	07:31
	22:07	21:20	20:04	18:43	08:05 (E13)	16:27
6	04:35	05:25	06:27	07:28	07:56 (E13)	07:34
	22:06	21:17	20:01	18:40	08:04 (E13)	16:25
7	04:36	05:27	06:29	07:30	07:58 (E13)	07:36
	22:05	21:15	19:58	18:38	08:02 (E13)	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	18:33		16:19
10	04:39	05:33	06:35	07:36		07:42
	22:02	21:09	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		07:47
	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	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	07:53		07:59
	21:53	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
	21:50	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	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	07:10		08:15
	21:39	20:30	19:07	16:50		15:51
27	05:06	06:07	07:09	07:12		08:17
	21:38	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		08:23
	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			59	92	271	
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			15	14	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)
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## 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 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
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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
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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
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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	08:01 17:59	08:07 15:56	08:48 15:39
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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
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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:

25/06/2024 23:53/4.0.540

## 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
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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:

25/06/2024 23:53/4.0.540

## 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
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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	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	08:25 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			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:

25/06/2024 23:53/4.0.540

## 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 (E14) 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 (E14) 17:50	07:08 19:55	05:30 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	08:42 (E14) 17:52	07:06 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	08:42 (E14) 17:54	07:03 19:59	05:26 21:02	04:33 21:57
5	08:49 15:53	08:07 16:54	08:43 (E14) 17:56	07:01 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:57	08:43 (E14) 17:58	07:24 (E13) 20:04	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	08:44 (E14) 18:01	07:29 (E13) 20:06	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	08:46 (E14) 18:03	07:19 (E13) 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	08:48 (E14) 18:05	07:16 (E13) 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	08:52 (E14) 18:05	07:14 (E13) 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	07:15 (E13) 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	07:16 (E13) 20:16	05:09 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	07:18 (E13) 20:18	05:07 21:20	04:26 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	07:24 (E13) 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 21:26	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 (E14) 08:56 (E14)	06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10
30	08:19 16:41	08:50 (E14) 08:57 (E14)	06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:10
31	08:17 16:43	08:48 (E14) 08:58 (E14)	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	21	118	86			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.60	0.60	0.62			
Total reduction	0.08	0.12	0.25			
Total, real	2	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 time)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:56 (E13)	07:23
	22:09	21:28	20:14	18:54	08:05 (E13)	15:45
2	04:31	05:18	06:19	07:19	07:54 (E13)	07:25
	22:09	21:26	20:11	18:51	08:06 (E13)	08:17 (E14)
3	04:32	05:20	06:21	07:21	07:53 (E13)	07:27
	22:08	21:24	20:09	18:48	08:07 (E13)	08:16 (E14)
4	04:33	05:22	06:23	07:23	07:52 (E13)	07:29
	22:07	21:22	20:06	18:46	08:07 (E13)	08:14 (E14)
5	04:34	05:23	06:25	07:26	07:54 (E13)	07:31
	22:07	21:20	20:04	18:43	08:07 (E13)	08:14 (E14)
6	04:35	05:25	06:27	07:28	07:56 (E13)	07:34
	22:06	21:17	20:01	18:40	08:06 (E13)	08:13 (E14)
7	04:36	05:27	06:29	07:30	07:58 (E13)	07:36
	22:05	21:15	19:58	18:38	08:05 (E13)	08:12 (E14)
8	04:37	05:29	06:31	07:32	08:01 (E13)	07:38
	22:04	21:13	19:56	18:35	08:01 (E13)	08:13 (E14)
9	04:38	05:31	06:33	07:34	08:05 (E13)	07:40
	22:03	21:11	19:53	18:33	16:21	08:14 (E14)
10	04:39	05:33	06:35	07:36	07:42	08:17 (E14)
	22:02	21:09	19:50	18:30	16:17	08:29 (E14)
11	04:41	05:35	06:37	07:38	07:44	08:19 (E14)
	22:01	21:06	19:48	18:27	16:15	08:29 (E14)
12	04:42	05:37	06:39	07:40	07:47	08:21 (E14)
	22:00	21:04	19:45	18:25	16:13	08:28 (E14)
13	04:44	05:39	06:41	07:42	07:49	08:24 (E14)
	21:59	21:02	19:42	18:22	16:11	08:28 (E14)
14	04:45	05:41	06:43	07:44	07:51	15:38
	21:58	20:59	19:39	18:20	16:10	08:43
15	04:46	05:43	06:45	07:46	07:53	15:38
	21:57	20:57	19:37	18:17	16:08	08:44
16	04:48	05:45	06:47	07:48	07:55	15:38
	21:55	20:55	19:34	18:15	16:06	08:45
17	04:49	05:47	06:49	07:50	07:57	15:38
	21:54	20:52	19:31	18:12	16:04	08:46
18	04:51	05:49	06:51	07:53	07:59	15:38
	21:53	20:50	19:29	18:09	16:03	08:47
19	04:53	05:51	06:53	07:55	08:01	15:38
	21:51	20:47	19:26	18:07	16:01	08:48
20	04:54	05:53	06:55	07:57	08:03	15:39
	21:50	20:45	19:23	18:05	15:59	08:49
21	04:56	05:55	06:57	07:59	08:05	15:39
	21:48	20:42	19:21	18:02	15:58	08:49
22	04:58	05:57	06:59	08:01	08:07	15:40
	21:46	20:40	19:18	18:00	15:56	08:50
23	04:59	05:59	07:01	08:03	08:09	15:40
	21:45	20:37	19:15	17:57	15:55	08:50
24	05:01	06:01	07:03	08:05	08:11	15:41
	21:43	20:35	19:13	17:55	15:53	08:51
25	05:03	06:03	07:05	07:08	08:13	15:41
	21:41	20:32	19:10	16:52	15:52	08:51
26	05:05	06:05	07:07	07:10	08:15	15:42
	21:39	20:30	19:07	16:50	15:51	08:51
27	05:06	06:07	07:09	07:12	08:17	15:43
	21:38	20:27	19:04	16:48	15:50	08:51
28	05:08	06:09	07:11	07:14	08:19	15:44
	21:36	20:25	19:02	16:45	15:48	08:51
29	05:10	06:11	07:13	07:16	08:21	15:45
	21:34	20:22	18:59	16:43	15:47	08:51
30	05:12	06:13	07:15	07:18	08:23	15:46
	21:32	20:19	18:56	16:41	15:46	08:51
31	05:14	06:15		07:21		15:47
	21:30	20:17		16:38		216
Potential sun hours	529	469	385	324	247	
Total, worst case			3	84	138	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.62	0.62	0.60	
Total reduction			0.26	0.16	0.05	
Total, real			1	13	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	09:44 (E14)	08:15		07:11	06:49	05:33	04:36
	15:48	16	10:00 (E14)	16:45	17:48	19:53	20:56	21:53
2	08:51	09:45 (E14)	08:13		07:08	06:46	05:30	04:35
	15:49	16	10:01 (E14)	16:48	17:50	19:55	20:58	21:54
3	08:50	09:45 (E14)	08:11		07:06	06:43	05:28	04:34
	15:51	16	10:01 (E14)	16:50	17:52	19:57	21:00	21:55
4	08:50	09:46 (E14)	08:09		07:03	06:41	05:26	04:33
	15:52	15	10:01 (E14)	16:52	17:54	19:59	21:02	21:57
5	08:49	09:47 (E14)	08:07		07:01	06:38	05:23	04:32
	15:53	15	10:02 (E14)	16:54	17:56	20:01	21:04	21:58
6	08:49	09:48 (E14)	08:05		06:58	06:36	05:21	04:31
	15:55	13	10:01 (E14)	16:56	17:58	20:03	21:06	21:59
7	08:48	09:49 (E14)	08:03		06:55	06:33	05:19	04:30
	15:56	12	10:01 (E14)	16:59	18:01	20:06	21:08	22:00
8	08:48	09:50 (E14)	08:01		06:53	06:30	05:17	04:29
	15:58	11	10:01 (E14)	17:01	18:03	20:08	21:10	22:01
9	08:47	09:51 (E14)	07:58		06:50	06:28	05:15	04:29
	16:00	9	10:00 (E14)	17:03	18:05	20:10	21:12	22:02
10	08:46	09:53 (E14)	07:56	08:25 (E13)	06:48	06:25	05:13	04:28
	16:01	7	10:00 (E14)	17:05	18:07	20:12	21:14	22:03
11	08:45		07:54	08:23 (E13)	06:45	06:22	05:11	04:27
	16:03		17:08	7 08:30 (E13)	18:09	20:14	21:16	22:04
12	08:44		07:52	08:20 (E13)	06:42	06:20	05:09	04:27
	16:05		17:10	10 08:30 (E13)	18:11	20:16	21:18	22:05
13	08:43		07:50	08:18 (E13)	06:40	06:17	05:07	04:26
	16:06		17:12	14 08:32 (E13)	18:13	20:18	21:20	22:06
14	08:42		07:47	08:15 (E13)	06:37	06:15	05:05	04:26
	16:08		17:14	16 08:31 (E13)	18:15	20:20	21:22	22:07
15	08:41		07:45	08:14 (E13)	06:34	06:12	05:03	04:26
	16:10		17:17	18 08:32 (E13)	18:18	20:22	21:24	22:07
16	08:40		07:43	08:13 (E13)	06:32	06:09	05:01	04:26
	16:12		17:19	19 08:32 (E13)	18:20	20:24	21:26	22:08
17	08:39		07:40	08:14 (E13)	06:29	06:07	04:59	04:25
	16:14		17:21	18 08:32 (E13)	18:22	20:26	21:27	22:09
18	08:38		07:38	08:15 (E13)	06:26	06:04	04:57	04:25
	16:16		17:23	17 08:32 (E13)	18:24	20:28	21:29	22:09
19	08:36		07:36	08:15 (E13)	06:24	06:02	04:55	04:25
	16:18		17:26	15 08:30 (E13)	18:26	20:31	21:31	22:09
20	08:35		07:33	08:16 (E13)	06:21	05:59	04:53	04:25
	16:20		17:28	13 08:29 (E13)	18:28	20:33	21:33	22:10
21	08:33		07:31	08:18 (E13)	06:18	05:57	04:52	04:25
	16:22		17:30	9 08:27 (E13)	18:30	20:35	21:35	22:10
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		17:34		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		130		159				
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		10		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E13) 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	09:36 (E14) 15:43
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	09:34 (E14) 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	09:34 (E14) 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	09:34 (E14) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	09:34 (E14) 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	09:34 (E14) 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	09:35 (E14) 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	09:34 (E14) 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	09:34 (E14) 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	09:35 (E14) 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 (E14) 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 (E14) 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 (E14) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	09:36 (E14) 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 (E14) 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	09:37 (E14) 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	09:38 (E14) 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	09:38 (E14) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	09:39 (E14) 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	09:39 (E14) 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	09:40 (E14) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	09:40 (E14) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	09:40 (E14) 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 17:50	08:15 15:51	09:41 (E14) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 17:48	08:17 15:49	09:41 (E14) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 17:45	08:19 15:48	09:42 (E14) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:43	08:21 15:47	09:42 (E14) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:41	08:23 15:46	09:43 (E14) 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	08:19 17:39	08:25 15:45	09:44 (E14) 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case				160	2	469
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				25	0	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	08:14	07:10			06:48	05:32	04:35	04:29	05:15	06:17		07:17		17:44 (E1)	07:22	08:24
	15:48	16:45	17:47			19:53	20:55	21:52	22:09	21:27	20:14		18:53	25	18:09 (E1)	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		17:44 (E1)	07:24	08:26
	15:49	16:47	17:49			19:55	20:57	21:54	22:08	21:25	20:11		18:50	24	18:08 (E1)	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		17:43 (E1)	07:27	08:27
	15:50	16:49	17:51			19:57	20:59	21:55	22:08	21:23	20:08		18:48	25	18:08 (E1)	16:31	15:43
4	08:49	08:08	07:03		17:14 (E1)	06:40	05:25	04:32	04:32	05:21	06:23		07:23		17:44 (E1)	07:29	08:29
	15:51	16:51	17:54	11	17:25 (E1)	19:59	21:01	21:56	22:07	21:21	20:06		18:45	24	18:08 (E1)	16:29	15:42
5	08:49	08:06	07:00		17:11 (E1)	06:38	05:23	04:31	04:33	05:23	06:25		07:25		17:44 (E1)	07:31	08:30
	15:53	16:54	17:56	16	17:27 (E1)	20:01	21:03	21:58	22:06	21:19	20:03		18:42	23	18:07 (E1)	16:27	15:41
6	08:48	08:04	06:57		17:09 (E1)	06:35	05:21	04:30	04:34	05:25	06:27		07:27		17:44 (E1)	07:33	08:32
	15:54	16:56	17:58	19	17:28 (E1)	20:03	21:05	21:59	22:06	21:17	20:00		18:40	22	18:06 (E1)	16:25	15:40
7	08:48	08:02	06:55		17:09 (E1)	06:32	05:18	04:29	04:35	05:27	06:29		07:29		17:45 (E1)	07:35	08:33
	15:56	16:58	18:00	21	17:30 (E1)	20:05	21:07	22:00	22:05	21:15	19:58		18:37	20	18:05 (E1)	16:23	15:40
8	08:47	08:00	06:52		17:07 (E1)	06:30	05:16	04:29	04:36	05:29	06:31		07:31		17:46 (E1)	07:37	08:35
	15:57	17:00	18:02	23	17:30 (E1)	20:07	21:09	22:01	22:04	21:13	19:55		18:35	17	18:03 (E1)	16:20	15:39
9	08:46	07:58	06:50		17:06 (E1)	06:27	05:14	04:28	04:37	05:31	06:33		07:33		17:47 (E1)	07:40	08:36
	15:59	17:03	18:04	24	17:30 (E1)	20:09	21:11	22:02	22:03	21:10	19:52		18:32	14	18:01 (E1)	16:18	15:39
10	08:46	07:56	06:47		17:06 (E1)	06:24	05:12	04:27	04:39	05:33	06:35		07:35		17:50 (E1)	07:42	08:38
	16:00	17:05	18:06	25	17:31 (E1)	20:11	21:13	22:03	22:02	21:08	19:50		18:29	8	17:58 (E1)	16:16	15:38
11	08:45	07:54	06:44		17:06 (E1)	06:22	05:10	04:27	04:40	05:35	06:37		07:37		07:44	08:39	
	16:02	17:07	18:09	24	17:30 (E1)	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		17:05 (E1)	06:19	05:08	04:26	04:41	05:37	06:39		07:39		07:46	08:40	
	16:04	17:09	18:11	25	17:30 (E1)	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		17:05 (E1)	06:17	05:06	04:26	04:43	05:39	06:41		07:41		07:48	08:41	
	16:06	17:12	18:13	24	17:29 (E1)	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		17:06 (E1)	06:14	05:04	04:25	04:44	05:41	06:43		07:44		07:50	08:42	
	16:07	17:14	18:15	23	17:29 (E1)	20:20	21:21	22:06	21:58	20:59	19:39		18:19		16:09	15:37	
15	08:41	07:45	06:34		17:06 (E1)	06:11	05:02	04:25	04:46	05:43	06:45		07:46		07:52	08:43	
	16:09	17:16	18:17	21	17:27 (E1)	20:22	21:23	22:07	21:56	20:56	19:36		18:16		16:07	15:37	
16	08:40	07:42	06:31		17:07 (E1)	06:09	05:00	04:25	04:47	05:45	06:47		07:48		07:55	08:44	
	16:11	17:18	18:19	19	17:26 (E1)	20:24	21:25	22:08	21:55	20:54	19:34		18:14		16:05	15:37	
17	08:38	07:40	06:28		17:09 (E1)	06:06	04:58	04:25	04:49	05:47	06:49		07:50		07:57	08:45	
	16:13	17:21	18:21	15	17:24 (E1)	20:26	21:27	22:08	21:54	20:52	19:31		18:11		16:04	15:37	
18	08:37	07:37	06:26		17:11 (E1)	06:04	04:56	04:25	04:50	05:49	06:51		07:52		07:59	08:46	
	16:15	17:23	18:23	10	17:21 (E1)	20:28	21:29	22:09	21:52	20:49	19:28		18:09		16:02	15:37	
19	08:36	07:35	06:23		06:01	04:55	04:25	04:52	04:52	05:51	06:53		07:54		08:01	08:47	
	16:17	17:25	18:25		20:30	21:31	22:09	21:51	20:47	19:25		18:06		16:00	15:38		
20	08:34	07:33	06:20		05:59	04:53	04:25	04:54	05:53	06:55		07:56		08:03	08:48		
	16:19	17:27	18:28		20:32	21:33	22:09	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	04:55	05:55	06:57		07:58		08:05	08:48		
	16:21	17:29	18:30		20:34	21:34	22:10	21:48	20:42	19:20		18:01		15:57	15:38		
22	08:32	07:28	06:15		05:54	04:49	04:25	04:57	05:57	06:59		08:01		08:07	08:49		
	16:23	17:32	18:32		20:36	21:36	22:10	21:46	20:39	19:17		17:59		15:56	15:39		
23	08:30	07:25	06:12		05:51	04:48	04:25	04:59	05:59	07:01		08:03		08:09	08:49		
	16:25	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	07:23	06:10		05:49	04:46	04:25	05:00	06:01	07:03		08:05		08:11	08:50		
	16:27	17:36	18:36		20:40	21:40	22:10	21:43	20:34	19:12		17:54		15:53	15:40		
25	08:27	07:20	06:07		05:46	04:45	04:26	05:02	06:03	07:05		17:55 (E1)	07:07		08:13	08:50	
	16:29	17:38	18:38		20:43	21:41	22:10	21:41	20:32	19:09	8	18:03 (E1)	16:52		15:51	15:41	
26	08:25	07:18	06:04		05:44	04:43	04:26	05:04	06:05	07:07		17:52 (E1)	07:09		08:15	08:50	
	16:32	17:40	18:40		20:45	21:43	22:10	21:39	20:29	19:07	13	18:05 (E1)	16:49		15:50	15:41	
27	08:23	07:15	06:02		05:41	04:42	04:27	05:06	06:07	07:09		17:49 (E1)	07:11		08:17	08:50	
	16:34	17:43	18:42		20:47	21:45	22:10	21:37	20:27	19:04	18	18:07 (E1)	16:47		15:49	15:42	
28	08:22	07:13	05:59		05:39	04:40	04:27	05:08	06:09	07:11		17:48 (E1)	07:13		08:18	08:51	
	16:36	17:45	18:44		20:49	21:46	22:10	21:35	20:24	19:01	20	18:08 (E1)	16:45		15:48	15:43	
29	08:20		06:56		05:37	04:39	04:28	05:09	06:11	07:13		17:46 (E1)	07:16		08:20	08:51	
	16:38		19:46		20:51	21:48	22:09	21:33	20:21	18:58	22	18:08 (E1)	16:42		15:47	15:44	
30	08:18		06:54		05:34	04:38	04:29	05:11	06:13	07:15		17:45 (E1)	07:18		08:22	08:51	
	16:40		19:48		20:53	21:49	22:09	21:31	20:19	18:56	24	18:09 (E1)	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			300								105		202				
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			79								29		33				

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:

25/06/2024 23:53/4.0.540

## 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 (E14) 08:55 (E14)	07:11 17:48	06:49 19:53	04:36 21:53
2	08:51 15:49	08:13 16:48	08:43 (E14) 08:54 (E14)	07:08 17:50	06:46 19:55	04:35 21:54
3	08:50 15:51	08:11 16:50	08:41 (E14) 08:55 (E14)	07:06 17:52	06:44 19:57	04:34 21:55
4	08:50 15:52	08:09 16:52	08:39 (E14) 08:56 (E14)	07:03 17:54	06:41 19:59	04:33 21:57
5	08:49 15:53	08:07 16:54	08:39 (E14) 08:56 (E14)	07:01 17:56	06:38 20:01	04:32 21:58
6	08:49 15:55	08:05 16:57	08:38 (E14) 08:55 (E14)	06:58 17:58	06:36 20:04	04:31 21:59
7	08:48 15:56	08:03 16:59	08:39 (E14) 08:55 (E14)	06:55 18:01	06:33 20:06	04:30 22:00
8	08:48 15:58	08:01 17:01	08:40 (E14) 08:55 (E14)	06:53 18:03	06:30 20:08	04:29 22:01
9	08:47 16:00	07:58 17:03	08:40 (E14) 08:54 (E14)	06:50 18:05	06:28 20:10	04:29 22:02
10	08:46 16:01	07:56 17:05	08:42 (E14) 08:53 (E14)	06:48 18:07	06:25 20:12	04:28 22:03
11	08:45 16:03	07:54 17:08	08:45 (E14) 08:51 (E14)	06:45 18:09	06:22 20:14	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	07:08 (E13) 07:22 (E13)	06:20 20:16	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	07:06 (E13) 07:21 (E13)	06:17 20:18	04:26 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	07:06 (E13) 07:20 (E13)	06:15 20:20	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	07:07 (E13) 07:20 (E13)	06:12 20:22	04:26 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	07:08 (E13) 07:18 (E13)	06:09 20:24	04:26 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	07:11 (E13) 07:13 (E13)	06:07 20:26	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 17:34	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	08:50 (E14) 08:52 (E14)	06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09
31	08:17 16:43	08:48 (E14) 08:53 (E14)	06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	7	147	93			
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	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:46 (E13)	07:23
	22:09	21:28	20:14	18:54	08:01 (E13)	08:11 (E14)
2	04:31	05:18	06:19	07:19	07:48 (E13)	07:25
	22:09	21:26	20:11	18:51	08:01 (E13)	08:24 (E14)
3	04:32	05:20	06:21	07:21	07:50 (E13)	07:27
	22:08	21:24	20:09	18:48	08:00 (E13)	08:09 (E14)
4	04:33	05:22	06:23	07:23	07:52 (E13)	07:29
	22:07	21:22	20:06	18:46	07:59 (E13)	08:08 (E14)
5	04:34	05:23	06:25	07:26	07:54 (E13)	07:31
	22:07	21:20	20:04	18:43	07:57 (E13)	08:25 (E14)
6	04:35	05:25	06:27	07:28	07:34	08:08 (E14)
	22:06	21:17	20:01	18:40	16:25	08:26 (E14)
7	04:36	05:27	06:29	07:30	07:36	08:09 (E14)
	22:05	21:15	19:58	18:38	16:23	08:25 (E14)
8	04:37	05:29	06:31	07:32	07:38	08:12 (E14)
	22:04	21:13	19:56	18:35	16:21	08:26 (E14)
9	04:38	05:31	06:33	07:34	07:40	08:14 (E14)
	22:03	21:11	19:53	18:33	16:19	08:25 (E14)
10	04:39	05:33	06:35	07:36	07:42	08:17 (E14)
	22:02	21:09	19:50	18:30	16:17	08:25 (E14)
11	04:41	05:35	06:37	07:38	07:44	08:19 (E14)
	22:01	21:06	19:48	18:27	16:15	08:24 (E14)
12	04:42	05:37	06:39	07:40	07:47	08:21 (E14)
	22:00	21:04	19:45	18:25	16:13	08:23 (E14)
13	04:44	05:39	06:41	07:42	07:49	08:23 (E14)
	21:59	21:02	19:42	18:22	16:11	08:42
14	04:45	05:41	06:43	07:44	07:51	08:43
	21:58	20:59	19:39	18:20	16:10	08:43
15	04:46	05:43	06:45	07:46	07:53	08:44
	21:57	20:57	19:37	18:17	16:08	08:44
16	04:48	05:45	06:47	07:48	07:55	08:45
	21:55	20:54	19:34	18:15	16:06	08:45
17	04:49	05:47	06:49	07:50	07:57	08:46
	21:54	20:52	19:31	18:12	16:04	08:46
18	04:51	05:49	06:51	07:53	07:59	08:46
	21:53	20:50	19:29	18:09	16:03	08:46
19	04:53	05:51	06:53	07:55	08:01	08:47
	21:51	20:47	19:26	18:07	16:01	08:47
20	04:54	05:53	06:55	07:57	08:03	08:48
	21:50	20:45	19:23	18:04	15:59	08:48
21	04:56	05:55	06:57	07:59	08:05	08:49
	21:48	20:42	19:21	18:02	15:58	08:49
22	04:58	05:57	06:59	08:01	08:07	08:49
	21:46	20:40	19:18	18:00	15:56	08:49
23	04:59	05:59	07:01	08:03	08:09	08:50
	21:45	20:37	19:15	17:57	15:55	08:50
24	05:01	06:01	07:03	08:05	08:11	08:50
	21:43	20:35	19:13	17:55	15:53	08:50
25	05:03	06:03	07:05	07:07	08:13	08:51
	21:41	20:32	19:10	16:52	15:52	08:51
26	05:05	06:05	07:07	07:10	08:15	08:51
	21:39	20:30	19:07	16:50	15:51	08:51
27	05:06	06:07	07:09	07:12	08:17	08:51
	21:38	20:27	19:04	16:48	15:50	08:51
28	05:08	06:09	07:11	07:14	08:19	08:51
	21:36	20:24	19:02	16:45	15:48	08:51
29	05:10	06:11	07:13	07:16	08:21	08:51
	21:34	20:22	18:59	16:43	15:47	08:51
30	05:12	06:13	07:15	07:18	08:23	08:51
	21:32	20:19	18:56	16:41	15:46	08:51
31	05:14	06:15		07:20	08:13 (E14)	08:51
	21:30	20:17		16:38	08:21 (E14)	08:51
Potential sun hours	529	469	385	324	247	216
Total, worst case			50	56	151	
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			13	9	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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 21:43	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 16:34	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			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:

25/06/2024 23:53/4.0.540

## 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 15:48	08:15 16:45	07:11 17:48	07:51 (E14) 19:53	06:49 20:55	04:36 21:53
2	08:51 15:50	08:13 16:48	07:08 17:50	07:51 (E14) 19:55	06:46 1	07:11 (E13) 20:58
3	08:50 15:51	08:11 16:50	07:06 17:52	07:53 (E14) 19:57	06:44 5	07:09 (E13) 21:00
4	08:50 15:52	08:09 16:52	07:03 17:54	07:54 (E14) 19:59	06:41 9	07:06 (E13) 21:02
5	08:49 15:54	08:07 16:54	07:01 17:56	07:55 (E14) 20:01	06:38 12	07:03 (E13) 21:04
6	08:49 15:55	08:05 16:57	06:58 17:58	08:07 (E14) 20:03	06:36 15	07:01 (E13) 21:06
7	08:48 15:56	08:03 16:59	06:55 18:01	20:06 17	06:58 (E13) 21:08	05:19 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	20:08 19	06:56 (E13) 21:10	05:17 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	20:10 18	06:56 (E13) 21:12	05:15 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	20:12 17	06:56 (E13) 21:14	05:13 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	20:14 16	06:57 (E13) 21:16	05:11 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	20:16 14	06:57 (E13) 21:18	05:09 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	20:17 10	06:59 (E13) 21:20	05:07 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	20:18 06:15	05:05 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	20:20 06:12	21:22 05:03	22:07 04:26
16	08:40 16:12	07:43 17:19	06:32 18:20	20:22 06:09	21:24 05:01	22:07 04:26
17	08:39 16:14	07:40 17:21	06:29 18:22	20:24 06:07	21:26 04:59	22:08 04:25
18	08:38 16:16	07:38 17:23	06:26 18:24	20:26 06:04	21:27 04:57	22:08 04:25
19	08:36 16:18	07:36 17:26	06:24 18:26	20:28 06:02	21:29 04:55	22:09 04:25
20	08:35 16:20	07:33 17:28	06:21 18:28	20:31 05:59	21:31 04:53	22:09 04:25
21	08:33 16:22	07:31 17:30	06:18 18:30	20:33 05:57	21:33 04:52	22:10 04:25
22	08:32 16:24	07:28 17:32	06:16 18:32	20:35 05:54	21:35 04:50	22:10 04:26
23	08:30 16:26	07:26 17:34	06:13 18:34	20:37 05:52	21:37 04:48	22:10 04:26
24	08:29 16:28	07:23 17:37	06:10 18:36	20:39 05:49	21:38 04:47	22:10 04:26
25	08:27 16:30	07:21 17:39	06:08 18:39	20:41 05:47	21:40 04:45	22:10 04:27
26	08:26 16:32	07:18 17:41	06:05 18:41	20:43 05:45	21:42 04:44	22:10 04:27
27	08:24 16:34	07:16 17:43	06:02 18:43	20:45 05:42	21:43 04:42	22:10 04:27
28	08:22 16:37	07:13 17:45	06:00 18:45	20:47 05:40	21:45 04:41	22:10 04:28
29	08:20 16:39		05:57 19:47	20:49 05:37	21:47 04:40	22:10 04:29
30	08:19 16:41		06:54 19:49	20:51 05:35	21:48 04:38	22:10 04:29
31	08:17 16:43		06:52 19:51	20:53 05:33	21:50 04:37	22:09 04:29
Potential sun hours	235	266	366	426	508	529
Total, worst case		204	92	153		
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		25	23	49		

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	06:56 (E13) 16 07:12 (E13)	07:17 18:54	07:23 16:36
2	04:31 22:09	05:18 21:26	06:19 20:11	06:55 (E13) 17 07:12 (E13)	07:19 18:51	07:25 16:34
3	04:32 22:08	05:20 21:24	06:21 20:09	06:54 (E13) 18 07:12 (E13)	07:21 18:48	07:27 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	06:53 (E13) 19 07:12 (E13)	07:23 18:46	07:29 16:30
5	04:34 22:07	05:24 21:20	06:25 20:04	06:55 (E13) 17 07:12 (E13)	07:26 18:43	07:31 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	06:57 (E13) 15 07:12 (E13)	07:28 18:40	07:34 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	06:58 (E13) 12 07:10 (E13)	07:30 18:38	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:00 (E13) 9 07:09 (E13)	07:32 18:35	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:02 (E13) 5 07:07 (E13)	07:34 18:33	07:40 16:19
10	04:40 22:02	05:33 21:09	06:35 19:50	07:04 (E13) 1 07:05 (E13)	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	18 08:26 (E14) 20 08:46 (E14)	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	22 08:25 (E14) 22 08:47 (E14)	07:46 16:13
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	23 08:24 (E14) 23 08:47 (E14)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	24 08:23 (E14) 24 08:47 (E14)	07:51 16:10
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	25 08:23 (E14) 25 08:48 (E14)	07:53 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	26 08:22 (E15) 26 08:48 (E14)	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	26 08:21 (E15) 26 08:47 (E14)	07:57 16:04
18	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:09	24 08:22 (E15) 24 08:46 (E14)	07:59 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	24 08:25 (E14) 21 08:46 (E14)	08:01 16:01
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	21 08:27 (E14) 18 08:45 (E14)	08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	18 08:29 (E14) 14 08:43 (E14)	08:05 15:58
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	14 08:31 (E14) 11 08:42 (E14)	08:07 15:56
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	11 08:34 (E14) 6 08:40 (E14)	08:09 15:55
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	6 08:11 15:53	08:11 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	15:53 15:52	15:41 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 17:50	15:52 15:51	15:41 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	15:51 15:50	15:42 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 17:45	15:49 15:48	15:43 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	15:47 15:47	15:44 15:45
30	05:12 21:32	06:13 20:19	06:59 (E13) 10 07:09 (E13)	07:15 18:56	15:46 15:46	15:45 15:46
31	05:14 21:30	06:15 20:17	06:57 (E13) 14 07:11 (E13)	07:17 16:38	15:46 16:38	15:46 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		24	129	301		
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	0.28	0.16		
Total, real		8	36	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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			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:

25/06/2024 23:53/4.0.540

## 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	07:49 (E14)	06:49	05:33
	15:48	16:45	17:48	24 08:13 (E14)	19:53	20:55
2	08:51	08:13	07:08	07:49 (E14)	06:46	05:30
	15:50	16:48	17:50	23 08:12 (E14)	19:55	20:58
3	08:50	08:11	07:06	07:50 (E14)	06:44	05:28
	15:51	16:50	17:52	22 08:12 (E14)	19:57	21:00
4	08:50	08:09	07:03	07:51 (E14)	06:41	05:26
	15:52	16:52	17:54	19 08:10 (E14)	19:59	21:02
5	08:49	08:07	07:01	07:52 (E14)	06:38	05:24
	15:54	16:54	17:56	16 08:08 (E14)	20:01	21:04
6	08:49	08:05	06:58	07:54 (E14)	06:36	05:21
	15:55	16:57	17:58	12 08:06 (E14)	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	08:03 (E14)	06:24	06:02	04:55
	16:18	17:26	4 08:07 (E14)	18:26	20:31	21:31
20	08:35	07:33	08:00 (E14)	06:21	05:59	04:53
	16:20	17:28	9 08:09 (E14)	18:28	20:33	21:33
21	08:33	07:31	07:58 (E14)	06:18	05:57	04:52
	16:22	17:30	13 08:11 (E14)	18:30	20:35	21:35
22	08:32	07:28	07:55 (E14)	06:16	05:54	04:50
	16:24	17:32	17 08:12 (E14)	18:32	20:37	21:37
23	08:30	07:26	07:53 (E14)	06:13	05:52	04:48
	16:26	17:34	20 08:13 (E14)	18:34	20:39	21:38
24	08:29	07:23	07:50 (E14)	06:10	05:49	04:47
	16:28	17:37	23 08:13 (E14)	18:36	20:41	21:40
25	08:27	07:21	07:49 (E15)	06:08	05:47	04:45
	16:30	17:39	25 08:14 (E14)	18:39	20:43	21:42
26	08:26	07:18	07:49 (E14)	06:05	05:45	04:44
	16:32	17:41	25 08:14 (E14)	18:41	20:45	21:43
27	08:24	07:16	07:49 (E14)	06:02	05:42	04:42
	16:34	17:43	25 08:14 (E14)	18:43	20:47	21:45
28	08:22	07:13	07:49 (E14)	06:00	05:40	04:41
	16:37	17:45	25 08:14 (E14)	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		186	116		159	
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	29		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	06:52 (E13) 18:54	07:17 16:36	07:23 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	06:52 (E13) 18:51	07:19 16:34	07:25 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	06:51 (E13) 18:48	07:21 16:32	07:27 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	06:53 (E13) 18:46	07:23 16:30	07:29 15:43
5	04:34 22:07	05:24 21:20	06:25 20:04	06:55 (E13) 18:43	07:25 16:27	07:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	06:57 (E13) 18:40	07:28 16:25	07:34 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	06:58 (E13) 18:38	07:30 16:23	07:36 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:00 (E13) 18:35	07:32 16:21	07:38 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:02 (E13) 18:33	07:34 16:19	07:40 15:39
10	04:40 22:02	05:33 21:09	06:35 19:50	07:03 (E13) 18:30	07:36 16:17	07:42 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	07:49 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	07:51 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	07:54 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	07:56 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	07:58 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:00 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:02 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:04 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:06 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:08 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:10 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:12 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:14 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:16 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:18 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 17:50	08:15 15:51	08:20 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 17:48	08:17 15:50	08:22 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 17:46	08:19 15:48	08:24 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:43	08:21 15:47	08:26 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:41	08:23 15:46	08:28 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	08:19 17:39	08:25 15:45	08:30 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		47	114	307		
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	0.28	0.16		
Total, real		15	31	49		

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:

25/06/2024 23:53/4.0.540

## 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			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:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	08:06 (E7)	06:49	05:32
	15:48	16:45	17:47	7 08:13 (E7)	19:53	20:55
2	08:51	08:13	07:08		06:46	05:30
	15:49	16:47	17:50		19:55	20:58
3	08:50	08:11	07:06		06:43	05:28
	15:51	16:50	17:52		19:57	21:00
4	08:50	08:09	07:03		06:41	07:06 (E5)
	15:52	16:52	17:54		19:59	1 07:07 (E5)
5	08:49	08:07	07:00		06:38	07:03 (E5)
	15:53	16:54	17:56		20:01	5 07:08 (E5)
6	08:49	08:05	06:58		06:35	07:01 (E5)
	15:55	16:56	17:58		20:03	8 07:09 (E5)
7	08:48	08:03	06:55		06:33	06:58 (E5)
	15:56	16:59	18:00		20:05	12 07:10 (E5)
8	08:48	08:01	06:53		06:30	06:55 (E5)
	15:58	17:01	18:03		20:08	14 07:09 (E5)
9	08:47	07:58	06:50		06:27	06:53 (E5)
	15:59	17:03	18:05		20:10	17 07:10 (E5)
10	08:46	07:56	06:47		06:25	06:52 (E5)
	16:01	17:05	18:07		20:12	17 07:09 (E5)
11	08:45	07:54	06:45		06:22	06:53 (E5)
	16:03	17:08	18:09		20:14	16 07:09 (E5)
12	08:44	07:52	06:42		06:20	06:53 (E5)
	16:04	17:10	18:11		20:16	14 07:07 (E5)
13	08:43	07:50	06:40		06:17	06:54 (E5)
	16:06	17:12	18:13		20:18	12 07:06 (E5)
14	08:42	07:47	06:37		06:14	06:55 (E5)
	16:08	17:14	18:15		20:20	8 07:03 (E5)
15	08:41	07:45	06:34		06:12	05:02
	16:10	17:17	18:17		20:22	21:24
16	08:40	07:43	08:10 (E7)	06:32	06:09	05:01
	16:12	17:19	6 08:16 (E7)	18:20	20:24	21:26
17	08:39	07:40	08:08 (E7)	06:29	06:07	04:59
	16:14	17:21	10 08:18 (E7)	18:22	20:26	21:27
18	08:38	07:38	08:05 (E7)	06:26	06:04	04:57
	16:16	17:23	14 08:19 (E7)	18:24	20:28	21:29
19	08:36	07:36	08:03 (E7)	06:24	06:02	04:55
	16:18	17:25	17 08:20 (E7)	18:26	20:30	21:31
20	08:35	07:33	08:00 (E7)	06:21	05:59	04:53
	16:20	17:28	20 08:20 (E7)	18:28	20:33	21:33
21	08:33	07:31	08:00 (E7)	06:18	05:57	04:52
	16:22	17:30	21 08:21 (E7)	18:30	20:35	21:35
22	08:32	07:28	07:59 (E7)	06:15	05:54	04:50
	16:24	17:32	22 08:21 (E7)	18:32	20:37	21:37
23	08:30	07:26	08:00 (E7)	06:13	05:52	04:48
	16:26	17:34	21 08:21 (E7)	18:34	20:39	21:38
24	08:29	07:23	08:00 (E7)	06:10	05:49	04:47
	16:28	17:37	20 08:20 (E7)	18:36	20:41	21:40
25	08:27	07:21	08:01 (E7)	06:07	05:47	04:45
	16:30	17:39	19 08:20 (E7)	18:38	20:43	21:42
26	08:26	07:18	08:01 (E7)	06:05	05:44	04:44
	16:32	17:41	18 08:19 (E7)	18:41	20:45	21:43
27	08:24	07:16	08:01 (E7)	06:02	05:42	04:42
	16:34	17:43	16 08:17 (E7)	18:43	20:47	21:45
28	08:22	07:13	08:03 (E7)	05:59	05:39	04:41
	16:36	17:45	13 08:16 (E7)	18:45	20:49	21:47
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		217	7		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		27	2	40		

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:

25/06/2024 23:53/4.0.540

## 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 22:09	05:16 21:28	06:17 20:14	06:52 (E5) 18:54	07:17 16:36	08:24 15:45
2	04:31 22:09	05:17 21:26	06:19 20:11	06:51 (E5) 18:51	07:19 16:34	08:26 15:44
3	04:32 22:08	05:19 21:24	06:21 20:09	06:51 (E5) 18:48	07:21 16:31	08:28 15:43
4	04:32 22:07	05:21 21:22	06:23 20:06	06:53 (E5) 18:46	07:23 16:29	08:29 15:42
5	04:33 22:07	05:23 21:20	06:25 20:03	06:55 (E5) 18:43	07:25 16:27	08:31 15:41
6	04:35 22:06	05:25 21:17	06:27 20:01	06:56 (E5) 18:40	07:27 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	06:58 (E5) 18:38	07:30 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:00 (E5) 18:35	07:32 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:01 (E5) 18:32	07:34 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	08:37 (E7) 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:19	10 08:47 (E7) 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	14 08:49 (E7) 16:07	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	17 08:51 (E7) 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	19 08:51 (E7) 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:52 18:09	21 08:52 (E7) 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	21 08:52 (E7) 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	21 08:52 (E7) 15:59	08:48 15:38
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	21 08:52 (E7) 15:58	08:49 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	21 08:52 (E7) 15:56	08:49 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	19 08:50 (E7) 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	16 08:50 (E7) 15:53	08:50 15:40
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	13 08:49 (E7) 15:52	08:50 15:41
26	05:04 21:39	06:05 20:30	07:07 19:07	07:10 16:50	9 07:47 (E7) 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	4 07:45 (E7) 15:49	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 15:44
30	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	05:14 21:30	06:15 20:17	07:17 18:54	07:20 16:38	15:46 15:47	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		35	91	226		
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	0.28	0.16		
Total, real		11	25	36		

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	07:11 17:47	05:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41	07:04 17:49	05:54 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	07:01 17:51	05:51 19:51	05:31 20:51	04:37 21:51	04:37 21:51	05:14 21:30	06:15 20:17	07:21 16:38	07:21 15:47	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:

25/06/2024 23:53/4.0.540

## 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 (E5)	05:32
	15:48	16:45	17:47	19:53	16	07:30 (E5)
2	08:51	08:13	07:08	06:46	07:11 (E5)	05:30
	15:49	16:47	17:50	19:55	19	07:30 (E5)
3	08:50	08:11	08:41 (E7)	06:43	07:11 (E5)	05:28
	15:50	16:50	5	19:57	18	07:29 (E5)
4	08:50	08:09	08:39 (E7)	06:41	07:11 (E5)	05:26
	15:52	16:52	9	19:59	18	07:29 (E5)
5	08:49	08:07	08:37 (E7)	06:38	07:11 (E5)	05:23
	15:53	16:54	13	20:01	17	07:28 (E5)
6	08:49	08:05	08:34 (E7)	06:35	07:12 (E5)	05:21
	15:55	16:56	16	20:03	15	07:27 (E5)
7	08:48	08:03	08:32 (E7)	06:33	07:13 (E5)	05:19
	15:56	16:59	19	20:05	12	07:25 (E5)
8	08:48	08:01	08:31 (E7)	06:30	07:15 (E5)	05:17
	15:58	17:01	21	20:08	7	07:22 (E5)
9	08:47	07:58	08:30 (E7)	06:27		05:15
	15:59	17:03	22	20:10		21:12
10	08:46	07:56	08:30 (E7)	06:25		05:12
	16:01	17:05	23	20:12		21:14
11	08:45	07:54	08:31 (E7)	06:22		05:10
	16:03	17:08	22	20:14		21:16
12	08:44	07:52	08:30 (E7)	06:20		05:08
	16:04	17:10	22	20:16		21:18
13	08:43	07:50	08:31 (E7)	06:17		05:06
	16:06	17:12	21	20:18		21:20
14	08:42	07:47	08:31 (E7)	06:14		05:04
	16:08	17:14	20	20:20		21:22
15	08:41	07:45	08:32 (E7)	06:12		05:02
	16:10	17:17	19	20:22		21:24
16	08:40	07:43	08:33 (E7)	06:09		05:00
	16:12	17:19	16	20:24		21:26
17	08:39	07:40	08:35 (E7)	06:07		04:59
	16:14	17:21	13	20:26		21:27
18	08:38	07:38	08:37 (E7)	06:04		04:57
	16:16	17:23	8	20:28		21:29
19	08:36	07:36	06:24	06:02		04:55
	16:18	17:25	18:26	20:30		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		04:51
	16:22	17:30	18:30	20:35		21:35
22	08:32	07:28	06:15	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	06:07	05:47		04:45
	16:30	17:39	18:38	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	05:59	06:24 (E5)		04:41
	16:36	17:45	18:45	2	06:26 (E5)	20:49
29	08:20		06:57	07:22 (E5)		05:37
	16:39		19:47	7	07:29 (E5)	20:51
30	08:19		06:54	07:19 (E5)		05:35
	16:41		19:49	10	07:29 (E5)	20:53
31	08:17		06:51	07:16 (E5)		04:37
	16:43		19:51	13	07:29 (E5)	21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		269	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		32	8	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:00 (E7) 15:45
2	04:31 22:09	05:17 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:00 (E7) 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 (E7) 15:43
4	04:32 22:07	05:21 21:22	06:23 20:06	07:23 (E5) 18:46	07:29 16:29	08:02 (E7) 15:42
5	04:33 22:07	05:23 21:20	06:25 20:03	07:25 (E5) 18:43	07:31 16:27	08:05 (E7) 15:41
6	04:34 22:06	05:25 21:17	06:27 20:01	07:27 (E5) 18:40	07:33 16:25	08:07 (E7) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 (E5) 18:38	07:36 16:23	08:09 (E7) 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 (E5) 18:35	07:38 16:21	08:12 (E7) 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 (E5) 18:32	07:40 16:19	08:16 (E7) 15:39
10	04:39 22:02	05:33 21:04	06:35 19:50	07:36 (E5) 18:30	07:42 16:17	08:19 (E7) 15:39
11	04:40 22:01	05:35 21:06	06:37 19:47	07:38 (E5) 18:27	07:44 16:15	08:21 (E7) 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 (E5) 18:25	07:46 16:13	08:23 (E7) 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 (E5) 18:22	07:49 16:11	08:25 (E7) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 (E5) 18:19	07:51 16:09	08:27 (E7) 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 (E5) 18:17	07:53 16:07	08:29 (E7) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:31 (E7) 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:33 (E7) 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	08:35 (E7) 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:37 (E7) 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:39 (E7) 15:38
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:41 (E7) 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:07 15:56	08:43 (E7) 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:45 (E7) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	09:06 (E7) 15:53	08:11 15:40
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:04 (E7) 15:52	08:13 15:41
26	05:04 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:03 (E7) 15:51	08:15 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:01 (E7) 15:49	08:17 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:00 (E7) 15:48	08:19 15:43
29	05:10 21:34	06:11 20:22	07:13 18:59	07:16 16:43	08:00 (E7) 15:47	08:21 15:44
30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:00 (E7) 15:46	08:23 15:45
31	05:14 21:30	06:15 20:17		07:20 16:38	08:00 (E7) 15:45	08:25 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			157	149	125	
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			43	23	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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 15:50	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)

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	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 20:04	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	06:36 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	06:53 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 20:00	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 20:00	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 20:00	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 22:02	05:33 21:09	06:35 20:00	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 20:00	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 20:00	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 20:18	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 20:00	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
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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	07:53 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
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31	08:17 16:43	07:07 17:55	05:51 18:51	05:31 20:51	04:37 21:51	04:30 22:10	05:14 21:30	06:15 20:17	07:20 16:38	07:20 15:41	08:23 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		239								149		60
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		29								23	5	3

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:

25/06/2024 23:53/4.0.540

## 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
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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
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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
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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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Birztalas - 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
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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:

25/06/2024 23:53/4.0.540

## 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 (E16)	07:11		06:49			07:19 (E13)	05:33		04:36		
	15:48			16:45	61		10:17 (E14)	17:48		19:53	16		07:35 (E13)	20:55		21:53		
2	08:50		09:46 (E14)	08:13			08:43 (E16)	07:08		06:46			07:16 (E13)	05:30		04:35		
	15:49	7	09:53 (E14)	16:48	62		10:17 (E14)	17:50		19:55	21		07:37 (E13)	20:57		21:54		
3	08:50		09:44 (E14)	08:11			08:41 (E16)	07:06		06:43			07:15 (E13)	05:28		04:34		
	15:51	10	09:54 (E14)	16:50	64		10:17 (E14)	17:52		19:57	24		07:39 (E13)	21:00		21:55		
4	08:50		09:43 (E14)	08:09			08:40 (E16)	07:03		06:41			07:13 (E13)	05:26		04:33		
	15:52	13	09:56 (E14)	16:52	65		10:17 (E14)	17:54		19:59	26		07:39 (E13)	21:02		21:57		
5	08:49		09:43 (E14)	08:07			08:40 (E16)	07:01		06:38			07:11 (E13)	05:23		04:32		
	15:53	15	09:58 (E14)	16:54	64		10:16 (E14)	17:56		20:01	29		07:40 (E13)	21:04		21:58		
6	08:49		09:42 (E14)	08:05			08:40 (E16)	06:58		06:35			07:10 (E13)	05:21		04:31		
	15:55	18	10:00 (E14)	16:56	61		10:15 (E14)	17:58		20:03	31		07:41 (E13)	21:06		21:59		
7	08:48		09:41 (E14)	08:03			08:41 (E16)	06:55		06:33			07:09 (E13)	05:19		04:30		
	15:56	20	10:01 (E14)	16:59	58		10:14 (E14)	18:01		20:06	32		07:41 (E13)	21:08		22:00		
8	08:48		09:41 (E14)	08:01			08:43 (E16)	06:53		06:30			07:09 (E13)	05:17		04:29		
	15:58	21	10:02 (E14)	17:01	53		10:13 (E14)	18:03		20:08	32		07:41 (E13)	21:10		22:01		
9	08:47		09:40 (E14)	07:58			08:44 (E16)	06:50		06:28			07:08 (E13)	05:15		04:29		
	16:00	24	10:04 (E14)	17:03	47		10:11 (E14)	18:05		20:10	33		07:41 (E13)	21:12		22:02		
10	08:46		09:40 (E14)	07:56			08:50 (E15)	06:47		06:25			07:07 (E13)	05:13		04:28		
	16:01	25	10:05 (E14)	17:05	38		10:10 (E14)	18:07		20:12	33		07:40 (E13)	21:14		22:03		
11	08:45		09:40 (E14)	07:54			08:52 (E15)	06:45		06:22			07:07 (E13)	05:11		04:27		
	16:03	26	10:06 (E14)	17:08	28		10:07 (E14)	18:09		20:14	34		07:41 (E13)	21:16		22:04		
12	08:44		09:39 (E14)	07:52			08:54 (E15)	06:42		06:20			07:07 (E13)	05:09		04:27		
	16:05	28	10:07 (E14)	17:10	13		10:01 (E14)	18:11		20:16	33		07:40 (E13)	21:18		22:05		
13	08:43		09:38 (E14)	07:50				06:40		06:17			07:07 (E13)	05:07		04:26		
	16:06	30	10:08 (E14)	17:12				18:13		20:18	33		07:40 (E13)	21:20		22:06		
14	08:42		09:39 (E14)	07:47				06:37		06:15			07:07 (E13)	05:05		04:26		
	16:08	30	10:09 (E14)	17:14				18:15		20:20	31		07:38 (E13)	21:22		22:07		
15	08:41		09:38 (E14)	07:45				06:34		06:12			07:08 (E13)	05:03		04:26		
	16:10	32	10:10 (E14)	17:17				18:18		20:22	30		07:38 (E13)	21:24		22:07		
16	08:40		09:38 (E14)	07:43				06:32		06:09			07:08 (E13)	05:01		04:26		
	16:12	33	10:11 (E14)	17:19				18:20		20:24	29		07:37 (E13)	21:25		22:08		
17	08:39		09:38 (E14)	07:40				06:29		06:07			07:09 (E13)	04:59		04:25		
	16:14	34	10:12 (E14)	17:21				18:22		20:26	27		07:36 (E13)	21:27		22:08		
18	08:37		09:38 (E14)	07:38				06:26		06:04			07:09 (E13)	04:57		04:25		
	16:16	35	10:13 (E14)	17:23				18:24		20:28	25		07:34 (E13)	21:29		22:09		
19	08:36		09:37 (E14)	07:36				06:24		06:02			07:11 (E13)	04:55		04:25		
	16:18	36	10:13 (E14)	17:26				18:26		20:30	22		07:33 (E13)	21:31		22:09		
20	08:35		09:38 (E14)	07:33				06:21		05:59			07:12 (E13)	04:53		04:25		
	16:20	36	10:14 (E14)	17:28				18:28		20:33	19		07:31 (E13)	21:33		22:10		
21	08:33		09:37 (E14)	07:31				06:18		05:57			07:14 (E13)	04:52		04:25		
	16:22	38	10:15 (E14)	17:30				18:30		20:35	14		07:28 (E13)	21:35		22:10		
22	08:32		09:37 (E14)	07:28				06:16		05:54			07:19 (E13)	04:50		04:26		
	16:24	38	10:15 (E14)	17:32				18:32		20:37	3		07:22 (E13)	21:37		22:10		
23	08:30		09:37 (E14)	07:26				06:13		05:52				04:48		04:26		
	16:26	39	10:16 (E14)	17:34				18:34		20:39				21:38		22:10		
24	08:29		09:38 (E14)	07:23				06:10		05:49				04:47		04:26		
	16:28	39	10:17 (E14)	17:37				18:36		20:41				21:40		22:10		
25	08:27		09:38 (E14)	07:21				06:08		05:47				04:45		04:26		
	16:30	39	10:17 (E14)	17:39				18:38		20:43				21:42		22:10		
26	08:26		08:58 (E15)	07:18				06:05		05:44				04:44		04:27		
	16:32	41	10:17 (E14)	17:41				18:41		20:45				21:43		22:10		
27	08:24		08:56 (E15)	07:16				06:02		05:42				04:42		04:27		
	16:34	47	10:18 (E14)	17:43				18:43		20:47				21:45		22:10		
28	08:22		08:54 (E15)	07:13				05:59		05:40				04:41		04:28		
	16:37	50	10:18 (E14)	17:45				18:45		20:49				21:47		22:10		
29	08:20		08:52 (E16)					06:57		05:37				04:40		04:29		
	16:39	53	10:18 (E14)					19:47		20:51				21:48		22:10		
30	08:18		08:50 (E16)					06:54		05:35				04:38		04:29		
	16:41	56	10:18 (E14)					19:49		20:53				21:50		22:09		
31	08:17		08:48 (E16)					06:51						04:37				
	16:43	59	10:18 (E14)					19:51	8	07:32 (E13)				21:51				
Potential sun hours	235			266			366			426			508			529		
Total, worst case	972			614			8			577								
Sun reduction	0.13			0.20			0.41			0.50								
Oper. time red.	0.98			0.98			0.98			0.98								
Wind dir. red.	0.61			0.60			0.66			0.66								
Total reduction	0.08			0.12			0.26			0.32								
Total, real	77			73			2			186								

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	07:06 (E13)	07:17	07:23
	22:09	21:28	20:14	33 07:39 (E13)	18:54	16:36
2	04:31	05:18	06:19	07:06 (E13)	07:19	07:25
	22:09	21:26	20:11	33 07:39 (E13)	18:51	16:34
3	04:32	05:20	06:21	07:06 (E13)	07:21	07:27
	22:08	21:24	20:09	33 07:39 (E13)	18:48	16:32
4	04:33	05:21	06:23	07:06 (E13)	07:23	07:29
	22:07	21:22	20:06	32 07:38 (E13)	18:46	16:29
5	04:34	05:23	06:25	07:06 (E13)	07:25	07:31
	22:07	21:20	20:03	32 07:38 (E13)	18:43	16:27
6	04:35	05:25	06:27	07:07 (E13)	07:27	07:33
	22:06	21:17	20:01	30 07:37 (E13)	18:40	16:25
7	04:36	05:27	06:29	07:06 (E13)	07:30	07:36
	22:05	21:15	19:58	29 07:35 (E13)	18:38	16:23
8	04:37	05:29	06:31	07:07 (E13)	07:32	07:38
	22:04	21:13	19:55	27 07:34 (E13)	18:35	16:21
9	04:38	05:31	06:33	07:08 (E13)	07:34	07:40
	22:03	21:11	19:53	24 07:32 (E13)	18:32	16:19
10	04:39	05:33	06:35	07:09 (E13)	07:36	07:42
	22:02	21:08	19:50	21 07:30 (E13)	18:30	16:17
11	04:41	05:35	06:37	07:11 (E13)	07:38	07:44
	22:01	21:06	19:47	17 07:28 (E13)	18:27	16:15
12	04:42	05:37	06:39	07:14 (E13)	07:40	07:46
	22:00	21:04	19:45	10 07:24 (E13)	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		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	20:50	19:29		18:09	16:02
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	07:22 (E13)	07:59	08:05
	21:48	20:42	19:21	7 07:29 (E13)	18:02	15:58
22	04:58	05:57	06:59	07:18 (E13)	08:01	08:07
	21:46	20:40	19:18	15 07:33 (E13)	18:00	15:56
23	04:59	05:59	07:01	07:16 (E13)	08:03	08:09
	21:45	20:37	19:15	19 07:35 (E13)	17:57	15:55
24	05:01	06:01	07:03	07:14 (E13)	08:05	08:11
	21:43	20:35	19:12	22 07:36 (E13)	17:55	15:53
25	05:03	06:03	07:05	07:13 (E13)	07:07	08:13
	21:41	20:32	19:10	25 07:38 (E13)	16:52	15:52
26	05:05	06:05	07:07	07:11 (E13)	07:10	08:15
	21:39	20:30	19:07	28 07:39 (E13)	16:50	15:51
27	05:06	06:07	07:09	07:09 (E13)	07:12	08:17
	21:38	20:27	19:04	29 07:38 (E13)	16:48	15:49
28	05:08	06:09	07:11	07:08 (E13)	07:14	08:19
	21:36	20:24	19:02	31 07:39 (E13)	16:45	15:48
29	05:10	06:11	07:13	07:08 (E13)	07:16	08:21
	21:34	20:22	18:59	31 07:39 (E13)	16:43	15:47
30	05:12	06:13	07:15	07:07 (E13)	07:18	08:22
	21:32	20:19	18:56	33 07:40 (E13)	16:41	15:46
31	05:14	06:15	07:17	07:07 (E13)	07:20	08:21
	21:30	20:17	18:53	33 07:40 (E13)	16:38	15:47
Potential sun hours	529	469	385		324	247
Total, worst case		273	321		49	1370
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	0.61
Total reduction		0.32	0.27		0.15	0.05
Total, real		87	88		7	67

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 15:48	08:15 16:45	08:45 (E16) 10:07 (E14)	07:11 17:48	06:49 19:53	05:33 20:55
2	08:50 15:49	08:13 16:48	08:43 (E16) 10:07 (E14)	07:08 17:50	06:46 19:55	05:30 20:57
3	08:50 15:51	08:11 16:50	08:41 (E16) 10:08 (E14)	07:06 17:52	06:43 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	08:39 (E16) 10:08 (E14)	07:03 17:54	06:41 19:59	05:26 21:02
5	08:49 15:53	08:07 16:54	08:37 (E16) 10:08 (E14)	07:01 17:56	06:38 20:01	05:23 21:04
6	08:49 15:55	08:05 16:56	08:34 (E16) 10:07 (E14)	06:58 17:58	06:35 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	08:34 (E16) 10:07 (E14)	06:55 18:01	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	08:35 (E16) 10:07 (E14)	06:53 18:03	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	08:35 (E16) 10:06 (E14)	06:50 18:05	06:28 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	08:36 (E16) 10:06 (E14)	06:47 18:07	06:25 20:12	05:13 21:14
11	08:45 16:03	07:54 17:08	08:38 (E16) 10:05 (E14)	06:45 18:09	06:22 20:14	05:11 21:16
12	08:44 16:05	09:37 (E14) 07:52	08:41 (E16) 10:03 (E14)	06:42 18:11	06:20 20:16	05:09 21:18
13	08:43 16:06	09:35 (E14) 07:50	08:42 (E15) 10:03 (E14)	06:40 18:13	06:17 20:18	05:07 21:20
14	08:42 16:08	09:34 (E14) 07:47	08:43 (E15) 10:00 (E14)	06:37 18:15	06:15 20:20	05:05 21:22
15	08:41 16:10	09:32 (E14) 07:45	08:45 (E15) 09:59 (E14)	06:34 18:18	06:12 20:22	05:03 21:24
16	08:40 16:12	09:31 (E14) 07:43	09:38 (E14) 09:56 (E14)	06:32 18:20	06:09 20:24	05:01 21:25
17	08:39 16:14	09:30 (E14) 07:40	09:43 (E14) 09:52 (E14)	06:29 18:22	06:07 20:26	04:59 21:27
18	08:37 16:16	09:30 (E14) 07:38	06:26 18:24	06:04 20:28	06:53 (E13) 07:25 (E13)	04:57 21:29
19	08:36 16:18	09:29 (E14) 07:36	06:24 18:26	06:02 20:30	06:53 (E13) 07:25 (E13)	04:55 21:31
20	08:35 16:20	09:29 (E14) 07:33	06:21 18:28	05:59 20:33	06:54 (E13) 07:24 (E13)	04:53 21:33
21	08:33 16:22	09:28 (E14) 07:31	06:18 18:30	05:57 20:35	06:53 (E13) 07:23 (E13)	04:52 21:35
22	08:32 16:24	09:27 (E14) 07:28	06:16 18:32	05:54 20:37	06:54 (E13) 07:22 (E13)	04:50 21:37
23	08:30 16:26	09:27 (E14) 07:26	06:13 18:34	05:52 20:39	06:54 (E13) 07:20 (E13)	04:48 21:38
24	08:29 16:28	09:27 (E14) 07:23	06:10 18:36	05:49 20:41	06:56 (E13) 07:19 (E13)	04:47 21:40
25	08:27 16:30	09:27 (E14) 07:21	06:08 18:38	05:47 20:43	06:57 (E13) 07:18 (E13)	04:45 21:42
26	08:26 16:32	09:27 (E14) 07:18	06:05 18:41	05:44 20:45	06:58 (E13) 07:15 (E13)	04:44 21:43
27	08:24 16:34	09:26 (E14) 07:16	06:02 18:43	05:42 20:47	07:01 (E13) 07:12 (E13)	04:42 21:45
28	08:22 16:37	09:26 (E14) 07:13	05:59 18:45	05:40 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39	09:26 (E14) 07:11	05:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10
30	08:18 16:41	08:50 (E15) 10:07 (E14)	06:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09
31	08:17 16:43	08:48 (E15) 10:08 (E14)	06:51 19:51	05:51 20:51	04:37 21:51	04:29 22:09
Potential sun hours	235	266	366	426	508	529
Total, worst case	620	880		589		
Sun reduction	0.13	0.20		0.50		
Oper. time red.	0.98	0.98		0.98		
Wind dir. red.	0.60	0.60		0.66		
Total reduction	0.08	0.12		0.32		
Total, real	49	105		190		

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:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	06:55 (E13)	07:17	07:23
	22:09	21:28	20:14	18:54	16:36	08:05 (E16)
2	04:31	05:18	06:19	06:56 (E13)	07:19	07:25
	22:08	21:26	20:11	18:51	16:34	08:04 (E16)
3	04:32	05:20	06:21	06:57 (E13)	07:21	07:27
	22:08	21:24	20:09	18:48	16:32	08:04 (E16)
4	04:33	05:22	06:23	06:58 (E13)	07:23	07:29
	22:07	21:22	20:06	18:46	16:29	08:03 (E16)
5	04:34	05:23	06:25	06:59 (E13)	07:25	07:31
	22:07	21:20	20:03	18:43	16:27	08:04 (E16)
6	04:35	05:25	06:27	07:01 (E13)	07:27	07:33
	22:06	21:17	20:01	18:40	16:25	08:03 (E16)
7	04:36	05:27	06:29	07:04 (E13)	07:30	07:36
	22:05	21:15	19:58	18:38	16:23	08:09 (E16)
8	04:37	05:29	06:31	07:11 (E13)	07:32	07:38
	22:04	21:13	19:55	18:35	16:21	08:12 (E16)
9	04:38	05:31	06:33	07:13	07:34	07:40
	22:03	21:11	19:53	18:32	16:19	08:14 (E16)
10	04:39	05:33	06:35	07:15	07:36	07:42
	22:02	21:08	19:50	18:30	16:17	08:16 (E16)
11	04:41	05:35	06:37	07:17	07:38	07:44
	22:01	21:06	19:47	18:27	16:15	08:19 (E15)
12	04:42	05:37	06:39	07:19	07:40	07:46
	22:00	21:04	19:45	18:25	16:13	08:21 (E15)
13	04:43	05:39	06:41	07:21	07:42	07:49
	21:59	21:02	19:42	18:22	16:11	08:25 (E14)
14	04:45	05:41	06:43	07:23	07:44	07:51
	21:58	20:59	19:39	18:20	16:09	08:28 (E14)
15	04:46	05:43	06:45	07:25	07:46	07:53
	21:57	20:57	19:37	18:17	16:08	08:35 (E14)
16	04:48	05:45	06:47	07:27	07:48	07:55
	21:55	20:54	19:34	18:14	16:06	08:42 (E14)
17	04:49	05:47	06:49	07:29	07:50	07:57
	21:54	20:52	19:31	18:12	16:04	08:49 (E14)
18	04:51	05:49	06:51	07:31	07:52	07:59
	21:52	20:50	19:29	18:09	16:02	08:56 (E14)
19	04:53	05:51	06:53	07:33	07:55	08:01
	21:51	20:47	19:26	18:07	16:01	08:58 (E14)
20	04:54	05:53	06:55	07:35	07:57	08:03
	21:49	20:45	19:23	18:04	15:59	08:59 (E14)
21	04:56	05:55	06:57	07:37	07:59	08:05
	21:48	20:42	19:21	18:02	15:58	08:59 (E14)
22	04:58	05:57	06:59	07:39	08:01	08:07
	21:46	20:40	19:18	18:00	15:56	08:59 (E14)
23	04:59	05:59	07:01	07:41	08:03	08:09
	21:45	20:37	19:15	17:57	15:55	08:59 (E14)
24	05:01	06:01	07:03	07:43	08:05	08:11
	21:43	20:35	19:12	17:55	15:53	08:59 (E14)
25	05:03	06:03	07:05	07:45	08:13	08:19
	21:41	20:32	19:10	17:52	15:52	08:59 (E14)
26	05:05	06:05	07:07	07:47	08:15	08:21
	21:39	20:30	19:07	17:50	15:51	08:59 (E14)
27	05:06	06:07	07:09	07:49	08:17	08:23
	21:38	20:27	19:04	17:48	15:49	08:59 (E14)
28	05:08	06:09	07:11	07:51	08:19	08:25
	21:36	20:24	19:02	17:46	15:48	08:59 (E14)
29	05:10	06:11	07:13	07:53	08:21	08:27
	21:34	20:22	18:59	17:43	15:47	08:59 (E14)
30	05:12	06:13	07:15	07:55	08:23	08:29
	21:32	20:19	18:56	17:41	15:46	08:59 (E14)
31	05:14	06:15	07:17	07:57	08:25	08:31
	21:30	20:17	18:54	17:38	15:44	08:59 (E14)
Potential sun hours	529	469	385	324	247	216
Total, worst case		450	149	272	1248	
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		0.32	0.28	0.15	0.05	
Total, real		144	41	42	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:43 (E14)	07:08	06:46	05:30
	15:50	16:48	2 08:45 (E14)	17:50	19:55	20:58
3	08:50	08:11	08:41 (E14)	07:06	06:44	05:28
	15:51	16:50	6 08:47 (E14)	17:52	19:57	21:00
4	08:50	08:09	08:39 (E14)	07:03	06:41	05:26
	15:52	16:52	9 08:48 (E14)	17:54	19:59	21:02
5	08:49	08:07	08:37 (E14)	07:01	06:38	05:24
	15:53	16:54	12 08:49 (E14)	17:56	20:01	21:04
6	08:49	08:05	08:34 (E14)	06:58	06:36	05:21
	15:55	16:57	15 08:49 (E14)	17:58	20:03	21:06
7	08:48	08:03	08:32 (E14)	06:55	06:33	05:19
	15:56	16:59	18 08:50 (E14)	18:01	20:06	21:08
8	08:48	08:01	08:31 (E14)	06:53	06:30	05:17
	15:58	17:01	19 08:50 (E14)	18:03	20:08	21:10
9	08:47	07:58	08:31 (E14)	06:50	06:28	05:15
	16:00	17:03	19 08:50 (E14)	18:05	20:10	21:12
10	08:46	07:56	08:32 (E14)	06:48	06:25	05:13
	16:01	17:05	18 08:50 (E14)	18:07	20:12	21:14
11	08:45	07:54	08:32 (E14)	06:45	06:22	05:11
	16:03	17:08	18 08:50 (E14)	18:09	20:14	21:16
12	08:44	07:52	08:33 (E14)	06:42	06:20	05:09
	16:05	17:10	15 08:48 (E14)	18:11	20:16	21:18
13	08:43	07:50	08:34 (E14)	06:40	07:05 (E13)	06:17
	16:06	17:12	14 08:48 (E14)	18:13	3 07:08 (E13)	20:18
14	08:42	07:47	08:35 (E14)	06:37	07:02 (E13)	06:15
	16:08	17:14	10 08:45 (E14)	18:16	7 07:09 (E13)	20:20
15	08:41	07:45	08:39 (E14)	06:34	07:00 (E13)	06:12
	16:10	17:17	3 08:42 (E14)	18:18	10 07:10 (E13)	20:22
16	08:40	07:43		06:32	06:57 (E13)	06:09
	16:12	17:19		18:20	13 07:10 (E13)	20:24
17	08:39	07:40		06:29	06:54 (E13)	06:07
	16:14	17:21		18:22	15 07:09 (E13)	20:26
18	08:38	07:38		06:26	06:53 (E13)	06:04
	16:16	17:23		18:24	17 07:10 (E13)	20:28
19	08:36	07:36		06:24	06:53 (E13)	06:02
	16:18	17:26		18:26	15 07:08 (E13)	20:31
20	08:35	07:33		06:21	06:54 (E13)	05:59
	16:20	17:28		18:28	13 07:07 (E13)	20:33
21	08:33	07:31		06:18	06:55 (E13)	05:57
	16:22	17:30		18:30	10 07:05 (E13)	20:35
22	08:32	07:28		06:16	06:58 (E13)	05:54
	16:24	17:32		18:32	4 07:02 (E13)	20:37
23	08:30	07:26		06:13		05:52
	16:26	17:34		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		04:37
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		178	107			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.61	0.64			
Total reduction		0.12	0.26			
Total, real		21	27			

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:23	08:01 (E14) 08:24
	22:09	21:28	20:14	18:54	16:36	18 08:19 (E14) 15:45
2	04:31	05:18	06:19	07:19	07:25	08:00 (E14) 08:26
	22:09	21:26	20:11	18:51	16:34	19 08:19 (E14) 15:44
3	04:32	05:20	06:21	07:21	07:27	08:01 (E14) 08:28
	22:08	21:24	20:09	18:48	16:32	19 08:20 (E14) 15:43
4	04:33	05:22	06:23	07:23	07:29	08:02 (E14) 08:29
	22:07	21:22	20:06	18:46	16:30	17 08:19 (E14) 15:42
5	04:34	05:23	06:25	07:26	07:31	08:05 (E14) 08:31
	22:07	21:20	20:04	18:43	16:27	15 08:20 (E14) 15:42
6	04:35	05:25	06:27	07:28	07:34	08:07 (E14) 08:32
	22:06	21:17	20:01	18:40	16:25	12 08:19 (E14) 15:41
7	04:36	05:27	06:29	07:30	07:36	08:09 (E14) 08:34
	22:05	21:15	19:58	18:38	16:23	9 08:18 (E14) 15:40
8	04:37	05:29	06:31	07:32	07:38	08:12 (E14) 08:35
	22:04	21:13	19:56	18:35	16:21	5 08:17 (E14) 15:40
9	04:38	05:31	06:33	07:34	07:40	08:14 (E14) 08:37
	22:03	21:11	19:53	18:33	16:19	2 08:16 (E14) 15:39
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
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	07:57	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	07:41 (E13) 08:01	08:07	08:49
	21:46	20:40	19:18	9 07:50 (E13) 18:00	15:56	15:40
23	04:59	05:59	07:01	07:39 (E13) 08:03	08:09	08:50
	21:45	20:37	19:15	12 07:51 (E13) 17:57	15:55	15:40
24	05:01	06:01	07:03	07:37 (E13) 08:05	08:11	08:50
	21:43	20:35	19:12	15 07:52 (E13) 17:55	15:53	15:41
25	05:03	06:03	07:05	07:36 (E13) 07:07	08:13	08:50
	21:41	20:32	19:10	16 07:52 (E13) 16:52	15:52	15:41
26	05:05	06:05	07:07	07:36 (E13) 07:10	08:15	08:51
	21:39	20:30	19:07	16 07:52 (E13) 16:50	15:51	15:42
27	05:06	06:07	07:09	07:38 (E13) 07:12	08:07 (E14) 08:17	08:51
	21:38	20:27	19:04	14 07:52 (E13) 16:48	6 08:13 (E14) 15:50	15:43
28	05:08	06:09	07:11	07:40 (E13) 07:14	08:04 (E14) 08:19	08:51
	21:36	20:24	19:02	11 07:51 (E13) 16:45	11 08:15 (E14) 15:48	15:44
29	05:10	06:11	07:13	07:42 (E13) 07:16	08:03 (E14) 08:21	08:51
	21:34	20:22	18:59	8 07:50 (E13) 16:43	15 08:18 (E14) 15:47	15:45
30	05:12	06:13	07:15	07:44 (E13) 07:18	08:02 (E14) 08:23	08:51
	21:32	20:19	18:56	5 07:49 (E13) 16:41	16 08:18 (E14) 15:46	15:46
31	05:14	06:15		07:20	08:02 (E14)	08:51
	21:30	20:17		16:38	17 08:19 (E14)	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			106	65	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			0.27	0.15	0.05	
Total, real			28	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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
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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
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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:

25/06/2024 23:53/4.0.540

## 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
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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
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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
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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
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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:

25/06/2024 23:53/4.0.540

## 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
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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	08:21 15:56	08:52 15:40
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	04:59 21:45	05:59 20:37	07:01 19:15	08:03 18:05	08:24 15:55	08:54 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 18:07	08:26 15:53	08:55 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 18:07	08:28 15:52	08:56 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	08:09 18:07	08:29 15:51	08:57 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	08:11 18:04	08:31 15:50	08:58 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	08:13 18:05	08:34 15:48	08:59 15:44
29	08:20 16:39	07:11 17:47	06:57 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	08:15 18:43	08:36 15:47	09:01 15:45
30	08:19 16:41	07:09 17:49	06:54 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	08:17 18:41	08:38 15:46	09:02 15:46
31	08:17 16:43	07:07 17:51	06:52 18:51	05:34 21:51	04:37 21:51	04:30 22:10	05:14 21:30	06:15 20:17	07:16 18:58	08:19 18:43	08:40 15:47	09:03 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		164							97	168		
Sun reduction		0.20							0.43	0.26		
Oper. time red.		0.98							0.98	0.98		
Wind dir. red.		0.62							0.65	0.62		
Total reduction		0.12							0.27	0.16		
Total, real		20							26	27		

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:

25/06/2024 23:53/4.0.540

## 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	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	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	05:54 (E13)
	15:52	16:52	17:54	19:59	21:02	05:55 (E13)
5	08:49	08:07	07:01	06:38	07:03 (E14)	05:24
	15:54	16:54	17:56	20:01	07:06 (E14)	05:25 (E13)
6	08:49	08:05	06:58	06:36	07:01 (E14)	05:21
	15:55	16:57	17:58	20:03	07:10 (E14)	05:27 (E13)
7	08:48	08:03	06:55	06:33	06:58 (E14)	05:19
	15:57	16:59	18:01	20:06	07:11 (E14)	05:27 (E13)
8	08:48	08:01	06:53	06:30	06:56 (E14)	05:17
	15:58	17:01	18:03	20:08	07:13 (E14)	05:27 (E13)
9	08:47	07:58	06:50	06:28	06:53 (E14)	05:15
	16:00	17:03	18:05	20:10	07:13 (E14)	05:27 (E13)
10	08:46	07:56	06:48	06:25	06:51 (E14)	05:13
	16:01	17:06	18:07	20:12	07:13 (E14)	05:27 (E13)
11	08:45	07:54	06:45	06:22	06:51 (E14)	05:11
	16:03	17:08	18:09	20:14	07:13 (E14)	05:27 (E13)
12	08:44	07:52	06:42	06:20	06:50 (E14)	05:09
	16:05	17:10	18:11	20:16	07:13 (E14)	05:27 (E13)
13	08:43	07:50	06:40	06:17	06:50 (E14)	05:07
	16:06	17:12	18:13	20:18	07:13 (E14)	05:27 (E13)
14	08:42	07:47	06:37	06:15	06:49 (E14)	05:05
	16:08	17:15	18:16	20:20	07:12 (E14)	05:22
15	08:41	07:45	06:34	06:12	06:50 (E14)	05:03
	16:10	17:17	18:18	20:22	07:12 (E14)	05:24
16	08:40	07:43	06:32	06:10	06:50 (E14)	05:01
	16:12	17:19	18:20	20:24	07:11 (E14)	05:25
17	08:39	07:40	06:29	06:07	06:51 (E14)	04:59
	16:14	17:21	18:22	20:26	07:10 (E14)	05:27
18	08:38	07:38	06:26	06:04	06:51 (E14)	04:57
	16:16	17:23	18:24	20:28	07:08 (E14)	05:29
19	08:36	07:36	06:24	06:02	06:53 (E14)	04:55
	16:18	17:26	18:26	20:31	07:06 (E14)	05:31
20	08:35	07:33	06:21	05:59	06:56 (E14)	04:54
	16:20	17:28	18:28	20:33	07:04 (E14)	05:33
21	08:33	07:31	06:18	05:57		04:52
	16:22	17:30	18:30	20:35		05:35
22	08:32	07:28	06:16	06:41 (E15)	05:54	04:50
	16:24	17:32	18:32	06:44 (E15)	05:57	05:37
23	08:30	07:26	06:13	06:38 (E15)	05:52	04:49
	16:26	17:35	18:34	06:45 (E15)	05:59	05:38
24	08:29	07:23	06:10	06:35 (E15)	05:49	04:47
	16:28	17:37	18:36	06:45 (E15)	05:41	05:40
25	08:27	07:21	06:08	06:33 (E15)	05:47	04:45
	16:30	17:39	18:39	06:45 (E15)	05:43	05:42
26	08:26	07:18	06:05	06:30 (E15)	05:45	04:44
	16:32	17:41	18:41	06:45 (E15)	05:45	05:43
27	08:24	07:16	06:02	06:29 (E15)	05:42	04:42
	16:34	17:43	18:43	06:44 (E15)	05:47	05:45
28	08:22	07:13	06:00	06:30 (E15)	05:40	04:41
	16:37	17:45	18:45	06:43 (E15)	05:49	05:47
29	08:20		06:57	07:30 (E15)	05:37	04:40
	16:39		19:47	07:41 (E15)	05:51	05:48
30	08:19		06:54	07:32 (E15)	05:35	04:38
	16:41		19:49	07:38 (E15)	05:53	05:50
31	08:17		06:52			04:37
	16:43		19:51			05:51
Potential sun hours	235	266	366	426	508	528
Total, worst case			92	275	133	
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			24	89	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 22:09	05:16 21:28	05:52 (E13) 20:14	06:17 20:14	06:50 (E14) 18:54	07:17 16:36
2	04:31 22:08	05:18 21:26	05:51 (E13) 20:11	06:19 20:11	06:50 (E14) 18:51	07:19 16:34
3	04:32 22:08	05:20 21:24	05:53 (E13) 20:09	06:21 20:09	06:51 (E14) 18:48	07:21 16:32
4	04:33 22:07	05:22 21:22	05:55 (E13) 20:06	06:23 20:06	06:53 (E14) 18:46	07:23 16:30
5	04:34 22:07	05:24 21:20	05:57 (E13) 20:04	06:25 20:04	06:55 (E14) 18:43	07:26 16:27
6	04:35 22:06	05:26 21:17	05:58 (E13) 20:01	06:27 20:01	06:57 (E14) 18:40	07:28 16:25
7	04:36 22:05	05:27 21:15	06:00 (E13) 19:58	06:29 19:58	06:58 (E14) 18:38	07:30 16:23
8	04:37 22:04	05:29 21:13	06:02 (E13) 19:56	06:31 19:56	07:02 (E14) 18:35	07:32 16:21
9	04:38 22:03	05:31 21:11	06:05 (E13) 19:53	06:33 19:53	07:04 18:33	07:34 16:19
10	04:40 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 19:48	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	06:39 19:45	07:40 18:25	07:46 16:13
13	04:44 21:59	05:39 21:02	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 18:20	07:51 16:10
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 18:15	07:55 16:06
17	04:50 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 20:50	06:51 19:29	06:51 19:29	07:53 18:10	07:59 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	06:53 19:26	07:55 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 18:05	08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:21	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	06:59 19:18	08:01 18:00	08:07 15:56
23	04:59 21:45	05:59 20:37	06:59 (E14) 19:15	07:01 19:15	08:03 17:57	08:09 15:55
24	05:01 21:43	06:01 20:35	06:57 (E14) 19:12	07:03 19:12	08:05 17:55	08:11 15:53
25	05:03 21:41	06:03 20:32	06:55 (E14) 19:10	07:05 19:10	08:07 16:52	08:13 15:52
26	05:05 21:39	06:05 20:30	06:54 (E14) 19:07	07:07 19:07	08:10 16:50	08:15 15:51
27	05:07 21:38	06:07 20:27	06:53 (E14) 19:04	07:09 19:04	08:12 16:48	08:17 15:50
28	05:08 21:36	06:09 20:24	07:13 (E14) 19:02	07:11 19:02	08:14 16:45	08:19 15:48
29	05:10 21:34	06:11 20:22	06:50 (E14) 18:59	07:13 18:59	08:16 16:43	08:21 15:47
30	05:12 21:32	06:13 20:19	06:50 (E14) 18:56	07:15 18:56	08:18 16:41	08:22 15:46
31	05:14 21:30	06:15 20:17	06:50 (E14) 18:56	07:15 18:56	08:18 16:41	08:22 15:46
Potential sun hours	529	469	385	324	247	216
Total, worst case	52	253	199			
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	17	82	55			

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		10:02 (E14)	08:15		09:21 (E15)	07:11			06:49		05:33			04:36			
	15:48	32	10:34 (E14)	16:45	3	09:24 (E15)	17:48			19:53		20:55			21:53			
2	08:50		10:03 (E14)	08:13			07:08			06:46		05:30			04:35			
	15:49	32	10:35 (E14)	16:48			17:50			19:55		20:58			21:54			
3	08:50		10:03 (E14)	08:11			07:06			06:43		05:28			04:34			
	15:51	32	10:35 (E14)	16:50			17:52			19:57		21:00			21:55			
4	08:50		10:03 (E14)	08:09			07:03			06:41		05:26			04:33			
	15:52	32	10:35 (E14)	16:52			17:54			19:59		21:02			21:57			
5	08:49		10:04 (E14)	08:07			07:01			06:38		05:23			04:32			
	15:53	33	10:37 (E14)	16:54			17:56			20:01		21:04			21:58			
6	08:49		10:05 (E14)	08:05			06:58			06:35		05:21			04:31			
	15:55	32	10:37 (E14)	16:56			17:58			20:03		21:06			21:59			
7	08:48		10:05 (E14)	08:03			06:55			06:33		05:19			04:30			
	15:56	32	10:37 (E14)	16:59			18:01			20:06		21:08			22:00			
8	08:48		10:05 (E14)	08:01			06:53			06:30		05:17			04:29			
	15:58	32	10:37 (E14)	17:01			18:03			20:08		21:10			22:01			
9	08:47		10:06 (E14)	07:58			06:50			06:28		05:15			04:29			
	16:00	32	10:38 (E14)	17:03			18:05			20:10		21:12			22:02			
10	08:46		10:06 (E14)	07:56			06:47		07:20 (E13)	06:25		05:13			04:28			
	16:01	32	10:38 (E14)	17:05			18:07	9	07:29 (E13)	20:12		21:14			22:03			
11	08:45		10:07 (E14)	07:54			06:45		07:16 (E13)	06:22		05:11			04:27			
	16:03	32	10:39 (E14)	17:08			18:09	16	07:32 (E13)	20:14		21:16			22:04			
12	08:44		09:21 (E15)	07:52			06:42		07:14 (E13)	06:20		05:09			04:27			
	16:05	32	10:39 (E14)	17:10			18:11	21	07:35 (E13)	20:16		21:18			22:05			
13	08:43		09:19 (E15)	07:50			06:40		07:12 (E13)	06:17		05:07			04:26			
	16:06	35	10:39 (E14)	17:12			18:13	24	07:36 (E13)	20:18		21:20			22:06			
14	08:42		09:18 (E15)	07:47			06:37		07:10 (E13)	06:15		05:05			04:26			
	16:08	37	10:39 (E14)	17:14			18:15	26	07:36 (E13)	20:20		21:22			22:07			
15	08:41		09:16 (E15)	07:45			06:34		07:09 (E13)	06:12		05:03			04:26			
	16:10	40	10:39 (E14)	17:17			18:18	29	07:38 (E13)	20:22		21:24			22:07			
16	08:40		09:15 (E15)	07:43			06:32		07:08 (E13)	06:09		05:01			04:26			
	16:12	40	10:39 (E14)	17:19			18:20	30	07:38 (E13)	20:24		21:25			22:08			
17	08:39		09:14 (E15)	07:40			06:29		07:07 (E13)	06:07		04:59			04:25			
	16:14	43	10:40 (E14)	17:21			18:22	31	07:38 (E13)	20:26		21:27			22:08			
18	08:38		09:12 (E15)	07:38			06:26		07:06 (E13)	06:04		04:57			04:25			
	16:16	44	10:39 (E14)	17:23			18:24	32	07:38 (E13)	20:28		21:29			22:09			
19	08:36		09:10 (E15)	07:36			06:24		07:06 (E13)	06:02		04:55			04:25			
	16:18	45	10:38 (E14)	17:26			18:26	32	07:38 (E13)	20:30		21:31			22:09			
20	08:35		09:10 (E15)	07:33			06:21		07:06 (E13)	05:59		04:53			04:25			
	16:20	46	10:39 (E14)	17:28			18:28	32	07:38 (E13)	20:33		21:33			22:10			
21	08:33		09:10 (E15)	07:31			06:18		07:05 (E13)	05:57		04:52			04:25			
	16:22	44	10:38 (E14)	17:30			18:30	32	07:37 (E13)	20:35		21:35			22:10			
22	08:32		09:10 (E15)	07:28			06:16		07:06 (E13)	05:54		04:50			04:26			
	16:24	42	10:37 (E14)	17:32			18:32	31	07:37 (E13)	20:37		21:37			22:10			
23	08:30		09:10 (E15)	07:26			06:13		07:06 (E13)	05:52		04:48			04:26			
	16:26	40	10:36 (E14)	17:34			18:34	30	07:36 (E13)	20:39		21:38			22:10			
24	08:29		09:11 (E15)	07:23			06:10		07:06 (E13)	05:49		04:47			04:26			
	16:28	36	10:35 (E14)	17:37			18:36	28	07:34 (E13)	20:41		21:40			22:10			
25	08:27		09:12 (E15)	07:21			06:08		07:07 (E13)	05:47		04:45			04:26			
	16:30	31	10:33 (E14)	17:39			18:38	27	07:34 (E13)	20:43		21:42			22:10			
26	08:26		09:12 (E15)	07:18			06:05		07:07 (E13)	05:44		04:44			04:27			
	16:32	23	10:29 (E14)	17:41			18:41	25	07:32 (E13)	20:45		21:43			22:10			
27	08:24		09:13 (E15)	07:16			06:02		07:08 (E13)	05:42		04:42			04:27			
	16:34	18	09:31 (E15)	17:43			18:43	22	07:30 (E13)	20:47		21:45			22:10			
28	08:22		09:13 (E15)	07:13			05:59		07:10 (E13)	05:40		04:41			04:28			
	16:37	18	09:31 (E15)	17:45			18:45	18	07:28 (E13)	20:49		21:47			22:10			
29	08:20		09:15 (E15)				06:57		08:13 (E13)	05:37		04:40			04:29			
	16:39	15	09:30 (E15)				19:47	12	08:25 (E13)	20:51		21:48			22:10			
30	08:19		09:16 (E15)				06:54			05:35		04:38			04:29			
	16:41	13	09:29 (E15)				19:49			20:53		21:50			22:09			
31	08:17		09:18 (E15)				06:51					04:37						
	16:43	10	09:28 (E15)				19:51					21:51						
Potential sun hours	235			266			366			426			508			529		
Total, worst case	1005			3			507											
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			0.12			0.25											
Total, real	79			0			128											

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:52 (E13)	07:23
	22:09	21:28	20:14	18:54	22 08:14 (E13)	16:36
2	04:31	05:18	06:19	07:19	07:54 (E13)	07:25
	22:09	21:26	20:11	18:51	18 08:12 (E13)	16:34
3	04:32	05:20	06:21	07:21	07:56 (E13)	07:27
	22:08	21:24	20:09	18:48	13 08:09 (E13)	16:32
4	04:33	05:21	06:23	07:23		07:29
	22:07	21:22	20:06	18:46		16:29
5	04:34	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	07:30		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	19:55	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	04:41	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	07:50		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	20:50	19:29	18:09		16:02
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	17:55		15:53
25	05:03	06:03	07:05	08:07		08:13
	21:41	20:32	19:10	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		15:49
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		
	21:30	20:17		16:38		15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			455	53	659	976
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	0.60	0.61
Total reduction			0.26	0.16	0.05	0.04
Total, real			119	8	32	41

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	08:46 (E14)	07:11	06:49	05:33
	15:48	16:45	3 08:49 (E14)	17:48	19:53	20:56
2	08:51	08:13	08:43 (E14)	07:08	06:46	05:30
	15:50	16:48	6 08:49 (E14)	17:50	19:55	20:58
3	08:50	08:11	08:41 (E14)	07:06	06:44	05:28
	15:51	16:50	9 08:50 (E14)	17:52	19:57	21:00
4	08:50	08:09	08:39 (E14)	07:03	06:41	05:26
	15:52	16:52	12 08:51 (E14)	17:54	19:59	21:02
5	08:49	08:07	08:37 (E14)	07:01	06:38	05:24
	15:53	16:54	15 08:52 (E14)	17:56	20:01	21:04
6	08:49	08:05	08:34 (E14)	06:58	06:36	05:21
	15:55	16:57	17 08:51 (E14)	17:58	20:04	21:06
7	08:48	08:03	08:35 (E14)	06:55	06:33	05:19
	15:56	16:59	16 08:51 (E14)	18:01	20:06	21:08
8	08:48	08:01	08:35 (E14)	06:53	07:19 (E13)	06:30
	15:58	17:01	17 08:52 (E14)	18:03	1 07:20 (E13)	20:08
9	08:47	07:58	08:35 (E14)	06:50	7 07:16 (E13)	06:28
	16:00	17:03	15 08:50 (E14)	18:05	5 07:21 (E13)	20:10
10	08:46	07:56	08:37 (E14)	06:48	7 07:13 (E13)	06:25
	16:01	17:05	13 08:50 (E14)	18:07	8 07:21 (E13)	20:12
11	08:45	07:54	08:38 (E14)	06:45	7 07:10 (E13)	06:22
	16:03	17:08	11 08:49 (E14)	18:09	11 07:21 (E13)	20:14
12	08:44	07:52	08:40 (E14)	06:42	7 07:08 (E13)	06:20
	16:05	17:10	6 08:46 (E14)	18:11	13 07:21 (E13)	20:16
13	08:43	07:50		06:40	7 07:06 (E13)	06:17
	16:06	17:12		18:13	15 07:21 (E13)	20:18
14	08:42	07:47		06:37	7 07:06 (E13)	06:15
	16:08	17:14		18:16	13 07:19 (E13)	20:20
15	08:41	07:45		06:34	7 07:07 (E13)	06:12
	16:10	17:17		18:18	12 07:19 (E13)	20:22
16	08:40	07:43		06:32	7 07:08 (E13)	06:09
	16:12	17:19		18:20	8 07:16 (E13)	20:24
17	08:39	07:40		06:29		06:07
	16:14	17:21		18:22		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		04:37
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		140	86			
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	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:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:46 (E13)	07:23
	22:09	21:28	20:14	18:54	08:00 (E13)	08:06 (E14)
2	04:31	05:18	06:19	07:19	07:48 (E13)	07:25
	22:09	21:26	20:11	18:51	08:00 (E13)	08:05 (E14)
3	04:32	05:20	06:21	07:21	07:50 (E13)	07:27
	22:08	21:24	20:09	18:48	07:59 (E13)	08:05 (E14)
4	04:33	05:22	06:23	07:23	07:52 (E13)	08:04 (E14)
	22:07	21:22	20:06	18:46	07:58 (E13)	08:05 (E14)
5	04:34	05:24	06:25	07:26	07:54 (E13)	08:05 (E14)
	22:07	21:20	20:04	18:43	07:57 (E13)	08:05 (E14)
6	04:35	05:25	06:27	07:28	07:57 (E13)	08:07 (E14)
	22:06	21:17	20:01	18:40	07:57 (E13)	08:07 (E14)
7	04:36	05:27	06:29	07:30	07:57 (E13)	08:09 (E14)
	22:05	21:15	19:58	18:38	07:57 (E13)	08:09 (E14)
8	04:37	05:29	06:31	07:32	07:57 (E13)	08:12 (E14)
	22:04	21:13	19:56	18:35	07:57 (E13)	08:12 (E14)
9	04:38	05:31	06:33	07:34	07:57 (E13)	08:14 (E14)
	22:03	21:11	19:53	18:33	07:57 (E13)	08:14 (E14)
10	04:39	05:33	06:35	07:36	07:57 (E13)	08:17 (E14)
	22:02	21:09	19:50	18:30	07:57 (E13)	08:17 (E14)
11	04:41	05:35	06:37	07:38	07:57 (E13)	08:19 (E14)
	22:01	21:06	19:48	18:27	07:57 (E13)	08:19 (E14)
12	04:42	05:37	06:39	07:40	07:57 (E13)	08:20 (E14)
	22:00	21:04	19:45	18:25	07:57 (E13)	08:20 (E14)
13	04:44	05:39	06:41	07:42	07:57 (E13)	08:21 (E14)
	21:59	21:02	19:42	18:22	07:57 (E13)	08:21 (E14)
14	04:45	05:41	06:43	07:44	07:57 (E13)	08:22 (E14)
	21:58	20:59	19:39	18:20	07:57 (E13)	08:22 (E14)
15	04:46	05:43	06:45	07:46	07:57 (E13)	08:23 (E14)
	21:57	20:57	19:37	18:17	07:57 (E13)	08:23 (E14)
16	04:48	05:45	06:47	07:48	07:57 (E13)	08:24 (E14)
	21:55	20:55	19:34	18:15	07:57 (E13)	08:24 (E14)
17	04:49	05:47	06:49	07:50	07:57 (E13)	08:25 (E14)
	21:54	20:52	19:31	18:12	07:57 (E13)	08:25 (E14)
18	04:51	05:49	06:51	07:53	07:57 (E13)	08:26 (E14)
	21:53	20:50	19:29	18:09	07:57 (E13)	08:26 (E14)
19	04:53	05:51	06:53	07:55	07:57 (E13)	08:27 (E14)
	21:51	20:47	19:26	18:07	07:57 (E13)	08:27 (E14)
20	04:54	05:53	06:55	07:57	07:57 (E13)	08:28 (E14)
	21:50	20:45	19:23	18:05	07:57 (E13)	08:28 (E14)
21	04:56	05:55	06:57	07:59	07:57 (E13)	08:29 (E14)
	21:48	20:42	19:21	18:02	07:57 (E13)	08:29 (E14)
22	04:58	05:57	06:59	08:01	07:57 (E13)	08:30 (E14)
	21:46	20:40	19:18	18:00	07:57 (E13)	08:30 (E14)
23	04:59	05:59	07:01	08:03	07:57 (E13)	08:31 (E14)
	21:45	20:37	19:15	17:57	07:57 (E13)	08:31 (E14)
24	05:01	06:01	07:03	08:05	07:57 (E13)	08:32 (E14)
	21:43	20:35	19:13	17:55	07:57 (E13)	08:32 (E14)
25	05:03	06:03	07:05	07:07	07:57 (E13)	08:33 (E14)
	21:41	20:32	19:10	16:52	07:57 (E13)	08:33 (E14)
26	05:05	06:05	07:07	07:10	07:57 (E13)	08:34 (E14)
	21:39	20:30	19:07	16:50	07:57 (E13)	08:34 (E14)
27	05:06	06:07	07:09	07:12	07:57 (E13)	08:35 (E14)
	21:38	20:27	19:04	16:48	07:57 (E13)	08:35 (E14)
28	05:08	06:09	07:11	07:14	07:57 (E13)	08:36 (E14)
	21:36	20:25	19:02	16:45	07:57 (E13)	08:36 (E14)
29	05:10	06:11	07:13	07:16	07:57 (E13)	08:37 (E14)
	21:34	20:22	18:59	16:43	07:57 (E13)	08:37 (E14)
30	05:12	06:13	07:15	07:18	07:57 (E13)	08:38 (E14)
	21:32	20:19	18:56	16:41	07:57 (E13)	08:38 (E14)
31	05:14	06:15		07:21	07:57 (E13)	08:39 (E14)
	21:30	20:17		16:38	07:57 (E13)	08:39 (E14)
Potential sun hours	529	469	385	324	247	216
Total, worst case			43	62	122	
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			11	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	14:08 (E5)	08:15	07:11	06:48	05:32	04:35	04:30	05:15	06:17	07:17	07:22	08:24	
	15:48	14:16 (E5)	16:45	17:47	19:53	20:55	21:53	22:09	21:28	20:14	18:53	16:36	15:45	
2	08:50	14:10 (E5)	08:13	07:08	06:46	05:30	04:34	04:30	05:17	06:19	07:19	07:25	08:26	
	15:49	14:15 (E5)	16:47	17:49	19:55	20:57	21:54	22:09	21:26	20:11	18:51	16:33	15:44	
3	08:50		08:11	07:05	06:43	05:28	04:33	04:31	05:19	06:21	07:21	07:27	08:28	
	15:50		16:49	17:52	19:57	20:59	21:55	22:08	21:24	20:09	18:48	16:31	15:43	
4	08:50		08:09	07:03	06:40	05:25	04:32	04:32	05:21	06:23	07:23	07:29	08:29	
	15:52		16:52	17:54	19:59	21:02	21:57	22:07	21:22	20:06	18:45	16:29	15:42	
5	08:49		08:07	07:00	06:38	05:23	04:31	04:33	05:23	06:25	07:25	07:31	08:31	
	15:53		16:54	17:56	20:01	21:04	21:58	22:07	21:19	20:03	18:43	16:27	15:41	
6	08:49		08:05	06:58	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	21:06	21:59	22:06	21:17	20:01	18:40	16:25	15:40	
7	08:48		08:03	06:55	06:33	05:19	04:30	04:35	05:27	06:29	07:29	07:36	08:34	
	15:56		16:58	18:00	20:05	21:08	22:00	22:05	21:15	19:58	18:37	16:23	15:40	
8	08:48		08:00	06:53	06:30	05:16	04:29	04:36	05:29	06:31	07:31	07:38	08:35	
	15:57		17:01	18:02	20:07	21:10	22:01	22:04	21:13	19:55	18:35	16:21	15:39	
9	08:47		07:58	06:50	06:27	05:14	04:28	04:38	05:31	06:33	07:33	07:40	08:37	
	15:59		17:03	18:05	20:09	21:12	22:02	22:03	21:11	19:53	18:32	16:19	15:39	
10	08:46		07:56	06:47	06:25	05:12	04:27	04:39	05:33	06:35	07:36	07:42	08:38	
	16:01		17:05	18:07	20:12	21:14	22:03	22:02	21:08	19:50	18:30	16:17	15:38	5 13:59 (E5)
11	08:45		07:54	06:45	06:22	05:10	04:27	04:40	05:35	06:37	07:38	07:44	08:39	13:58 (E5)
	16:02		17:07	18:09	20:14	21:16	22:04	22:01	21:06	19:47	18:27	16:15	15:38	8 14:06 (E5)
12	08:44		07:52	06:42	06:19	05:08	04:26	04:42	05:37	06:39	07:40	07:46	08:40	13:58 (E5)
	16:04		17:10	18:11	20:16	21:18	22:05	22:00	21:04	19:45	18:24	16:13	15:38	10 14:08 (E5)
13	08:43		07:49	06:39	06:17	05:06	04:26	04:43	05:39	06:41	07:42	07:49	08:42	13:58 (E5)
	16:06		17:12	18:13	20:18	21:20	22:06	21:59	21:01	19:42	18:22	16:11	15:38	10 14:08 (E5)
14	08:42		07:47	06:37	06:14	05:04	04:26	04:44	05:41	06:43	07:44	07:51	08:43	13:58 (E5)
	16:08		17:14	18:15	20:20	21:22	22:07	21:58	20:59	19:39	18:19	16:09	15:37	11 14:09 (E5)
15	08:41		07:45	06:34	06:12	05:02	04:25	04:46	05:43	06:45	07:46	07:53	08:44	13:58 (E5)
	16:10		17:16	18:17	20:22	21:24	22:07	21:57	20:57	19:36	18:17	16:07	15:37	12 14:10 (E5)
16	08:40		07:42	06:31	06:09	05:00	04:25	04:47	05:45	06:47	07:48	07:55	08:45	13:58 (E5)
	16:11		17:19	18:19	20:24	21:25	22:08	21:55	20:54	19:34	18:14	16:05	15:37	13 14:11 (E5)
17	08:39		07:40	06:29	06:06	04:58	04:25	04:49	05:47	06:49	07:50	07:57	08:46	13:58 (E5)
	16:13		17:21	18:22	20:26	21:27	22:09	21:54	20:52	19:31	18:12	16:04	15:37	13 14:11 (E5)
18	08:37		07:38	06:26	06:04	04:56	04:25	04:50	05:49	06:51	07:52	07:59	08:46	13:59 (E5)
	16:15		17:23	18:24	20:28	21:29	22:09	21:52	20:49	19:28	18:09	16:02	15:38	13 14:12 (E5)
19	08:36		07:35	06:23	06:01	04:55	04:25	04:52	05:51	06:53	07:54	08:01	08:47	13:59 (E5)
	16:17		17:25	18:26	20:30	21:31	22:09	21:51	20:47	19:26	18:07	16:00	15:38	14 14:13 (E5)
20	08:35		07:33	06:21	05:59	04:53	04:25	04:54	05:53	06:55	07:57	08:03	08:48	13:59 (E5)
	16:19		17:27	18:28	20:32	21:33	22:10	21:49	20:45	19:23	18:04	15:59	15:38	14 14:13 (E5)
21	08:33		07:31	06:18	05:56	04:51	04:25	04:55	05:55	06:57	07:59	08:05	08:49	14:00 (E5)
	16:21		17:30	18:30	20:35	21:35	22:10	21:48	20:42	19:20	18:02	15:57	15:39	14 14:14 (E5)
22	08:32		07:28	06:15	05:54	04:50	04:25	04:57	05:57	06:59	08:01	08:07	08:49	14:00 (E5)
	16:23		17:32	18:32	20:37	21:37	22:10	21:46	20:40	19:18	17:59	15:56	15:39	14 14:14 (E5)
23	08:30		07:26	06:13	05:51	04:48	04:25	04:59	05:59	07:01	08:03	08:09	08:50	14:01 (E5)
	16:25		17:34	18:34	20:39	21:38	22:10	21:45	20:37	19:15	17:57	15:54	15:39	14 14:15 (E5)
24	08:29		07:23	06:10	05:49	04:46	04:26	05:00	06:01	07:03	08:05	08:11	08:50	14:01 (E5)
	16:27		17:36	18:36	20:41	21:40	22:10	21:43	20:34	19:12	17:54	15:53	15:40	14 14:15 (E5)
25	08:27		07:21	06:07	05:46	04:45	04:26	05:02	06:03	07:05	08:07	08:13	08:50	14:01 (E5)
	16:30		17:38	18:38	20:43	21:42	22:10	21:41	20:32	19:09	16:52	15:52	15:41	14 14:15 (E5)
26	08:25		07:18	06:05	05:44	04:43	04:26	05:04	06:05	07:07	08:09	08:15	08:51	14:02 (E5)
	16:32		17:41	18:40	20:45	21:43	22:10	21:39	20:29	19:07	16:50	15:50	15:41	13 14:15 (E5)
27	08:24		07:16	06:02	05:42	04:42	04:27	05:06	06:07	07:09	08:12	08:17	08:51	14:03 (E5)
	16:34		17:43	18:42	20:47	21:45	22:10	21:38	20:27	19:04	16:47	15:49	15:42	13 14:16 (E5)
28	08:22		07:13	05:59	05:39	04:40	04:27	05:08	06:09	07:11	08:14	08:19	08:51	14:03 (E5)
	16:36		17:45	18:44	20:49	21:47	22:10	21:36	20:24	19:01	16:45	15:48	15:43	13 14:16 (E5)
29	08:20			06:57	05:37	04:39	04:28	05:10	06:11	07:13	08:16	08:21	08:51	14:04 (E5)
	16:38			19:47	20:51	21:48	22:10	21:34	20:22	18:59	16:42	15:47	15:44	12 14:16 (E5)
30	08:18			06:54	05:34	04:38	04:29	05:11	06:13	07:15	08:18	08:22	08:51	14:05 (E5)
	16:40			19:49	20:53	21:50	22:09	21:32	20:19	18:56	16:40	15:46	15:45	11 14:16 (E5)
31	08:17			06:51		04:37		05:13	06:15		07:20		08:51	14:07 (E5)
	16:43			19:51		21:51		21:30	20:16		16:38		15:46	9 14:16 (E5)
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:

25/06/2024 23:53/4.0.540

## 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	07:14 (E6)	05:32
	15:48	16:45	17:47	19:53	7 07:21 (E6)	20:55
2	08:50	08:13	07:08	06:46	07:11 (E6)	05:30
	15:49	16:47	17:50	19:55	11 07:22 (E6)	20:57
3	08:50	08:11	07:06	06:43	07:08 (E6)	05:28
	15:51	16:50	17:52	19:57	14 07:22 (E6)	21:00
4	08:50	08:09	07:03	06:41	07:06 (E6)	05:26
	15:52	16:52	17:54	19:59	28 07:34 (E7)	21:02
5	08:49	08:07	07:00	06:38	07:04 (E6)	05:23
	15:53	16:54	17:56	20:01	32 07:36 (E7)	21:04
6	08:49	08:05	06:58	07:24 (E8)	06:35	07:05 (E6)
	15:55	16:56	17:58	7 07:31 (E8)	20:03	21:06
7	08:48	08:03	06:55	07:21 (E8)	06:33	07:04 (E6)
	15:56	16:59	18:00	12 07:33 (E8)	20:05	21:08
8	08:48	08:00	06:53	07:18 (E8)	06:30	07:04 (E6)
	15:58	17:01	18:03	16 07:34 (E8)	20:08	21:10
9	08:47	07:58	06:50	07:16 (E8)	06:27	07:06 (E6)
	15:59	17:03	18:05	19 07:35 (E8)	20:10	21:12
10	08:46	07:56	06:47	07:15 (E8)	06:25	07:06 (E6)
	16:01	17:05	18:07	20 07:35 (E8)	20:12	21:14
11	08:45	07:54	06:45	07:14 (E8)	06:22	07:07 (E7)
	16:03	17:08	18:09	21 07:35 (E8)	20:14	21:16
12	08:44	07:52	06:42	07:14 (E8)	06:20	07:05 (E7)
	16:04	17:10	18:11	21 07:35 (E8)	20:16	21:18
13	08:43	07:49	06:39	07:14 (E8)	06:17	07:05 (E7)
	16:06	17:12	18:13	20 07:34 (E8)	20:18	21:20
14	08:42	07:47	06:37	07:14 (E8)	06:14	07:04 (E7)
	16:08	17:14	18:15	19 07:33 (E8)	20:20	21:22
15	08:41	07:45	06:34	07:14 (E8)	06:12	07:04 (E7)
	16:10	17:17	18:17	18 07:32 (E8)	20:22	21:24
16	08:40	07:43	06:32	07:16 (E8)	06:09	07:04 (E7)
	16:12	17:19	18:20	15 07:31 (E8)	20:24	21:25
17	08:39	07:40	06:29	07:17 (E8)	06:07	07:04 (E7)
	16:14	17:21	18:22	12 07:29 (E8)	20:26	21:27
18	08:37	07:38	06:26	07:19 (E8)	06:04	07:03 (E7)
	16:16	17:23	18:24	6 07:25 (E8)	20:28	21:29
19	08:36	07:35	06:23	06:02	07:04 (E7)	04:55
	16:18	17:25	18:26	20:30	37 07:41 (E7)	21:31
20	08:35	07:33	06:21	05:59	07:03 (E7)	04:53
	16:20	17:28	18:28	20:33	36 07:39 (E7)	21:33
21	08:33	07:31	06:18	05:57	07:04 (E7)	04:52
	16:22	17:30	18:30	20:35	35 07:39 (E7)	21:35
22	08:32	07:28	06:15	05:54	07:05 (E7)	04:50
	16:24	17:32	18:32	20:37	34 07:39 (E7)	21:37
23	08:30	07:26	06:13	05:52	07:05 (E7)	04:48
	16:26	17:34	18:34	20:39	32 07:37 (E7)	21:38
24	08:29	07:23	06:10	05:49	07:06 (E7)	04:47
	16:28	17:37	18:36	20:41	30 07:36 (E7)	21:40
25	08:27	07:21	06:07	05:47	07:07 (E7)	04:45
	16:30	17:39	18:38	20:43	28 07:35 (E7)	21:42
26	08:26	07:18	06:05	05:44	07:07 (E7)	04:44
	16:32	17:41	18:40	20:45	26 07:33 (E7)	21:43
27	08:24	07:16	06:02	05:42	07:09 (E7)	04:42
	16:34	17:43	18:43	20:47	22 07:31 (E7)	21:45
28	08:22	07:13	05:59	05:39	07:11 (E7)	04:41
	16:36	17:45	18:45	20:49	18 07:29 (E7)	21:47
29	08:20	06:57	05:57	05:37	07:14 (E7)	04:39
	16:39	17:47	18:47	20:51	12 07:26 (E7)	21:48
30	08:18	06:54	05:55	05:35	04:38	05:12 (E5)
	16:41	17:49	18:49	20:53	13 05:25 (E5)	22:09
31	08:17	06:51	05:51	07:16 (E6)	04:37	05:11 (E5)
	16:43	17:51	18:51	3 07:19 (E6)	21:51	15 05:26 (E5)
Potential sun hours	235	266	366	426	508	529
Total, worst case			209	877	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	0.37
Total, real			52	282	23	223

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E5)	05:16			06:17		07:06 (E7)	07:17		07:53 (E8)	07:23			08:24		
	22:09	21	05:33 (E5)	21:28			20:14	35	07:41 (E7)	18:54	21	08:14 (E8)	16:36			15:45		
2	04:31		05:13 (E5)	05:17			06:19		07:05 (E6)	07:19		07:53 (E8)	07:25			08:26		
	22:09	20	05:33 (E5)	21:26			20:11	35	07:40 (E7)	18:51	21	08:14 (E8)	16:34			15:44		
3	04:32		05:13 (E5)	05:19			06:21		07:04 (E6)	07:21		07:53 (E8)	07:27			08:28		
	22:08	21	05:34 (E5)	21:24			20:09	35	07:39 (E7)	18:48	20	08:13 (E8)	16:31			15:43		
4	04:33		05:13 (E5)	05:21			06:23		07:02 (E6)	07:23		07:53 (E8)	07:29			08:29		
	22:07	21	05:34 (E5)	21:22			20:06	36	07:38 (E7)	18:46	19	08:12 (E8)	16:29			15:42		
5	04:33		05:14 (E5)	05:23			06:25		07:00 (E6)	07:25		07:54 (E8)	07:31			08:31		
	22:07	20	05:34 (E5)	21:19			20:03	35	07:35 (E7)	18:43	17	08:11 (E8)	16:27			15:41		
6	04:35		05:14 (E5)	05:25			06:27		07:00 (E6)	07:27		07:56 (E8)	07:33			08:32		
	22:06	20	05:34 (E5)	21:17			20:01	34	07:34 (E7)	18:40	14	08:10 (E8)	16:25			15:41		
7	04:36		05:14 (E5)	05:27			06:29		06:59 (E6)	07:29		07:58 (E8)	07:36			08:34		
	22:05	20	05:34 (E5)	21:15			19:58	32	07:31 (E7)	18:38	10	08:08 (E8)	16:23			15:40		
8	04:37		05:15 (E5)	05:29			06:31		07:00 (E6)	07:32		08:00 (E8)	07:38			08:35		
	22:04	19	05:34 (E5)	21:13			19:55	28	07:28 (E7)	18:35	4	08:04 (E8)	16:21			15:40		
9	04:38		05:15 (E5)	05:31			06:33		07:02 (E6)	07:34			07:40			08:37		
	22:03	19	05:34 (E5)	21:11			19:53	14	07:16 (E6)	18:32			16:19			15:39		
10	04:39		05:16 (E5)	05:33			06:35		07:04 (E6)	07:36			07:42			08:38		
	22:02	18	05:34 (E5)	21:08			19:50	11	07:15 (E6)	18:30			16:17			15:39		
11	04:41		05:17 (E5)	05:35			06:37		07:06 (E6)	07:38			07:44			08:39		
	22:01	17	05:34 (E5)	21:06			19:47	8	07:14 (E6)	18:27			16:15			15:38		
12	04:42		05:19 (E5)	05:37			06:39		07:08 (E6)	07:40			07:46			08:40		
	22:00	15	05:34 (E5)	21:04			19:45	4	07:12 (E6)	18:25			16:13			15:38		
13	04:43		05:20 (E5)	05:39		07:26 (E7)	06:41			07:42			07:49			08:42		
	21:59	14	05:34 (E5)	21:01	3	07:29 (E7)	19:42			18:22			16:11			15:38		
14	04:45		05:21 (E5)	05:41			07:21 (E7)			07:44			07:51			08:43		
	21:58	12	05:33 (E5)	20:59	13	07:34 (E7)	19:39			18:19			16:09			15:38		
15	04:46		05:22 (E5)	05:43			07:18 (E7)			07:46			07:53			08:44		
	21:57	10	05:32 (E5)	20:57	19	07:37 (E7)	19:37			18:17			16:07			15:38		
16	04:48		05:24 (E5)	05:45			07:16 (E7)			07:48			07:55			08:45		
	21:55	8	05:32 (E5)	20:54	23	07:39 (E7)	19:34			18:14			16:06			15:38		
17	04:49		05:25 (E5)	05:47			07:13 (E7)			07:50			07:57			08:46		
	21:54	6	05:31 (E5)	20:52	27	07:40 (E7)	19:31			18:12			16:04			15:38		
18	04:51		05:27 (E5)	05:49			07:12 (E7)			07:52			07:59			08:46		
	21:52	3	05:30 (E5)	20:50	29	07:41 (E7)	19:29			18:09			16:02			15:38		
19	04:52			05:51			07:11 (E7)			07:55			08:01			08:47		
	21:51			20:47	31	07:42 (E7)	19:26			18:07			16:01			15:38		
20	04:54			05:53			07:10 (E7)			07:57			08:03			08:48		
	21:49			20:45	33	07:43 (E7)	19:23			18:04			15:59			15:38		
21	04:56			05:55			07:09 (E7)			07:59			08:05			08:48		
	21:48			20:42	34	07:43 (E7)	19:20			18:02			15:58			15:39		
22	04:57			05:57			07:08 (E7)			08:01			08:07			08:49		
	21:46			20:40	36	07:44 (E7)	19:18			17:59			15:56			15:39		
23	04:59			05:59			07:08 (E7)			08:03			08:09			08:50		
	21:45			20:37	36	07:44 (E7)	19:15			17:57			15:55			15:40		
24	05:01			06:01			07:07 (E7)			08:05			08:11			08:50		
	21:43			20:35	38	07:45 (E7)	19:12			17:55			15:53			15:40		
25	05:03			06:03			07:07 (E7)			07:07			08:13			08:50		
	21:41			20:32	38	07:45 (E7)	19:10			16:52			15:52			15:41		
26	05:04			06:05			07:06 (E7)			07:10			08:15			08:51		
	21:39			20:29	38	07:44 (E7)	19:07	11	08:00 (E8)	16:50			15:51			15:42		
27	05:06			06:07			07:05 (E7)			07:12			08:17			08:51		
	21:38			20:27	39	07:44 (E7)	19:04	14	08:12 (E8)	16:47			15:49			15:43		
28	05:08			06:09			07:05 (E7)			07:14			08:19			08:51		
	21:36			20:24	38	07:43 (E7)	19:02	17	08:13 (E8)	16:45			15:48			15:44		
29	05:10			06:11			07:05 (E7)			07:16			08:21			08:51		
	21:34			20:22	38	07:43 (E7)	18:59	19	08:14 (E8)	16:43			15:47			15:44		
30	05:12			06:13			07:05 (E7)			07:18			08:22			08:51		
	21:32			20:19	38	07:43 (E7)	18:56	20	08:14 (E8)	16:40			15:46			15:45		
31	05:14			06:15			07:05 (E7)			07:20						08:51		
	21:30				37	07:42 (E7)				16:38						15:47		
Potential sun hours	529			469			385			324			247			216		
Total, worst case		284			588			388		126								
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		92			189			105		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E14)	06:33	05:19	04:30
	15:56	16:59	4 08:36 (E14)	20:06	21:08	22:00
8	08:48	08:01	08:30 (E14)	06:30	05:17	04:29
	15:58	17:01	7 08:37 (E14)	20:08	21:10	22:01
9	08:47	07:58	08:27 (E14)	06:28	05:15	04:29
	16:00	17:03	10 08:37 (E14)	20:10	21:12	22:02
10	08:46	07:56	08:25 (E14)	06:25	05:13	04:28
	16:01	17:06	13 08:38 (E14)	20:12	21:14	22:03
11	08:45	07:54	08:23 (E14)	06:22	05:11	04:27
	16:03	17:08	16 08:39 (E14)	20:14	21:16	22:04
12	08:44	07:52	08:21 (E14)	06:20	05:09	04:27
	16:05	17:10	17 08:38 (E14)	20:16	21:18	22:05
13	08:43	07:50	08:21 (E14)	06:17	05:07	04:27
	16:06	17:12	18 08:39 (E14)	20:18	21:20	22:06
14	08:42	07:47	08:21 (E14)	07:02 (E13)	06:15	05:05
	16:08	17:14	17 08:38 (E14)	2 07:04 (E13)	20:20	21:22
15	08:41	07:45	08:22 (E14)	07:00 (E13)	06:12	05:03
	16:10	17:17	15 08:37 (E14)	5 07:05 (E13)	20:22	21:24
16	08:40	07:43	08:24 (E14)	06:57 (E13)	06:09	05:01
	16:12	17:19	13 08:37 (E14)	8 07:05 (E13)	20:24	21:26
17	08:39	07:40	08:25 (E14)	06:54 (E13)	06:07	04:59
	16:14	17:21	9 08:34 (E14)	11 07:05 (E13)	20:26	21:27
18	08:38	07:38		06:52 (E13)	06:04	04:57
	16:16	17:23		14 07:06 (E13)	20:28	21:29
19	08:36	07:36		06:50 (E13)	06:02	04:55
	16:18	17:26		15 07:05 (E13)	20:31	21:31
20	08:35	07:33		06:50 (E13)	05:59	04:53
	16:20	17:28		13 07:03 (E13)	20:33	21:33
21	08:33	07:31		06:51 (E13)	05:57	04:52
	16:22	17:30		10 07:01 (E13)	20:35	21:35
22	08:32	07:28		06:54 (E13)	05:54	04:50
	16:24	17:32		5 06:59 (E13)	20:37	21:37
23	08:30	07:26			05:52	04:48
	16:26	17:35			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			05:45	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			05:40	04:41
	16:37	17:45			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		139	83			
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	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E14)
	22:09	21:28	20:14	18:54	16:36	13 08:08 (E14)
2	04:31	05:18	06:19	07:19	07:25	07:57 (E14)
	22:09	21:26	20:11	18:51	16:34	10 08:07 (E14)
3	04:32	05:20	06:21	07:21	07:27	08:00 (E14)
	22:08	21:24	20:09	18:48	16:32	7 08:07 (E14)
4	04:33	05:22	06:23	07:23	07:29	08:02 (E14)
	22:07	21:22	20:06	18:46	16:30	3 08:05 (E14)
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	07:57	08:03	08:48
	21:50	20:45	19:23	18:05	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	07:37 (E13)	08:07	08:49
	21:46	20:40	19:18	10 07:47 (E13)	15:56	15:40
23	04:59	05:59	07:01	07:35 (E13)	08:09	08:50
	21:45	20:37	19:15	13 07:48 (E13)	15:55	15:40
24	05:01	06:01	07:03	07:34 (E13)	08:05	08:50
	21:43	20:35	19:13	14 07:48 (E13)	17:55	3 09:01 (E14)
25	05:03	06:03	07:05	07:34 (E13)	07:07	08:13
	21:41	20:32	19:10	14 07:48 (E13)	16:52	10 08:04 (E14)
26	05:05	06:05	07:07	07:36 (E13)	07:10	08:15
	21:39	20:30	19:07	12 07:48 (E13)	16:50	13 08:06 (E14)
27	05:06	06:07	07:09	07:38 (E13)	07:12	08:17
	21:38	20:27	19:04	10 07:48 (E13)	16:48	15 08:07 (E14)
28	05:08	06:09	07:11	07:40 (E13)	07:14	08:19
	21:36	20:25	19:02	7 07:47 (E13)	16:45	16 08:07 (E14)
29	05:10	06:11	07:13	07:42 (E13)	07:16	08:21
	21:34	20:22	18:59	3 07:45 (E13)	16:43	17 08:08 (E14)
30	05:12	06:13	07:15	07:18	07:50 (E14)	08:23
	21:32	20:19	18:56	16:41	18 08:08 (E14)	15:46
31	05:14	06:15		07:20	07:53 (E14)	08:51
	21:30	20:17		16:38	15 08:08 (E14)	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			86	107	33	
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	17	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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 20:14	06:17 18:54	07:23 16:36	07:55 (E14) 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	07:57 (E14) 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	08:00 (E14) 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	08:02 (E14) 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	08:31 15:42
6	08:49 15:55	08:05 16:57	08:34 (E14) 1	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	08:32 15:41
7	08:48 15:56	08:03 16:59	08:32 (E14) 5	06:55 18:01	06:33 20:06	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:19	06:29 20:58	07:30 18:38	08:34 15:40
8	08:48 15:58	08:01 17:01	08:30 (E14) 8	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 20:56	07:32 18:35	08:35 15:40
9	08:47 16:00	07:58 17:03	08:27 (E14) 11	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 20:53	07:34 18:33	08:37 15:39
10	08:46 16:01	07:56 17:06	08:25 (E14) 14	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 20:50	07:36 18:30	08:38 15:39
11	08:45 16:03	07:54 17:08	08:23 (E14) 16	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 20:48	07:38 18:27	08:39 15:39
12	08:44 16:05	07:52 17:10	08:22 (E14) 17	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 20:45	07:40 18:25	08:41 15:38
13	08:43 16:06	07:50 17:12	08:23 (E14) 16	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 20:42	07:42 18:22	08:42 15:38
14	08:42 16:08	07:47 17:14	08:23 (E14) 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 20:39	07:44 18:20	08:43 15:38
15	08:41 16:10	07:45 17:17	08:24 (E14) 13	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 20:37	07:46 18:17	08:44 15:38
16	08:40 16:12	07:43 17:19	08:26 (E14) 10	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 20:34	07:48 18:15	08:45 15:38
17	08:39 16:14	07:40 17:21	08:28 (E14) 5	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 20:31	07:50 18:12	08:46 15:38
18	08:38 16:16	07:38 17:23	08:33 (E14)	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 20:29	07:53 18:09	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 20:26	07:55 18:07	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 20:23	07:57 18:05	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 20:21	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	04:26 22:10	04:58 21:46	05:57 20:40	06:59 20:18	08:01 18:00	08:49 15:40
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	04:59 21:45	05:59 20:37	07:01 20:15	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 22:11	05:01 21:43	06:01 20:35	07:03 20:13	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	04:27 22:11	05:03 21:41	06:03 20:32	07:05 20:10	08:08 (E14) 16:52	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 20:07	07:55 (E14) 16:50	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 20:04	07:53 (E14) 16:48	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 20:12	07:52 (E14) 16:45	08:51 15:44
29	08:20 16:39			06:57 19:47	05:37 20:51	04:40 21:48	05:10 22:10	06:11 20:22	07:13 20:13	07:16 20:08	08:21 17:52 (E14)	08:51 15:45
30	08:19 16:41			06:54 19:49	05:35 20:53	04:38 21:50	05:12 22:09	06:13 20:19	07:15 20:13	07:18 20:08	08:23 17:51 (E14)	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	07:16 20:17	07:21 20:16	08:24 18:09 (E14)	08:51 15:47
Potential sun hours	235	266		366	426	508	529	529	469	385	324	216
Total, worst case			131								97	
Sun reduction			0.20								0.26	
Oper. time red.			0.98								0.98	
Wind dir. red.			0.62								0.62	
Total reduction			0.12								0.16	
Total, real			16								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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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		09:59 (E13)	08:15		10:06 (E13)	07:11		06:49				05:33		06:00 (E7)	04:36		
	15:48	27	10:26 (E13)	16:45	33	10:39 (E13)	17:48		19:53				20:55	5	06:05 (E7)	21:53		
2	08:50		09:59 (E13)	08:13		10:07 (E13)	07:08		06:46				05:30		05:58 (E7)	04:35		
	15:49	28	10:27 (E13)	16:47	31	10:38 (E13)	17:50		19:55				20:57	9	06:07 (E7)	21:54		
3	08:50		09:59 (E13)	08:11		10:08 (E13)	07:06		06:43				05:28		05:56 (E7)	04:34		
	15:51	29	10:28 (E13)	16:50	29	10:37 (E13)	17:52		19:57				21:00	12	06:08 (E7)	21:55		
4	08:50		09:59 (E13)	08:09		10:10 (E13)	07:03		06:41				05:26		05:54 (E7)	04:33		
	15:52	29	10:28 (E13)	16:52	26	10:36 (E13)	17:54		19:59				21:02	15	06:09 (E7)	21:57		
5	08:49		09:59 (E13)	08:07		10:12 (E13)	07:00		06:38				05:23		05:52 (E7)	04:32		
	15:53	31	10:30 (E13)	16:54	23	10:35 (E13)	17:56		20:01				21:04	17	06:09 (E7)	21:58		
6	08:49		09:59 (E13)	08:05		10:14 (E13)	06:58		06:35				05:21		05:50 (E7)	04:31		
	15:55	32	10:31 (E13)	16:56	18	10:32 (E13)	17:58		20:03				21:06	19	06:09 (E7)	21:59		
7	08:48		09:59 (E13)	08:03		10:17 (E13)	06:55		06:33				05:19		05:50 (E7)	04:30		
	15:56	32	10:31 (E13)	16:59	12	10:29 (E13)	18:00		20:05				21:08	19	06:09 (E7)	22:00		
8	08:48		09:59 (E13)	08:01			06:53		06:30				05:17		05:50 (E7)	04:29		
	15:58	33	10:32 (E13)	17:01			18:03		20:08				21:10	19	06:09 (E7)	22:01		
9	08:47		09:59 (E13)	07:58			06:50		06:28				05:15		05:50 (E7)	04:29		
	15:59	34	10:33 (E13)	17:03			18:05		20:10				21:12	19	06:09 (E7)	22:02		
10	08:46		09:59 (E13)	07:56			06:47		06:25				05:13		05:50 (E7)	04:28		
	16:01	35	10:34 (E13)	17:05			18:07		20:12				21:14	19	06:09 (E7)	22:03		
11	08:45		09:59 (E13)	07:54			06:45		06:22				05:11		05:50 (E7)	04:27		
	16:03	36	10:35 (E13)	17:08			18:09		20:14				21:16	18	06:08 (E7)	22:04		
12	08:44		10:00 (E13)	07:52			06:42		06:20				05:08		05:51 (E7)	04:27		
	16:04	35	10:35 (E13)	17:10			18:11		20:16				21:18	16	06:07 (E7)	22:05		
13	08:43		09:59 (E13)	07:50			06:40		06:17				05:06		05:51 (E7)	04:26		
	16:06	36	10:35 (E13)	17:12			18:13		20:18				21:20	16	06:07 (E7)	22:06		
14	08:42		09:59 (E13)	07:47			06:37		06:14				05:04		05:53 (E7)	04:26		
	16:08	37	10:36 (E13)	17:14			18:15		20:20				21:22	13	06:06 (E7)	22:07		
15	08:41		09:59 (E13)	07:45			06:34		06:12				05:03		05:54 (E7)	04:26		
	16:10	37	10:36 (E13)	17:17			18:18		20:22				21:24	11	06:05 (E7)	22:07		
16	08:40		10:00 (E13)	07:43			06:32		06:09				05:01		05:55 (E7)	04:25		
	16:12	38	10:38 (E13)	17:19			18:20		20:24				21:25	8	06:03 (E7)	22:08		
17	08:39		10:00 (E13)	07:40			06:29		06:07				04:59			04:25		
	16:14	39	10:39 (E13)	17:21			18:22		20:26				21:27			22:08		
18	08:37		10:00 (E13)	07:38			06:26		06:04				04:57			04:25		
	16:16	39	10:39 (E13)	17:23			18:24		20:28				21:29			22:09		
19	08:36		10:00 (E13)	07:36			06:24		06:02				04:55			04:25		
	16:18	39	10:39 (E13)	17:26			18:26		20:30				21:31			22:09		
20	08:35		10:01 (E13)	07:33			06:21		05:59				04:53			04:25		
	16:20	39	10:40 (E13)	17:28			18:28		20:33				21:33			22:10		
21	08:33		10:00 (E13)	07:31			06:18		05:57				04:52			04:25		
	16:22	40	10:40 (E13)	17:30			18:30		20:35				21:35			22:10		
22	08:32		10:01 (E13)	07:28			06:16		05:54				04:50			04:25		
	16:24	39	10:40 (E13)	17:32			18:32		20:37				21:37			22:10		
23	08:30		10:01 (E13)	07:26			06:13		05:52				04:48			04:26		
	16:26	39	10:40 (E13)	17:34			18:34		20:39				21:38			22:10		
24	08:29		10:02 (E13)	07:23			06:10		05:49				04:47			04:26		
	16:28	39	10:41 (E13)	17:37			18:36		20:41				21:40			22:10		
25	08:27		10:02 (E13)	07:21			06:07		05:47				04:45			04:26		
	16:30	39	10:41 (E13)	17:39			18:38		20:43				21:42			22:10		
26	08:26		10:02 (E13)	07:18			06:05		05:44				04:44			04:27		
	16:32	39	10:41 (E13)	17:41			18:41		20:45				21:43			22:10		
27	08:24		10:03 (E13)	07:16			06:02		05:42				04:42			04:27		
	16:34	38	10:41 (E13)	17:43			18:43		20:47				21:45			22:10		
28	08:22		10:04 (E13)	07:13			05:59		05:40				04:41			04:28		
	16:36	37	10:41 (E13)	17:45			18:45		20:49				21:47			22:10		
29	08:20		10:04 (E13)				06:57		05:37				04:40			04:29		
	16:39	37	10:41 (E13)				19:47		20:51				21:48			22:10		
30	08:18		10:05 (E13)				06:54		05:35				04:38			04:29		
	16:41	35	10:40 (E13)				19:49		20:53	1	06:02 (E7)	06:03 (E7)	21:50			22:09		
31	08:17		10:06 (E13)				06:51						04:37					
	16:43	34	10:40 (E13)				19:51						21:51					
Potential sun hours	235			266			366		426				508			529		
Total, worst case		1101			172				1				235					
Sun reduction		0.13			0.20				0.50				0.57					
Oper. time red.		0.98			0.98				0.98				0.98					
Wind dir. red.		0.61			0.61				0.67				0.67					
Total reduction		0.08			0.12				0.33				0.37					
Total, real		88			21				0				87					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	06:01 (E7)	06:17	07:17	07:23				08:24	09:42 (E13)
	22:09	21:28	17 06:18 (E7)	20:14	18:54	16:36				15:45	35 10:17 (E13)
2	04:31	05:18	06:00 (E7)	06:19	07:19	07:25				08:26	09:42 (E13)
	22:09	21:26	19 06:19 (E7)	20:11	18:51	16:34				15:44	35 10:17 (E13)
3	04:32	05:19	06:00 (E7)	06:21	07:21	07:27				08:28	09:42 (E13)
	22:08	21:24	19 06:19 (E7)	20:09	18:48	16:32				15:43	34 10:16 (E13)
4	04:33	05:21	06:00 (E7)	06:23	07:23	07:29	09:46 (E13)			08:29	09:43 (E13)
	22:07	21:22	19 06:19 (E7)	20:06	18:46	16:29	13 09:59 (E13)			15:42	33 10:16 (E13)
5	04:34	05:23	05:59 (E7)	06:25	07:25	07:31	09:43 (E13)			08:31	09:44 (E13)
	22:07	21:20	20 06:19 (E7)	20:03	18:43	16:27	19 10:02 (E13)			15:42	32 10:16 (E13)
6	04:35	05:25	05:59 (E7)	06:27	07:27	07:33	09:42 (E13)			08:32	09:45 (E13)
	22:06	21:17	20 06:19 (E7)	20:01	18:40	16:25	23 10:05 (E13)			15:41	32 10:17 (E13)
7	04:36	05:27	06:00 (E7)	06:29	07:30	07:36	09:40 (E13)			08:34	09:45 (E13)
	22:05	21:15	19 06:19 (E7)	19:58	18:38	16:23	26 10:06 (E13)			15:40	31 10:16 (E13)
8	04:37	05:29	06:02 (E7)	06:31	07:32	07:38	09:39 (E13)			08:35	09:47 (E13)
	22:04	21:13	16 06:18 (E7)	19:55	18:35	16:21	29 10:08 (E13)			15:40	29 10:16 (E13)
9	04:38	05:31	06:04 (E7)	06:33	07:34	07:40	09:38 (E13)			08:37	09:47 (E13)
	22:03	21:11	14 06:18 (E7)	19:53	18:32	16:19	31 10:09 (E13)			15:39	29 10:16 (E13)
10	04:39	05:33	06:06 (E7)	06:35	07:36	07:42	09:38 (E13)			08:38	09:48 (E13)
	22:02	21:08	11 06:17 (E7)	19:50	18:30	16:17	32 10:10 (E13)			15:39	29 10:17 (E13)
11	04:41	05:35	06:07 (E7)	06:37	07:38	07:44	09:37 (E13)			08:39	09:49 (E13)
	22:01	21:06	8 06:15 (E7)	19:47	18:27	16:15	34 10:11 (E13)			15:38	27 10:16 (E13)
12	04:42	05:37	06:09 (E7)	06:39	07:40	07:46	09:36 (E13)			08:40	09:50 (E13)
	22:00	21:04	4 06:13 (E7)	19:45	18:25	16:13	35 10:11 (E13)			15:38	27 10:17 (E13)
13	04:43	05:39		06:41	07:42	07:49	09:36 (E13)			08:42	09:51 (E13)
	21:59	21:02		19:42	18:22	16:11	37 10:13 (E13)			15:38	26 10:17 (E13)
14	04:45	05:41		06:43	07:44	07:51	09:35 (E13)			08:43	09:51 (E13)
	21:58	20:59		19:39	18:19	16:09	38 10:13 (E13)			15:38	26 10:17 (E13)
15	04:46	05:43		06:45	07:46	07:53	09:35 (E13)			08:44	09:52 (E13)
	21:57	20:57		19:37	18:17	16:08	38 10:13 (E13)			15:38	25 10:17 (E13)
16	04:48	05:45		06:47	07:48	07:55	09:35 (E13)			08:45	09:53 (E13)
	21:55	20:54		19:34	18:14	16:06	39 10:14 (E13)			15:38	24 10:17 (E13)
17	04:49	05:47		06:49	07:50	07:57	09:35 (E13)			08:46	09:54 (E13)
	21:54	20:52		19:31	18:12	16:04	39 10:14 (E13)			15:38	23 10:17 (E13)
18	04:51	05:49		06:51	07:52	07:59	09:36 (E13)			08:46	09:54 (E13)
	21:52	20:50		19:29	18:09	16:02	39 10:15 (E13)			15:38	24 10:18 (E13)
19	04:52	05:51		06:53	07:55	08:01	09:36 (E13)			08:47	09:54 (E13)
	21:51	20:47		19:26	18:07	16:01	39 10:15 (E13)			15:38	23 10:17 (E13)
20	04:54	05:53		06:55	07:57	08:03	09:36 (E13)			08:48	09:55 (E13)
	21:49	20:45		19:23	18:04	15:59	39 10:15 (E13)			15:39	23 10:18 (E13)
21	04:56	05:55		06:57	07:59	08:05	09:36 (E13)			08:48	09:56 (E13)
	21:48	20:42		19:20	18:02	15:58	39 10:15 (E13)			15:39	23 10:19 (E13)
22	04:57	05:57		06:59	08:01	08:07	09:37 (E13)			08:49	09:56 (E13)
	21:46	20:40		19:18	17:59	15:56	39 10:16 (E13)			15:39	23 10:19 (E13)
23	04:59	05:59		07:01	08:03	08:09	09:37 (E13)			08:50	09:57 (E13)
	21:45	20:37		19:15	17:57	15:55	39 10:16 (E13)			15:40	23 10:20 (E13)
24	05:01	06:01		07:03	08:05	08:11	09:37 (E13)			08:50	09:57 (E13)
	21:43	20:35		19:12	17:55	15:53	39 10:16 (E13)			15:41	23 10:20 (E13)
25	05:03	06:03		07:05	07:07	08:13	09:37 (E13)			08:50	09:57 (E13)
	21:41	20:32		19:10	16:52	15:52	39 10:16 (E13)			15:41	24 10:21 (E13)
26	05:04	06:05		07:07	07:10	08:15	09:38 (E13)			08:51	09:58 (E13)
	21:39	20:30		19:07	16:50	15:51	38 10:16 (E13)			15:42	23 10:21 (E13)
27	05:06	06:07 (E7)	06:07	07:09	07:12	08:17	09:39 (E13)			08:51	09:58 (E13)
	21:38	5 06:12 (E7)	20:27	19:04	16:47	15:49	38 10:17 (E13)			15:43	24 10:22 (E13)
28	05:08	06:04 (E7)	06:09	07:11	07:14	08:19	09:40 (E13)			08:51	09:58 (E13)
	21:36	10 06:14 (E7)	20:24	19:02	16:45	15:48	37 10:17 (E13)			15:44	25 10:23 (E13)
29	05:10	06:03 (E7)	06:11	07:13	07:16	08:21	09:40 (E13)			08:51	09:58 (E13)
	21:34	13 06:16 (E7)	20:22	18:59	16:43	15:47	37 10:17 (E13)			15:45	26 10:24 (E13)
30	05:12	06:03 (E7)	06:13	07:15	07:18	08:22	09:41 (E13)			08:51	09:59 (E13)
	21:32	14 06:17 (E7)	20:19	18:56	16:40	15:46	36 10:17 (E13)			15:46	25 10:24 (E13)
31	05:14	06:02 (E7)	06:15		07:20					08:51	09:59 (E13)
	21:30	16 06:18 (E7)	20:17		16:38					15:47	27 10:26 (E13)
Potential sun hours	529		469		385	324	247			216	
Total, worst case		58		186			931			833	
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		0.32		0.33			0.05			0.04	
Total, real		19		61			46			35	

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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Elks 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
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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
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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			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:

25/06/2024 23:53/4.0.540

## 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
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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	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	08:34 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	07:08 16:52	08:13 15:52	08:50 15:41
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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 17:46	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 20:54	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:

25/06/2024 23:53/4.0.540

## 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
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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
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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
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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
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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
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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
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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:

25/06/2024 23:53/4.0.540

## 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	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	07:06 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	05:21 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 21:58	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	08:34 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	06:27 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
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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:

25/06/2024 23:53/4.0.540

## 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
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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:

25/06/2024 23:53/4.0.540

## 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
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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:

25/06/2024 23:53/4.0.540

## 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		10:16 (E7)	08:15		08:45 (E6)	07:11			06:49	05:32	04:36
	15:48	19	10:35 (E7)	16:45	9	08:54 (E6)	17:47			19:53	20:55	21:53
2	08:51		10:17 (E7)	08:13		08:43 (E6)	07:08			06:46	05:30	04:34
	15:49	19	10:36 (E7)	16:47	12	08:55 (E6)	17:50			19:55	20:57	21:54
3	08:50		10:17 (E7)	08:11		08:41 (E6)	07:06		07:33 (E5)	06:43	05:28	04:33
	15:50	19	10:36 (E7)	16:50	15	08:56 (E6)	17:52	12	07:45 (E5)	19:57	21:00	21:55
4	08:50		10:18 (E7)	08:09		08:39 (E6)	07:03		07:30 (E5)	06:41	05:25	04:32
	15:52	17	10:35 (E7)	16:52	17	08:56 (E6)	17:54	17	07:47 (E5)	19:59	21:02	21:57
5	08:49		10:19 (E7)	08:07		08:40 (E6)	07:00		07:28 (E5)	06:38	05:23	04:31
	15:53	17	10:36 (E7)	16:54	16	08:56 (E6)	17:56	20	07:48 (E5)	20:01	21:04	21:58
6	08:49		10:20 (E7)	08:05		08:39 (E6)	06:58		07:27 (E5)	06:35	05:21	04:31
	15:55	16	10:36 (E7)	16:56	16	08:55 (E6)	17:58	23	07:50 (E5)	20:03	21:06	21:59
7	08:48		10:21 (E7)	08:03		08:40 (E6)	06:55		07:26 (E5)	06:33	05:19	04:30
	15:56	14	10:35 (E7)	16:58	15	08:55 (E6)	18:00	24	07:50 (E5)	20:05	21:08	22:00
8	08:48		10:23 (E7)	08:01		08:42 (E6)	06:53		07:25 (E5)	06:30	05:17	04:29
	15:58	11	10:34 (E7)	17:01	13	08:55 (E6)	18:03	26	07:51 (E5)	20:08	21:10	22:01
9	08:47		10:24 (E7)	07:58		08:42 (E6)	06:50		07:25 (E5)	06:27	05:15	04:28
	15:59	10	10:34 (E7)	17:03	11	08:53 (E6)	18:05	26	07:51 (E5)	20:10	21:12	22:02
10	08:46		10:27 (E7)	07:56		08:45 (E6)	06:47		07:24 (E5)	06:25	05:12	04:28
	16:01	5	10:32 (E7)	17:05	6	08:51 (E6)	18:07	27	07:51 (E5)	20:12	21:14	22:03
11	08:45			07:54		06:45			07:23 (E5)	06:22	05:10	04:27
	16:03			17:07		18:09	28	07:51 (E5)	20:14	21:16	22:04	
12	08:44			07:52		06:42			07:24 (E5)	06:20	05:08	04:27
	16:04			17:10		18:11	27	07:51 (E5)	20:16	21:18	22:05	
13	08:43			07:49		06:39			07:24 (E5)	06:17	05:06	04:26
	16:06			17:12		18:13	26	07:50 (E5)	20:18	21:20	22:06	
14	08:42			07:47		06:37			07:24 (E5)	06:14	05:04	04:26
	16:08			17:14		18:15	25	07:49 (E5)	20:20	21:22	22:07	
15	08:41			07:45		06:34			07:24 (E5)	06:12	05:02	04:25
	16:10			17:16		18:17	24	07:48 (E5)	20:22	21:24	22:07	
16	08:40			07:43		06:31			07:25 (E5)	06:09	05:00	04:25
	16:12			17:19		18:20	22	07:47 (E5)	20:24	21:26	22:08	
17	08:39			07:40		06:29			07:26 (E5)	06:07	04:59	04:25
	16:14			17:21		18:22	19	07:45 (E5)	20:26	21:27	22:09	
18	08:38			07:38		06:26			07:27 (E5)	06:04	04:57	04:25
	16:15			17:23		18:24	15	07:42 (E5)	20:28	21:29	22:09	
19	08:36			07:35		06:23			07:31 (E5)	06:02	04:55	04:25
	16:17			17:25		18:26	8	07:39 (E5)	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		08:50 (E6)			06:54			05:35	04:38	04:29	
	16:41	3	08:53 (E6)			19:49			20:53	21:50	22:09	
31	08:17		08:48 (E6)			06:51				04:37		
	16:43	7	08:55 (E6)			19:51				21:51		
Potential sun hours	235			266			366			426		
Total, worst case	157			130			369			508		
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	13			16			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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E5)	07:23
	22:09	21:28	20:14	18:54	27 08:30 (E5)	16:36
2	04:31	05:17	06:19	07:19	08:02 (E5)	07:25
	22:09	21:26	20:11	18:51	28 08:30 (E5)	16:34
3	04:31	05:19	06:21	07:21	08:02 (E5)	07:27
	22:08	21:24	20:09	18:48	27 08:29 (E5)	16:31
4	04:32	05:21	06:23	07:23	08:02 (E5)	07:29
	22:07	21:22	20:06	18:46	27 08:29 (E5)	16:29
5	04:33	05:23	06:25	07:25	08:02 (E5)	07:31
	22:07	21:20	20:03	18:43	26 08:28 (E5)	16:27
6	04:34	05:25	06:27	07:27	08:02 (E5)	07:33
	22:06	21:17	20:01	18:40	25 08:27 (E5)	16:25
7	04:36	05:27	06:29	07:29	08:02 (E5)	07:36
	22:05	21:15	19:58	18:38	24 08:26 (E5)	16:23
8	04:37	05:29	06:31	07:32	08:03 (E5)	07:38
	22:04	21:13	19:55	18:35	21 08:24 (E5)	16:21
9	04:38	05:31	06:33	07:34	08:05 (E5)	07:40
	22:03	21:11	19:53	18:32	19 08:24 (E5)	16:19
10	04:39	05:33	06:35	07:36	08:06 (E5)	07:42
	22:02	21:08	19:50	18:30	15 08:21 (E5)	16:17
11	04:40	05:35	06:37	07:38	08:09 (E5)	07:44
	22:01	21:06	19:47	18:27	9 08:18 (E5)	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	18:19		16:09
15	04:46	05:43	06:45	07:46		07:53
	21:57	20:57	19:37	18:17		16:07
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
	21:53	20:50	19:29	18:09		16:02
19	04:52	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
	21:50	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		15:57
22	04:57	05:57	06:59	08:01		08:07
	21:46	20:40	19:18	17:59		15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	19:15	17:57		15:54
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	19:12	17:54		15:53
25	05:02	06:03	07:05	08:07		08:13
	21:41	20:32	19:10	17:52		15:52
26	05:04	06:05	07:07	08:08		08:15
	21:39	20:30	19:07	17:50		15:50
27	05:06	06:07	07:09	08:07		08:17
	21:38	20:27	19:04	17:47		15:49
28	05:08	06:09	07:11	08:06		08:19
	21:36	20:24	19:02	17:45		15:48
29	05:10	06:11	07:13	08:05		08:21
	21:34	20:22	18:59	17:43		15:47
30	05:12	06:13	07:15	08:04		08:22
	21:32	20:19	18:56	17:40		15:46
31	05:14	06:15		07:20		08:51
	21:30	20:17		16:38		15:46
Potential sun hours	529	469	385	324	247	216
Total, worst case			130	248	142	575
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	39	7	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E7)	06:49	05:32
	15:48	16:45	17:47	17:54 (E7)	19:53	20:55
2	08:51	08:13	07:08	07:34 (E7)	06:46	05:30
	15:49	16:47	17:50	07:54 (E7)	19:55	20:58
3	08:50	08:11	07:06	07:34 (E7)	06:43	05:28
	15:51	16:50	17:52	07:56 (E7)	19:57	21:00
4	08:50	08:09	07:03	07:33 (E7)	06:41	05:26
	15:52	16:52	17:54	07:55 (E7)	19:59	21:02
5	08:49	08:07	07:00	07:32 (E7)	06:38	05:23
	15:53	16:54	17:56	07:55 (E7)	20:01	21:04
6	08:49	08:05	06:58	07:32 (E7)	06:35	05:21
	15:55	16:56	17:58	07:56 (E7)	20:03	21:06
7	08:48	08:03	06:55	07:32 (E7)	06:33	05:19
	15:56	16:59	18:00	07:55 (E7)	20:05	21:08
8	08:48	08:01	06:53	07:32 (E7)	06:30	05:17
	15:58	17:01	18:03	07:54 (E7)	20:08	21:10
9	08:47	07:58	06:50	07:33 (E7)	06:27	05:15
	15:59	17:03	18:05	07:54 (E7)	20:10	21:12
10	08:46	07:56	06:47	07:33 (E7)	06:25	05:13
	16:01	17:05	18:07	07:52 (E7)	20:12	21:14
11	08:45	07:54	06:45	07:34 (E7)	06:22	05:10
	16:03	17:08	18:09	07:50 (E7)	20:14	21:16
12	08:44	07:52	06:42	07:36 (E7)	06:20	05:08
	16:04	17:10	18:11	07:49 (E7)	20:16	21:18
13	08:43	07:50	06:40	07:40 (E7)	06:17	05:06
	16:06	17:12	18:13	07:44 (E7)	20:18	21:20
14	08:42	07:47	06:37	06:14	05:04	04:26
	16:08	17:14	18:15	20:20	21:22	22:07
15	08:41	07:45	06:34	06:12	06:38 (E5)	05:02
	16:10	17:17	18:17	20:22	06:39 (E5)	21:24
16	08:40	07:43	06:32	06:09	06:35 (E5)	05:01
	16:12	17:19	18:20	20:24	06:40 (E5)	21:26
17	08:39	07:40	06:29	06:07	06:33 (E5)	04:59
	16:14	17:21	18:22	20:26	06:42 (E5)	21:27
18	08:38	07:38	06:26	06:04	06:30 (E5)	04:57
	16:16	17:23	18:24	20:28	06:42 (E5)	21:29
19	08:36	07:36	06:24	06:02	06:28 (E5)	04:55
	16:18	17:25	18:26	20:30	06:42 (E5)	21:31
20	08:35	07:33	06:21	05:59	06:25 (E5)	04:53
	16:20	17:28	18:28	20:33	06:42 (E5)	21:33
21	08:33	07:31	06:18	05:57	06:24 (E5)	04:52
	16:22	17:30	18:30	20:35	06:42 (E5)	21:35
22	08:32	07:28	06:15	05:54	06:25 (E5)	04:50
	16:24	17:32	18:32	20:37	06:42 (E5)	21:37
23	08:30	07:26	06:13	05:52	06:24 (E5)	04:48
	16:26	17:34	18:34	20:39	06:40 (E5)	21:38
24	08:29	07:23	06:10	05:49	06:25 (E5)	04:47
	16:28	17:37	18:36	20:41	06:39 (E5)	21:40
25	08:27	07:21	06:07	05:47	06:27 (E5)	04:45
	16:30	17:39	18:38	20:43	06:38 (E5)	21:42
26	08:26	07:18	06:05	05:44	06:28 (E5)	04:44
	16:32	17:41	18:41	20:45	06:35 (E5)	21:43
27	08:24	07:16	07:42 (E7)	06:02	05:42	04:42
	16:34	17:43	07:50 (E7)	18:43	20:47	21:45
28	08:22	07:13	07:40 (E7)	05:59	05:39	04:41
	16:36	17:45	07:53 (E7)	18:45	20:49	21:47
29	08:20		06:57	05:37	04:39	04:28
	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		06:51		04:37	
	16:43		19:51		21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		21	246	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	62	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:16 (E7) 16:36 (E7)	08:24 15:45
2	04:31 22:09	05:17 21:26	06:19 20:11	07:19 18:51	08:14 (E7) 16:34 (E7)	08:26 15:44
3	04:32 22:08	05:19 21:24	06:21 20:09	07:21 18:48	08:12 (E7) 16:31 (E7)	08:28 15:43
4	04:32 22:07	05:21 21:22	06:23 20:06	07:23 18:46	08:10 (E7) 16:29 (E7)	08:29 15:42
5	04:33 22:07	05:23 21:20	06:25 20:03	07:25 18:43	08:09 (E7) 16:27 (E7)	08:31 15:41
6	04:35 22:06	05:25 21:17	06:27 20:01	07:27 18:40	08:08 (E7) 16:25 (E7)	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:07 (E7) 16:23 (E7)	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:32 18:35	08:07 (E7) 16:21 (E7)	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:32	08:08 (E7) 16:19 (E7)	08:37 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:08 (E7) 16:17 (E7)	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	08:08 (E7) 16:15 (E7)	08:39 15:38
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:09 (E7) 16:13 (E7)	08:40 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:11 (E7) 16:11 (E7)	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:19	08:13 (E7) 16:09 (E7)	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:16 (E7) 16:07 (E7)	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	08:22 (E7) 16:05 (E7)	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:24 (E7) 16:04 (E7)	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:52 18:09	08:26 (E7) 16:02 (E7)	08:46 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:28 (E7) 16:01 (E7)	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:30 (E7) 15:59 (E7)	08:48 15:38
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:32 (E7) 15:58 (E7)	08:49 15:39
22	04:57 21:46	05:57 20:40	06:59 19:18	08:01 17:59	08:34 (E7) 15:56 (E7)	08:49 15:39
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:36 (E7) 15:55 (E7)	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:38 (E7) 15:53 (E7)	08:50 15:40
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:40 (E7) 15:52 (E7)	08:50 15:41
26	05:04 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:42 (E7) 15:51 (E7)	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 16:47	08:44 (E7) 15:49 (E7)	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 16:45	08:46 (E7) 15:48 (E7)	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 16:43	08:48 (E7) 15:47 (E7)	08:51 15:44
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 16:40	08:50 (E7) 15:46 (E7)	08:51 15:45
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		140		274		
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		43		

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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	08:34 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	04:49 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	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	07:08 16:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:19 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	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	04:28 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 20:54	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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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)

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Anna / anna@environment.lv  
Calculated:  
25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Guž ani - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (40)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

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

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	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	08:03 (E13) 15:45
2	08:51 15:49	08:13 16:48	08:43 (E13) 17:50	07:08 19:55	06:46 20:58	05:30 21:54	04:35 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:02 (E13) 15:44
3	08:50 15:51	08:11 16:50	08:41 (E13) 17:52	07:06 19:57	06:43 21:00	05:28 21:55	04:34 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:02 (E13) 15:43
4	08:50 15:52	08:09 16:52	08:39 (E13) 17:54	07:03 19:59	06:41 21:02	05:26 21:57	04:33 22:08	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:02 (E13) 15:42
5	08:49 15:53	08:07 16:54	08:37 (E13) 17:56	07:01 19:59	06:38 21:04	05:23 21:58	04:32 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:05 (E13) 15:42
6	08:49 15:55	08:05 16:56	08:34 (E13) 17:58	06:58 20:03	06:36 21:06	05:21 21:59	04:31 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:07 (E13) 15:41
7	08:48 15:56	08:03 16:59	08:32 (E13) 18:01	06:55 20:06	06:33 21:08	05:19 22:00	04:30 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:09 (E13) 15:40
8	08:48 15:58	08:01 17:01	08:32 (E13) 18:03	06:53 20:08	06:30 21:10	05:17 22:01	04:29 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:12 (E13) 15:40
9	08:47 15:59	07:58 17:03	08:32 (E13) 18:05	06:50 20:10	06:28 21:12	05:15 22:02	04:28 22:04	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:14 (E13) 15:39
10	08:46 16:01	07:56 17:05	08:47 (E13) 18:07	06:48 20:12	06:25 21:14	05:13 22:03	04:28 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:15 (E13) 15:39
11	08:45 16:03	07:54 17:08	08:35 (E13) 18:09	06:45 20:14	06:22 21:16	05:11 22:04	04:27 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:17 (E13) 15:39
12	08:44 16:05	07:52 17:10	08:47 (E13) 18:11	06:42 20:16	06:20 21:18	05:09 22:05	04:27 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:18 (E13) 15:38
13	08:43 16:06	07:50 17:12	08:39 (E13) 18:13	06:40 20:18	06:17 21:20	05:07 22:06	04:26 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:19 (E13) 15:38
14	08:42 16:08	07:47 17:14	08:42 (E13) 18:15	06:37 20:20	06:15 21:22	05:05 22:07	04:26 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:20 (E13) 15:38
15	08:41 16:10	07:45 17:17	08:33 (E13) 18:18	06:34 20:22	06:12 21:24	05:03 22:07	04:26 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:21 (E13) 15:38
16	08:40 16:12	07:43 17:19	08:32 (E13) 18:20	06:32 20:24	06:09 21:26	05:01 22:08	04:25 21:55	05:45 20:55	06:47 19:34	07:48 18:14	07:55 16:06	08:22 (E13) 15:38
17	08:39 16:14	07:40 17:21	08:29 (E13) 18:22	06:29 20:26	06:07 21:28	04:59 22:09	04:25 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:23 (E13) 15:38
18	08:38 16:16	07:38 17:23	08:28 (E13) 18:24	06:26 20:28	06:04 21:29	04:57 22:09	04:25 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	08:24 (E13) 15:38
19	08:36 16:18	07:36 17:26	08:26 (E13) 18:26	06:24 20:31	06:02 21:31	04:55 22:10	04:25 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:25 (E13) 15:38
20	08:35 16:20	07:33 17:28	08:25 (E13) 18:28	06:21 20:33	05:59 21:33	04:53 22:10	04:25 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:26 (E13) 15:39
21	08:33 16:22	07:31 17:30	08:23 (E13) 18:30	06:18 20:35	05:57 21:35	04:52 22:10	04:25 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:27 (E13) 15:39
22	08:32 16:24	07:28 17:32	08:22 (E13) 18:32	06:16 20:37	05:54 21:37	04:50 22:10	04:26 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:28 (E13) 15:39
23	08:30 16:26	07:26 17:34	08:20 (E13) 18:34	06:13 20:39	05:52 21:38	04:48 22:10	04:26 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:29 (E13) 15:40
24	08:29 16:28	07:23 17:37	08:19 (E13) 18:36	06:10 20:41	05:49 21:40	04:47 22:11	04:26 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:30 (E13) 15:41
25	08:27 16:30	07:21 17:39	08:17 (E13) 18:39	06:08 20:43	05:47 21:42	04:45 22:11	04:26 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:31 (E13) 15:41
26	08:26 16:32	07:18 17:41	08:16 (E13) 18:41	06:05 20:45	05:44 21:43	04:44 22:10	04:27 21:39	06:05 20:30	07:07 19:07	08:09 16:50	08:15 15:51	08:32 (E13) 15:42
27	08:24 16:34	07:16 17:43	08:14 (E13) 18:43	06:02 20:47	05:42 21:45	04:42 22:10	04:27 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17 15:49	08:33 (E13) 15:43
28	08:22 16:37	07:13 17:45	08:12 (E13) 18:45	06:00 20:49	05:40 21:47	04:41 22:10	04:28 21:36	06:09 20:24	07:11 19:02	08:14 16:45	08:19 15:48	08:34 (E13) 15:44
29	08:20 16:39	07:11 17:51	08:10 (E13) 18:47	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 16:43	08:21 15:47	08:35 (E13) 15:45
30	08:19 16:41	07:03 17:59	08:09 (E13) 18:54	06:54 20:53	05:35 21:50	04:38 22:10	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41	08:23 15:46	08:36 (E13) 15:46
31	08:17 16:43	07:01 18:01	08:07 (E13) 18:59	06:51 21:51	05:37 21:51	04:37 22:10	05:14 21:30	06:15 20:17	07:20 16:38	08:19 16:13	08:24 15:47	08:37 (E13) 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		125								27	98	
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		15								4	5	

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:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	07:58 (E14)	06:49	05:33
	15:48	16:45	17:48	26 08:24 (E14)	19:53	20:55
2	08:50	08:13	07:08	07:58 (E14)	06:46	05:30
	15:50	16:48	17:50	25 08:23 (E14)	19:55	20:58
3	08:50	08:11	07:06	07:59 (E14)	06:43	05:28
	15:51	16:50	17:52	24 08:23 (E14)	19:57	21:00
4	08:50	08:09	07:03	08:00 (E14)	06:41	05:26
	15:52	16:52	17:54	21 08:21 (E14)	19:59	21:02
5	08:49	08:07	07:01	08:01 (E14)	06:38	05:24
	15:54	16:54	17:56	17 08:18 (E14)	20:01	21:04
6	08:49	08:05	06:58	08:04 (E14)	06:36	05:21
	15:55	16:56	17:58	12 08:16 (E14)	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	18:15		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	08:10 (E14)	06:32	06:09	05:01
	16:12	17:19	5 08:15 (E14)	18:20	20:24	21:26
17	08:39	07:40	08:08 (E14)	06:29	06:07	04:59
	16:14	17:21	11 08:19 (E14)	18:22	20:26	21:27
18	08:38	07:38	08:05 (E14)	06:26	06:04	04:57
	16:16	17:23	16 08:21 (E14)	18:24	20:28	21:29
19	08:36	07:36	08:03 (E14)	06:24	06:02	04:55
	16:18	17:26	20 08:23 (E14)	18:26	20:31	21:31
20	08:35	07:33	08:00 (E14)	06:21	05:59	04:53
	16:20	17:28	24 08:24 (E14)	18:28	20:33	21:33
21	08:33	07:31	07:58 (E15)	06:18	05:57	04:52
	16:22	17:30	27 08:25 (E14)	18:30	20:35	21:35
22	08:32	07:28	07:55 (E15)	06:16	05:54	04:50
	16:24	17:32	30 08:25 (E14)	18:32	20:37	21:37
23	08:30	07:26	07:53 (E15)	06:13	05:52	04:48
	16:26	17:34	33 08:26 (E14)	18:34	20:39	21:38
24	08:29	07:23	07:53 (E15)	06:10	05:49	04:47
	16:28	17:37	33 08:26 (E14)	18:36	20:41	21:40
25	08:27	07:21	07:54 (E15)	06:08	05:47	04:45
	16:30	17:39	33 08:27 (E14)	18:39	20:43	21:42
26	08:26	07:18	07:55 (E15)	06:05	05:44	04:44
	16:32	17:41	31 08:26 (E14)	18:41	20:45	21:43
27	08:24	07:16	07:56 (E15)	06:02	05:42	04:42
	16:34	17:43	29 08:25 (E14)	18:43	20:47	21:45
28	08:22	07:13	07:58 (E14)	06:00	05:40	04:41
	16:37	17:45	27 08:25 (E14)	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		319	125	216		
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		39	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E13) 07:07 (E13)	07:17 18:54	07:23 16:36
2	04:31 22:09	05:18 21:26	06:19 20:11	06:49 (E13) 07:06 (E13)	07:19 18:51	07:25 16:34
3	04:32 22:08	05:20 21:24	06:21 20:09	06:51 (E13) 07:05 (E13)	07:21 18:48	07:27 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	06:53 (E13) 07:04 (E13)	07:23 18:46	07:29 16:30
5	04:34 22:07	05:23 21:20	06:25 20:04	06:55 (E13) 07:02 (E13)	07:25 18:43	07:31 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	06:57 (E13) 07:00 (E13)	07:28 18:40	07:33 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:42 (E14) 08:49 (E14)	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:38 (E14) 08:52 (E14)	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:36 (E14) 08:55 (E14)	07:40 16:19
10	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:34 (E14) 08:56 (E14)	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	08:33 (E14) 08:57 (E14)	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:31 (E14) 08:57 (E14)	07:46 16:13
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:30 (E14) 08:58 (E14)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:30 (E14) 08:58 (E14)	07:51 16:10
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:28 (E15) 08:58 (E14)	07:53 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	08:26 (E15) 08:58 (E14)	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:25 (E15) 08:58 (E14)	07:57 16:04
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	08:24 (E15) 08:57 (E14)	07:59 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:25 (E15) 08:57 (E14)	08:01 16:01
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:27 (E15) 08:56 (E14)	08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:29 (E15) 08:55 (E14)	08:05 15:58
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:31 (E14) 08:54 (E14)	08:07 15:56
23	04:59 21:45	05:59 20:37	06:57 (E13) 07:00 (E13)	08:03 17:57	08:34 (E14) 08:53 (E14)	08:09 15:55
24	05:01 21:43	06:01 20:35	06:53 (E13) 07:04 (E13)	08:05 17:55	08:36 (E14) 08:51 (E14)	08:11 15:53
25	05:03 21:41	06:03 20:32	06:51 (E13) 07:06 (E13)	08:07 16:52	08:38 (E14) 07:48 (E14)	08:13 15:52
26	05:05 21:39	06:05 20:30	06:50 (E13) 07:07 (E13)	08:10 16:50	08:42 (E14) 07:43 (E14)	08:15 15:51
27	05:06 21:38	06:07 20:27	06:49 (E13) 07:08 (E13)	08:12 16:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	06:47 (E13) 07:07 (E13)	08:14 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	06:46 (E13) 07:07 (E13)	08:16 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	06:46 (E13) 07:07 (E13)	08:18 16:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	06:46 (E13) 07:07 (E13)	08:20 16:38	08:51 15:47	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		148	72	451		
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	0.28	0.16		
Total, real		47	20	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 15:48	08:15 16:45	07:11 17:48	07:51 (E13) 8 07:59 (E13)	06:49 19:53	05:33 20:56
2	08:51 15:49	08:13 16:48	07:08 17:50	06:46 19:55	20:56 20:58	21:53 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	09:23 (E14) 09:25 (E14)	07:56 17:05	06:25 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	09:22 (E14) 09:26 (E14)	07:54 17:08	06:22 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	09:21 (E14) 09:27 (E14)	07:52 17:10	06:20 20:16	05:09 21:18	04:27 22:05
13	08:43 16:06	09:19 (E14) 09:27 (E14)	07:50 17:12	06:17 20:18	05:07 21:20	04:26 22:06
14	08:42 16:08	09:18 (E14) 09:28 (E14)	07:47 17:14	06:15 20:20	05:05 21:22	04:26 22:07
15	08:41 16:10	09:17 (E14) 09:29 (E14)	07:45 17:17	06:12 20:22	05:03 21:24	04:26 22:07
16	08:40 16:12	09:15 (E14) 09:29 (E14)	07:43 17:19	06:09 20:24	05:01 21:26	04:26 22:08
17	08:39 16:14	09:14 (E14) 09:30 (E14)	07:40 17:21	06:07 20:26	04:59 21:27	04:25 22:09
18	08:38 16:16	09:13 (E14) 09:30 (E14)	07:38 17:23	06:04 20:28	04:57 21:29	04:25 22:09
19	08:36 16:18	09:13 (E14) 09:30 (E14)	07:36 17:26	06:02 20:31	04:55 21:31	04:25 22:09
20	08:35 16:20	09:15 (E14) 09:30 (E14)	07:33 17:28	05:59 20:33	04:53 21:33	04:25 22:10
21	08:33 16:22	09:15 (E14) 09:30 (E14)	07:31 17:30	05:57 20:35	04:52 21:35	04:25 22:10
22	08:32 16:24	09:15 (E14) 09:30 (E14)	07:28 17:32	05:54 20:37	04:50 21:37	04:26 22:10
23	08:30 16:26	09:17 (E14) 09:30 (E14)	07:26 17:34	05:52 20:39	04:48 21:38	04:26 22:10
24	08:29 16:28	09:18 (E14) 09:29 (E14)	07:23 17:37	05:49 20:41	04:47 21:40	04:26 22:11
25	08:27 16:30	09:20 (E14) 09:28 (E14)	07:21 17:39	05:47 20:43	04:45 21:42	04:26 22:11
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		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	183	93	8			
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	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)
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Project:

Mezares\_AB211223

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Vilandes 3-6

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Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

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Assumptions for shadow calculations

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Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
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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	4	09:04 (E14) 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	2	09:06 (E14) 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	3	08:27 (E13) 08:30 (E13)		08:41 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	10	08:23 (E13) 08:33 (E13)		08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	13	08:22 (E13) 08:35 (E13)		08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	14	08:21 (E13) 08:35 (E13)		08:44 15:38
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	15	08:20 (E13) 08:35 (E13)		08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	15	08:20 (E13) 08:35 (E13)	8	08:46 09:01 (E14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	13	08:22 (E13) 08:35 (E13)	11	08:47 09:03 (E14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	10	08:25 (E13) 08:35 (E13)		08:47 09:04 (E14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	7	08:27 (E13) 08:34 (E13)	13	08:48 09:05 (E14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	3	08:29 (E13) 08:32 (E13)	15	08:49 09:06 (E14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56	15	08:49 09:06 (E14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	17	08:50 09:07 (E14)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	17	08:50 09:07 (E14)
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	16	08:51 09:07 (E14)
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50		08:15 15:51	14	08:51 09:08 (E14)
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:49	12	08:51 09:08 (E14)
28	05:08 21:36	06:09 20:25	07:11 19:02	08:14 16:45		08:19 15:48	10	08:51 09:08 (E14)
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	8	08:51 09:08 (E14)
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41		08:23 15:46	6	08:51 09:02 (E14)
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				103		177		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				16		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	08:39 (E14)	07:03	06:41	05:26
	15:52	16:52	1 08:40 (E14)	17:54	19:59	21:02
5	08:49	08:07	08:37 (E14)	07:01	06:38	05:24
	15:54	16:54	5 08:42 (E14)	17:56	20:01	21:04
6	08:49	08:05	08:34 (E14)	06:58	06:36	05:21
	15:55	16:57	8 08:42 (E14)	17:58	20:04	21:06
7	08:48	08:03	08:32 (E14)	06:55	06:33	05:19
	15:56	16:59	11 08:43 (E14)	18:01	20:06	21:08
8	08:48	08:01	08:30 (E14)	06:53	06:30	05:17
	15:58	17:01	14 08:44 (E14)	18:03	20:08	21:10
9	08:47	07:58	08:27 (E14)	06:50	06:28	05:15
	16:00	17:03	17 08:44 (E14)	18:05	20:10	21:12
10	08:46	07:56	08:26 (E14)	06:48	06:25	05:13
	16:01	17:05	18 08:44 (E14)	18:07	20:12	21:14
11	08:45	07:54	08:26 (E14)	06:45	06:22	05:11
	16:03	17:08	18 08:44 (E14)	18:09	20:14	21:16
12	08:44	07:52	08:26 (E14)	06:42	06:20	05:09
	16:05	17:10	18 08:44 (E14)	18:11	20:16	21:18
13	08:43	07:50	08:27 (E14)	06:40	06:17	05:07
	16:06	17:12	16 08:43 (E14)	18:13	20:18	21:20
14	08:42	07:47	08:28 (E14)	06:37	07:02 (E13)	06:15
	16:08	17:14	14 08:42 (E14)	18:16	4 07:06 (E13)	20:20
15	08:41	07:45	08:30 (E14)	06:34	07:00 (E13)	06:12
	16:10	17:17	11 08:41 (E14)	18:18	8 07:08 (E13)	20:22
16	08:40	07:43	08:32 (E14)	06:32	06:57 (E13)	06:09
	16:12	17:19	7 08:39 (E14)	18:20	11 07:08 (E13)	20:24
17	08:39	07:40		06:29	06:54 (E13)	06:07
	16:14	17:21		18:22	13 07:07 (E13)	20:26
18	08:38	07:38		06:26	06:52 (E13)	06:04
	16:16	17:23		18:24	15 07:07 (E13)	20:28
19	08:36	07:36		06:24	06:52 (E13)	06:02
	16:18	17:26		18:26	14 07:06 (E13)	20:31
20	08:35	07:33		06:21	06:52 (E13)	05:59
	16:20	17:28		18:28	13 07:05 (E13)	20:33
21	08:33	07:31		06:18	06:53 (E13)	05:57
	16:22	17:30		18:30	10 07:03 (E13)	20:35
22	08:32	07:28		06:16	06:56 (E13)	05:54
	16:24	17:32		18:32	4 07:00 (E13)	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		04:37
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		158	92			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.61	0.64			
Total reduction		0.12	0.26			
Total, real		19	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:23	07:55 (E14)
	22:09	21:28	20:14	18:54	16:36	19 08:14 (E14)
2	04:31	05:18	06:19	07:19	07:25	07:57 (E14)
	22:09	21:26	20:11	18:51	16:34	16 08:13 (E14)
3	04:32	05:20	06:21	07:21	07:27	08:00 (E14)
	22:08	21:24	20:09	18:48	16:32	14 08:14 (E14)
4	04:33	05:22	06:23	07:23	07:29	08:02 (E14)
	22:07	21:22	20:06	18:46	16:30	11 08:13 (E14)
5	04:34	05:24	06:25	07:26	07:31	08:05 (E14)
	22:07	21:20	20:04	18:43	16:27	8 08:13 (E14)
6	04:35	05:25	06:27	07:28	07:34	08:07 (E14)
	22:06	21:17	20:01	18:40	16:25	4 08:11 (E14)
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
	22:02	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	07:57	08:03	08:48
	21:50	20:45	19:23	18:05	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	07:39 (E13)	08:01	08:49
	21:46	20:40	19:18	9 07:48 (E13)	15:56	15:40
23	04:59	05:59	07:01	07:37 (E13)	08:03	08:50
	21:45	20:37	19:15	12 07:49 (E13)	15:55	15:40
24	05:01	06:01	07:03	07:35 (E13)	08:05	08:50
	21:43	20:35	19:13	15 07:50 (E13)	15:53	15:41
25	05:03	06:03	07:05	07:35 (E13)	07:07	08:50
	21:41	20:32	19:10	15 07:50 (E13)	15:52	15:41
26	05:05	06:05	07:07	07:36 (E13)	07:10	08:51
	21:39	20:30	19:07	14 07:50 (E13)	16:50	8 08:09 (E14)
27	05:06	06:07	07:09	07:38 (E13)	07:12	07:59 (E14)
	21:38	20:27	19:04	12 07:50 (E13)	16:48	12 08:11 (E14)
28	05:08	06:09	07:11	07:40 (E13)	07:14	07:57 (E14)
	21:36	20:24	19:02	9 07:49 (E13)	16:45	15 08:12 (E14)
29	05:10	06:11	07:13	07:42 (E13)	07:16	07:57 (E14)
	21:34	20:22	18:59	6 07:48 (E13)	16:43	16 08:13 (E14)
30	05:12	06:13	07:15	07:44 (E13)	07:18	07:56 (E14)
	21:32	20:19	18:56	2 07:46 (E13)	16:41	17 08:13 (E14)
31	05:14	06:15			07:20	07:56 (E14)
	21:30	20:17			16:38	18 08:14 (E14)
Potential sun hours	529	469	385	324	247	216
Total, worst case			94	86	72	
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			0.27	0.16	0.05	
Total, real			25	13	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:

25/06/2024 23:53/4.0.540

## 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	07:16 (E15) 07:35 (E15)	05:33 20:55
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	07:16 (E15) 07:35 (E15)	05:30 20:57
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	07:16 (E15) 07:34 (E15)	05:28 21:00
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:16 (E15) 07:33 (E15)	05:26 21:02
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	07:17 (E15) 07:31 (E15)	05:24 21:04
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	07:19 (E15) 07:30 (E15)	05:21 21:06
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:06	07:21 (E15) 07:26 (E15)	05:19 21:08
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 16:06	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 17:14	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	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	06:30 (E14) 06:40 (E14)	04:54 21:33
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:26 (E14) 06:42 (E14)	04:52 21:35
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	06:24 (E14) 06:44 (E14)	04:50 21:36
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	06:22 (E14) 06:45 (E14)	04:49 21:38
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	06:21 (E14) 06:46 (E14)	04:47 21:40
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	06:20 (E14) 06:47 (E14)	04:45 21:42
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	06:19 (E14) 06:47 (E14)	04:44 21:43
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	06:18 (E14) 06:47 (E14)	04:42 21:45
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	06:18 (E14) 06:48 (E14)	04:41 21:47
29	08:20 16:39	07:11 17:47	05:57 18:47	05:37 20:51	06:18 (E14) 06:48 (E14)	04:40 21:48
30	08:18 16:41	07:09 17:49	05:54 18:49	05:35 20:53	06:18 (E14) 06:48 (E14)	04:38 21:50
31	08:17 16:43	07:08 17:51	05:52 18:51	05:33 20:55	06:18 (E14) 06:48 (E14)	04:37 21:51
Potential sun hours	235	266	366	426	508	528
Total, worst case			64	371	467	482
Sun reduction			0.41	0.50	0.57	0.56
Oper. time red.			0.98	0.98	0.98	0.98
Wind dir. red.			0.66	0.65	0.66	0.67
Total reduction			0.26	0.32	0.37	0.37
Total, real			17	118	170	177

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)
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Project:

Mezares\_AB211223

Licensed user:

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Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		05:19 (E13)	05:16		06:33 (E14)	06:17			07:17	07:23	08:24
	22:09	17	05:36 (E13)	21:28	18	06:51 (E14)	20:14			18:54	16:36	15:45
2	04:31		05:18 (E13)	05:18		06:31 (E14)	06:19			07:19	07:25	08:26
	22:08	17	05:35 (E13)	21:26	21	06:52 (E14)	20:11			18:51	16:34	15:44
3	04:32		05:19 (E13)	05:20		06:30 (E14)	06:21			07:21	07:27	08:28
	22:08	17	05:36 (E13)	21:24	23	06:53 (E14)	20:09			18:48	16:32	15:43
4	04:33		05:19 (E13)	05:22		06:29 (E14)	06:23			07:23	07:29	08:29
	22:07	17	05:36 (E13)	21:22	25	06:54 (E14)	20:06			18:46	16:30	15:43
5	04:34		05:19 (E13)	05:24		06:29 (E14)	06:25		07:18 (E15)	07:25	07:31	08:31
	22:07	18	05:37 (E13)	21:20	26	06:55 (E14)	20:03	5	07:23 (E15)	18:43	16:27	15:42
6	04:35		05:19 (E13)	05:25		06:27 (E14)	06:27			07:15 (E15)	07:28	08:32
	22:06	18	05:37 (E13)	21:17	28	06:55 (E14)	20:01	11	07:26 (E15)	18:40	16:25	15:41
7	04:36		05:19 (E13)	05:27		06:27 (E14)	06:29		07:12 (E15)	07:30	07:36	08:34
	22:05	18	05:37 (E13)	21:15	29	06:56 (E14)	19:58	14	07:26 (E15)	18:38	16:23	15:40
8	04:37		05:19 (E13)	05:29		06:26 (E14)	06:31		07:11 (E15)	07:32	07:38	08:35
	22:04	19	05:38 (E13)	21:13	30	06:56 (E14)	19:56	16	07:27 (E15)	18:35	16:21	15:40
9	04:38		05:19 (E13)	05:31		06:26 (E14)	06:33		07:10 (E15)	07:34	07:40	08:37
	22:03	19	05:38 (E13)	21:11	31	06:57 (E14)	19:53	18	07:28 (E15)	18:33	16:19	15:39
10	04:40		05:19 (E13)	05:33		06:26 (E14)	06:35			07:09 (E15)	07:36	07:42
	22:02	19	05:38 (E13)	21:08	31	06:57 (E14)	19:50	19	07:28 (E15)	18:30	16:17	15:39
11	04:41		05:20 (E13)	05:35		06:26 (E14)	06:37		07:08 (E15)	07:38	07:44	08:39
	22:01	19	05:39 (E13)	21:06	31	06:57 (E14)	19:47	20	07:28 (E15)	18:27	16:15	15:39
12	04:42		05:20 (E13)	05:37		06:25 (E14)	06:39		07:08 (E15)	07:40	07:46	08:40
	22:00	19	05:39 (E13)	21:04	31	06:56 (E14)	19:45	19	07:27 (E15)	18:25	16:13	15:38
13	04:44		05:20 (E13)	05:39		06:25 (E14)	06:41		07:10 (E15)	07:42	07:49	08:42
	21:59	19	05:39 (E13)	21:02	31	06:56 (E14)	19:42	17	07:27 (E15)	18:22	16:11	15:38
14	04:45		05:21 (E13)	05:41		06:25 (E14)	06:43		07:12 (E15)	07:44	07:51	08:43
	21:58	17	05:38 (E13)	20:59	31	06:56 (E14)	19:39	14	07:26 (E15)	18:20	16:10	15:38
15	04:46		05:23 (E13)	05:43		06:25 (E14)	06:45		07:14 (E15)	07:46	07:53	08:44
	21:57	16	05:39 (E13)	20:57	30	06:55 (E14)	19:37	10	07:24 (E15)	18:17	16:08	15:38
16	04:48		05:24 (E13)	05:45		06:26 (E14)	06:47		07:16 (E15)	07:48	07:55	08:45
	21:55	15	05:39 (E13)	20:54	29	06:55 (E14)	19:34	7	07:23 (E15)	18:15	16:06	15:38
17	04:49		05:25 (E13)	05:47		06:26 (E14)	06:49		07:18 (E15)	07:50	07:57	08:46
	21:54	13	05:38 (E13)	20:52	28	06:54 (E14)	19:31	2	07:20 (E15)	18:12	16:04	15:38
18	04:51		05:27 (E13)	05:49		06:27 (E14)	06:51			07:52	07:59	08:46
	21:52	11	05:38 (E13)	20:50	26	06:53 (E14)	19:29			18:09	16:03	15:38
19	04:53		05:28 (E13)	05:51		06:27 (E14)	06:53			07:55	08:01	08:47
	21:51	10	05:38 (E13)	20:47	24	06:51 (E14)	19:26			18:07	16:01	15:38
20	04:54		05:30 (E13)	05:53		06:28 (E14)	06:55			07:57	08:03	08:48
	21:49	8	05:38 (E13)	20:45	22	06:50 (E14)	19:23			18:04	15:59	15:39
21	04:56		05:31 (E13)	05:55		06:29 (E14)	06:57			07:59	08:05	08:48
	21:48	5	05:36 (E13)	20:42	20	06:49 (E14)	19:21			18:02	15:58	15:39
22	04:58		05:33 (E13)	05:57		06:31 (E14)	06:59			08:01	08:07	08:49
	21:46	3	05:36 (E13)	20:40	15	06:46 (E14)	19:18			18:00	15:56	15:40
23	04:59			05:59		06:34 (E14)	07:01			08:03	08:09	08:49
	21:45			20:37	9	06:43 (E14)	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		06:41 (E14)	06:11			07:13			07:16	08:21	08:51
	21:34	1	06:42 (E14)	20:22			18:59			16:43	15:47	15:45
30	05:12		06:36 (E14)	06:13			07:15			07:18	08:22	08:51
	21:32	11	06:47 (E14)	20:19			18:56			16:41	15:46	15:46
31	05:14		06:34 (E14)	06:15						07:20		08:51
	21:30	16	06:50 (E14)	20:17						16:38		15:47
Potential sun hours	529			469			385			324	247	216
Total, worst case		362			589		172					
Sun reduction		0.49			0.50		0.43					
Oper. time red.		0.98			0.98		0.98					
Wind dir. red.		0.67			0.65		0.66					
Total reduction		0.32			0.32		0.27					
Total, real		117			187		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)
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Project:

Mezares\_AB211223

Licensed user:

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Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	07:14 (E6)	05:32
	15:48	16:45	17:47	19:53	5 07:19 (E6)	20:55
2	08:50	08:13	07:08	06:46	07:11 (E6)	05:30
	15:49	16:47	17:50	19:55	9 07:20 (E6)	20:57
3	08:50	08:11	07:06	06:43	07:08 (E6)	05:28
	15:51	16:50	17:52	19:57	12 07:20 (E6)	21:00
4	08:50	08:09	07:03	06:41	07:06 (E6)	05:26
	15:52	16:52	17:54	19:59	22 07:28 (E7)	21:02
5	08:49	08:07	07:00	06:38	07:03 (E6)	05:23
	15:53	16:54	17:56	20:01	28 07:31 (E7)	21:04
6	08:49	08:05	06:58	06:35	07:04 (E6)	05:21
	15:55	16:56	17:58	20:03	30 07:34 (E7)	21:06
7	08:48	08:03	06:55	07:21 (E8)	06:33	07:03 (E6)
	15:56	16:59	18:00	7 07:28 (E8)	20:05	32 07:35 (E7)
8	08:48	08:00	06:53	07:18 (E8)	06:30	07:03 (E6)
	15:58	17:01	18:03	11 07:29 (E8)	20:08	33 07:36 (E7)
9	08:47	07:58	06:50	07:16 (E8)	06:27	07:04 (E6)
	15:59	17:03	18:05	15 07:31 (E8)	20:10	33 07:37 (E7)
10	08:46	07:56	06:47	07:13 (E8)	06:25	07:05 (E7)
	16:01	17:05	18:07	18 07:31 (E8)	20:12	32 07:37 (E7)
11	08:45	07:54	06:45	07:11 (E8)	06:22	07:05 (E7)
	16:03	17:08	18:09	20 07:31 (E8)	20:14	33 07:38 (E7)
12	08:44	07:52	06:42	07:12 (E8)	06:20	07:03 (E7)
	16:04	17:10	18:11	20 07:32 (E8)	20:16	35 07:38 (E7)
13	08:43	07:49	06:39	07:11 (E8)	06:17	07:03 (E7)
	16:06	17:12	18:13	20 07:31 (E8)	20:18	36 07:39 (E7)
14	08:42	07:47	06:37	07:11 (E8)	06:14	07:02 (E7)
	16:08	17:14	18:15	19 07:30 (E8)	20:20	36 07:38 (E7)
15	08:41	07:45	06:34	07:11 (E8)	06:12	07:02 (E7)
	16:10	17:17	18:17	18 07:29 (E8)	20:22	37 07:39 (E7)
16	08:40	07:43	06:32	07:12 (E8)	06:09	07:01 (E7)
	16:12	17:19	18:20	17 07:29 (E8)	20:24	37 07:38 (E7)
17	08:39	07:40	06:29	07:12 (E8)	06:07	07:02 (E7)
	16:14	17:21	18:22	15 07:27 (E8)	20:26	36 07:38 (E7)
18	08:37	07:38	06:26	07:14 (E8)	06:04	07:01 (E7)
	16:16	17:23	18:24	10 07:24 (E8)	20:28	36 07:37 (E7)
19	08:36	07:35	06:23	06:02	07:01 (E7)	04:55
	16:18	17:25	18:26	20:30	36 07:37 (E7)	21:31
20	08:35	07:33	06:21	05:59	07:01 (E7)	04:53
	16:20	17:28	18:28	20:33	34 07:35 (E7)	21:33
21	08:33	07:31	06:18	05:57	07:02 (E7)	04:52
	16:22	17:30	18:30	20:35	33 07:35 (E7)	21:35
22	08:32	07:28	06:15	05:54	07:03 (E7)	04:50
	16:24	17:32	18:32	20:37	31 07:34 (E7)	21:37
23	08:30	07:26	06:13	05:52	07:03 (E7)	04:48
	16:26	17:34	18:34	20:39	30 07:33 (E7)	21:38
24	08:29	07:23	06:10	05:49	07:04 (E7)	04:47
	16:28	17:37	18:36	20:41	28 07:32 (E7)	21:40
25	08:27	07:21	06:07	05:47	07:05 (E7)	04:45
	16:30	17:39	18:38	20:43	26 07:31 (E7)	21:42
26	08:26	07:18	06:05	05:44	07:05 (E7)	04:44
	16:32	17:41	18:40	20:45	23 07:28 (E7)	21:43
27	08:24	07:16	06:02	05:42	07:07 (E7)	04:42
	16:34	17:43	18:43	20:47	19 07:26 (E7)	21:45
28	08:22	07:13	05:59	05:39	07:10 (E7)	04:41
	16:36	17:45	18:45	20:49	14 07:24 (E7)	21:47
29	08:20	06:57	05:57	05:37	07:15 (E7)	04:39
	16:39	19:47	19:47	20:51	4 07:19 (E7)	21:48
30	08:18	06:54	05:54	05:35	04:38	05:12 (E5)
	16:41	19:49	19:49	20:53	21:50	15 05:27 (E5)
31	08:17	06:51	05:51	04:37	05:11 (E5)	22:09
	16:43	19:51	19:51	21:51	17 05:28 (E5)	22:09
Potential sun hours	235	266	366	426	508	529
Total, worst case			190	800	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.			0.62	0.66	0.67	0.67
Total reduction			0.25	0.32	0.37	0.37
Total, real			48	258	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:

25/06/2024 23:53/4.0.540

## 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 (E5)	05:16		06:17	07:04 (E7)	07:17	07:51 (E8)	07:23	08:24	
	22:09	20 05:34 (E5)	21:28		20:14	33 07:37 (E7)	18:54	20 08:11 (E8)	16:36	15:45	
2	04:31	05:15 (E5)	05:17		06:19	07:04 (E7)	07:19	07:50 (E8)	07:25	08:26	
	22:09	20 05:35 (E5)	21:26		20:11	32 07:36 (E7)	18:51	20 08:10 (E8)	16:34	15:44	
3	04:32	05:15 (E5)	05:19		06:21	07:02 (E6)	07:21	07:50 (E8)	07:27	08:28	
	22:08	20 05:35 (E5)	21:24		20:09	33 07:35 (E7)	18:48	19 08:09 (E8)	16:31	15:43	
4	04:33	05:15 (E5)	05:21		06:23	07:01 (E6)	07:23	07:52 (E8)	07:29	08:29	
	22:07	20 05:35 (E5)	21:22		20:06	33 07:34 (E7)	18:46	16 08:08 (E8)	16:29	15:42	
5	04:33	05:15 (E5)	05:23		06:25	06:59 (E6)	07:25	07:54 (E8)	07:31	08:31	
	22:07	21 05:36 (E5)	21:19		20:03	32 07:31 (E7)	18:43	13 08:07 (E8)	16:27	15:41	
6	04:35	05:16 (E5)	05:25		06:27	06:59 (E6)	07:27	07:56 (E8)	07:33	08:32	
	22:06	20 05:36 (E5)	21:17		20:01	30 07:29 (E7)	18:40	9 08:05 (E8)	16:25	15:41	
7	04:36	05:16 (E5)	05:27		06:29	06:58 (E6)	07:29	07:58 (E8)	07:36	08:34	
	22:05	20 05:36 (E5)	21:15		19:58	28 07:26 (E7)	18:38	4 08:02 (E8)	16:23	15:40	
8	04:37	05:16 (E5)	05:29		06:31	07:00 (E6)	07:32		07:38	08:35	
	22:04	20 05:36 (E5)	21:13		19:55	22 07:22 (E7)	18:35		16:21	15:40	
9	04:38	05:16 (E5)	05:31		06:33	07:02 (E6)	07:34		07:40	08:37	
	22:03	20 05:36 (E5)	21:11		19:53	13 07:15 (E6)	18:32		16:19	15:39	
10	04:39	05:16 (E5)	05:33		06:35	07:04 (E6)	07:36		07:42	08:38	
	22:02	20 05:36 (E5)	21:08		19:50	10 07:14 (E6)	18:30		16:17	15:39	
11	04:41	05:17 (E5)	05:35		06:37	07:06 (E6)	07:38		07:44	08:39	
	22:01	19 05:36 (E5)	21:06		19:47	6 07:12 (E6)	18:27		16:15	15:38	
12	04:42	05:19 (E5)	05:37		06:39	07:08 (E6)	07:40		07:46	08:40	
	22:00	17 05:36 (E5)	21:04		19:45	1 07:09 (E6)	18:25		16:13	15:38	
13	04:43	05:20 (E5)	05:39		06:41		07:42		07:49	08:42	
	21:59	16 05:36 (E5)	21:01		19:42		18:22		16:11	15:38	
14	04:45	05:21 (E5)	05:41		06:43		07:44		07:51	08:43	
	21:58	14 05:35 (E5)	20:59	7 07:28 (E7)	19:39		18:19		16:09	15:38	
15	04:46	05:22 (E5)	05:43		07:17 (E7)	06:45	07:46		07:53	08:44	
	21:57	13 05:35 (E5)	20:57	15 07:32 (E7)	19:37		18:17		16:07	15:38	
16	04:48	05:24 (E5)	05:45		07:14 (E7)	06:47	07:48		07:55	08:45	
	21:55	11 05:35 (E5)	20:54	20 07:34 (E7)	19:34		18:14		16:06	15:38	
17	04:49	05:25 (E5)	05:47		07:12 (E7)	06:49	07:50		07:57	08:46	
	21:54	9 05:34 (E5)	20:52	23 07:35 (E7)	19:31		18:12		16:04	15:38	
18	04:51	05:27 (E5)	05:49		07:10 (E7)	06:51	07:52		07:59	08:46	
	21:52	7 05:34 (E5)	20:50	26 07:36 (E7)	19:29		18:09		16:02	15:38	
19	04:52	05:28 (E5)	05:51		07:09 (E7)	06:53	07:55		08:01	08:47	
	21:51	4 05:32 (E5)	20:47	29 07:38 (E7)	19:26		18:07		16:01	15:38	
20	04:54	05:30 (E5)	05:53		07:08 (E7)	06:55	07:57		08:03	08:48	
	21:49	1 05:31 (E5)	20:45	30 07:38 (E7)	19:23		18:04		15:59	15:38	
21	04:56		05:55		07:07 (E7)	06:57	07:59		08:05	08:48	
	21:48		20:42	32 07:39 (E7)	19:20		18:02		15:58	15:39	
22	04:57		05:57		07:06 (E7)	06:59	08:01		08:07	08:49	
	21:46		20:40	34 07:40 (E7)	19:18		17:59		15:56	15:39	
23	04:59		05:59		07:06 (E7)	07:01	08:03		08:09	08:50	
	21:45		20:37	34 07:40 (E7)	19:15		17:57		15:55	15:40	
24	05:01		06:01		07:05 (E7)	07:03	08:05		08:11	08:50	
	21:43		20:35	35 07:40 (E7)	19:12		17:55		15:53	15:40	
25	05:03		06:03		07:05 (E7)	07:05	07:58 (E8)		07:07	08:50	
	21:41		20:32	36 07:41 (E7)	19:10	8 08:06 (E8)	16:52		15:52	15:41	
26	05:04		06:05		07:03 (E7)	07:07	07:56 (E8)		07:10	08:51	
	21:39		20:29	37 07:40 (E7)	19:07	13 08:09 (E8)	16:50		15:51	15:42	
27	05:06		06:07		07:03 (E7)	07:09	07:54 (E8)		07:12	08:51	
	21:38		20:27	37 07:40 (E7)	19:04	16 08:10 (E8)	16:47		15:49	15:43	
28	05:08		06:09		07:03 (E7)	07:11	07:53 (E8)		07:14	08:51	
	21:36		20:24	36 07:39 (E7)	19:02	18 08:11 (E8)	16:45		15:48	15:44	
29	05:10		06:11		07:03 (E7)	07:13	07:52 (E8)		07:16	08:51	
	21:34		20:22	36 07:39 (E7)	18:59	19 08:11 (E8)	16:43		15:47	15:44	
30	05:12		06:13		07:03 (E7)	07:15	07:51 (E8)		07:18	08:51	
	21:32		20:19	36 07:39 (E7)	18:56	20 08:11 (E8)	16:40		15:46	15:45	
31	05:14		06:15		07:03 (E7)		07:20			08:51	
	21:30		20:17	35 07:38 (E7)			16:38			15:47	
Potential sun hours	529		469		385		324		247	216	
Total, worst case		312		538		367		101			
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		101		173		100		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 &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	06:40 (E7)
	15:48	16:45	17:47	19:53	20:55	38 07:18 (E7)
2	08:50	08:13	07:08	06:46	05:30	06:40 (E7)
	15:49	16:47	17:50	19:55	20:57	37 07:17 (E7)
3	08:50	08:11	07:06	06:43	05:28	06:41 (E7)
	15:51	16:50	17:52	19:57	21:00	35 07:16 (E7)
4	08:50	08:09	07:03	06:41	07:06 (E6)	05:26 06:41 (E7)
	15:52	16:52	17:54	19:59	2 07:08 (E6)	21:02 35 07:16 (E7)
5	08:49	08:07	07:00	06:38	07:03 (E6)	05:23 06:42 (E7)
	15:53	16:54	17:56	20:01	6 07:09 (E6)	21:04 33 07:15 (E7)
6	08:49	08:05	06:58	06:35	07:01 (E6)	05:21 06:43 (E7)
	15:55	16:56	17:58	20:03	10 07:11 (E6)	21:06 31 07:14 (E7)
7	08:48	08:03	06:55	06:33	06:58 (E6)	05:19 06:44 (E7)
	15:56	16:59	18:00	20:05	13 07:11 (E6)	21:08 29 07:13 (E7)
8	08:48	08:00	06:53	06:30	06:55 (E6)	05:17 06:45 (E7)
	15:58	17:01	18:03	20:08	16 07:11 (E6)	21:10 27 07:12 (E7)
9	08:47	07:58	06:50	06:27	06:54 (E6)	05:15 06:46 (E7)
	15:59	17:03	18:05	20:10	18 07:12 (E6)	21:12 24 07:10 (E7)
10	08:46	07:56	06:47	07:13 (E8)	06:25 06:53 (E6)	05:13 06:47 (E7)
	16:01	17:05	18:07	6 07:19 (E8)	20:12 18 07:11 (E6)	21:14 21 07:08 (E7)
11	08:45	07:54	06:45	07:10 (E8)	06:22 06:53 (E6)	05:10 06:49 (E7)
	16:03	17:08	18:09	11 07:21 (E8)	20:14 18 07:11 (E6)	21:16 17 07:06 (E7)
12	08:44	07:52	06:42	07:08 (E8)	06:20 06:53 (E6)	05:08 06:51 (E7)
	16:04	17:10	18:11	15 07:23 (E8)	20:16 17 07:10 (E6)	21:18 12 07:03 (E7)
13	08:43	07:49	06:39	07:05 (E8)	06:17 06:54 (E6)	05:06 06:48 (E7)
	16:06	17:12	18:13	19 07:24 (E8)	20:18 15 07:09 (E7)	21:20 13 07:06 (E7)
14	08:42	07:47	06:37	07:03 (E8)	06:14 06:53 (E7)	05:04 06:47 (E7)
	16:08	17:14	18:15	21 07:24 (E8)	20:20 19 07:12 (E7)	21:22 14 07:07 (E7)
15	08:41	07:45	06:34	07:03 (E8)	06:12 06:51 (E7)	05:02 06:46 (E7)
	16:10	17:17	18:17	21 07:24 (E8)	20:22 23 07:14 (E7)	21:24 15 07:07 (E7)
16	08:40	07:43	06:31	07:03 (E8)	06:09 06:49 (E7)	05:01 06:45 (E7)
	16:12	17:19	18:20	21 07:24 (E8)	20:24 26 07:15 (E7)	21:25 15 07:07 (E7)
17	08:39	07:40	06:29	07:02 (E8)	06:07 06:47 (E7)	04:59 06:44 (E7)
	16:14	17:21	18:22	21 07:23 (E8)	20:26 30 07:17 (E7)	21:27 15 07:08 (E7)
18	08:37	07:38	06:26	07:02 (E8)	06:04 06:45 (E7)	04:57 06:43 (E7)
	16:16	17:23	18:24	21 07:23 (E8)	20:28 32 07:17 (E7)	21:29 16 07:08 (E7)
19	08:36	07:35	06:23	07:03 (E8)	06:02 06:45 (E7)	04:55 06:42 (E7)
	16:18	17:25	18:26	19 07:22 (E8)	20:30 33 07:18 (E7)	21:31 16 07:09 (E7)
20	08:35	07:33	06:21	07:03 (E8)	05:59 06:43 (E7)	04:53 06:41 (E7)
	16:20	17:28	18:28	18 07:21 (E8)	20:33 35 07:18 (E7)	21:33 16 07:10 (E7)
21	08:33	07:31	06:18	07:04 (E8)	05:57 06:43 (E7)	04:52 06:40 (E7)
	16:22	17:30	18:30	15 07:19 (E8)	20:35 36 07:19 (E7)	21:35 16 07:11 (E7)
22	08:32	07:28	06:15	07:07 (E8)	05:54 06:42 (E7)	04:50 06:40 (E7)
	16:24	17:32	18:32	10 07:17 (E8)	20:37 38 07:20 (E7)	21:36 16 07:12 (E7)
23	08:30	07:26	06:13	05:52 06:41 (E7)	04:48 06:41 (E7)	04:26 05:03 (E5)
	16:26	17:34	18:34	20:39 38 07:19 (E7)	21:38 16 07:13 (E7)	04:26 05:19 (E5)
24	08:29	07:23	06:10	05:49 06:41 (E7)	04:47 06:41 (E7)	04:26 05:03 (E5)
	16:28	17:37	18:36	20:41 39 07:20 (E7)	21:40 16 07:14 (E7)	04:26 05:19 (E5)
25	08:27	07:21	06:07	05:47 06:41 (E7)	04:45 06:41 (E7)	04:26 05:04 (E5)
	16:30	17:39	18:38	20:43 39 07:20 (E7)	21:42 15 07:15 (E7)	04:27 05:19 (E5)
26	08:26	07:18	06:05	05:44 06:40 (E7)	04:44 06:40 (E7)	04:27 05:04 (E5)
	16:32	17:41	18:40	20:45 39 07:19 (E7)	21:43 15 07:16 (E7)	04:27 05:19 (E5)
27	08:24	07:16	06:02	05:42 06:40 (E7)	04:42 06:40 (E7)	04:27 05:05 (E5)
	16:34	17:43	18:43	20:47 39 07:19 (E7)	21:45 15 07:17 (E7)	04:27 05:20 (E5)
28	08:22	07:13	05:59	05:39 06:40 (E7)	04:41 06:40 (E7)	04:28 05:05 (E5)
	16:36	17:45	18:45	20:49 39 07:19 (E7)	21:47 14 07:18 (E7)	04:28 05:19 (E5)
29	08:20		06:57	05:37 06:40 (E7)	04:39 06:40 (E7)	04:28 05:06 (E5)
	16:39		19:47	20:51 39 07:19 (E7)	21:48 14 07:20 (E7)	04:28 05:20 (E5)
30	08:18		06:54	05:35 06:40 (E7)	04:38 06:40 (E7)	04:29 05:07 (E5)
	16:41		19:49	20:53 38 07:18 (E7)	21:50 13 07:21 (E7)	04:29 05:20 (E5)
31	08:17		06:51		04:37 21:51	
	16:43		19:51		508 529	
Potential sun hours	235	266	366	426	508	529
Total, worst case			218	715	339	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			55	230	124	127

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:

25/06/2024 23:53/4.0.540

## 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 (E5)	05:16	07:00 (E7)	06:17	06:52 (E6)	07:17	07:46 (E8)	07:23	08:24	
	22:09	12 05:19 (E5)	21:28	15 07:15 (E7)	20:14	18 07:10 (E6)	18:54	17 08:03 (E8)	16:36	15:45	
2	04:31	05:08 (E5)	05:17	06:58 (E7)	06:19	06:52 (E6)	07:19	07:48 (E8)	07:25	08:26	
	22:09	11 05:19 (E5)	21:26	19 07:17 (E7)	20:11	18 07:10 (E6)	18:51	13 08:01 (E8)	16:34	15:44	
3	04:32	05:09 (E5)	05:19	06:57 (E7)	06:21	06:52 (E6)	07:21	07:50 (E8)	07:27	08:28	
	22:08	11 05:20 (E5)	21:24	22 07:19 (E7)	20:09	18 07:10 (E6)	18:48	9 07:59 (E8)	16:31	15:43	
4	04:33	05:10 (E5)	05:21	06:56 (E7)	06:23	06:53 (E6)	07:23	07:52 (E8)	07:29	08:29	
	22:07	10 05:20 (E5)	21:22	25 07:21 (E7)	20:06	16 07:09 (E6)	18:46	3 07:55 (E8)	16:29	15:42	
5	04:33	05:11 (E5)	05:23	06:54 (E7)	06:25	06:54 (E6)	07:25		07:31	08:31	
	22:07	8 05:19 (E5)	21:19	27 07:21 (E7)	20:03	13 07:07 (E6)	18:43		16:27	15:41	
6	04:35	05:12 (E5)	05:25	06:53 (E7)	06:27	06:56 (E6)	07:27		07:33	08:32	
	22:06	7 05:19 (E5)	21:17	30 07:23 (E7)	20:01	10 07:06 (E6)	18:40		16:25	15:41	
7	04:36	05:13 (E5)	05:27	06:52 (E7)	06:29	06:58 (E6)	07:29		07:36	08:34	
	22:05	6 05:19 (E5)	21:15	32 07:24 (E7)	19:58	7 07:05 (E6)	18:38		16:23	15:40	
8	04:37	05:14 (E5)	05:29	06:51 (E7)	06:31	07:00 (E6)	07:32		07:38	08:35	
	22:04	4 05:18 (E5)	21:13	34 07:25 (E7)	19:55	2 07:02 (E6)	18:35		16:21	15:40	
9	04:38	05:15 (E5)	05:31	06:51 (E7)	06:33		07:34		07:40	08:37	
	22:03	2 05:17 (E5)	21:11	34 07:25 (E7)	19:53		18:32		16:19	15:39	
10	04:39		05:33	06:49 (E7)	06:35		07:36		07:42	08:38	
	22:02		21:08	36 07:25 (E7)	19:50		18:30		16:17	15:39	
11	04:41		05:35	06:49 (E7)	06:37		07:38		07:44	08:39	
	22:01		21:06	37 07:26 (E7)	19:47		18:27		16:15	15:38	
12	04:42		05:37	06:48 (E7)	06:39		07:40		07:46	08:40	
	22:00		21:04	38 07:26 (E7)	19:45		18:25		16:13	15:38	
13	04:43		05:39	06:48 (E7)	06:41		07:42		07:49	08:42	
	21:59		21:01	38 07:26 (E7)	19:42		18:22		16:11	15:38	
14	04:45		05:41	06:48 (E7)	06:43		07:44		07:51	08:43	
	21:58		20:59	39 07:27 (E7)	19:39		18:19		16:09	15:38	
15	04:46		05:43	06:48 (E7)	06:45		07:46		07:53	08:44	
	21:57		20:57	39 07:27 (E7)	19:37		18:17		16:07	15:38	
16	04:48		05:45	06:47 (E7)	06:47		07:48		07:55	08:45	
	21:55		20:54	40 07:27 (E7)	19:34		18:14		16:06	15:38	
17	04:49		05:47	06:46 (E7)	06:49		07:50		07:57	08:46	
	21:54		20:52	40 07:26 (E7)	19:31		18:12		16:04	15:38	
18	04:51		05:49	06:46 (E7)	06:51		07:52		07:59	08:46	
	21:52		20:50	40 07:26 (E7)	19:29		18:09		16:02	15:38	
19	04:52		05:51	06:46 (E7)	06:53		07:55		08:01	08:47	
	21:51		20:47	39 07:25 (E7)	19:26		18:07		16:01	15:38	
20	04:54		05:53	06:47 (E7)	06:55		07:57		08:03	08:48	13:17 (E13)
	21:49		20:45	38 07:25 (E7)	19:23		18:04		15:59	15:38	2 13:19 (E13)
21	04:56		05:55	06:47 (E7)	06:57	07:53 (E8)	07:59		08:05	08:48	13:18 (E13)
	21:48		20:42	37 07:24 (E7)	19:20	9 08:02 (E8)	18:02		15:58	15:39	3 13:21 (E13)
22	04:57		05:57	06:47 (E7)	06:59	07:49 (E8)	08:01		08:07	08:49	13:17 (E13)
	21:46		20:40	37 07:24 (E7)	19:18	14 08:03 (E8)	17:59		15:56	15:39	4 13:21 (E13)
23	04:59		05:59	06:48 (E7)	07:01	07:47 (E8)	08:03		08:09	08:50	13:19 (E13)
	21:45		20:37	35 07:23 (E7)	19:15	17 08:04 (E8)	17:57		15:55	15:40	3 13:22 (E13)
24	05:01		06:01	06:48 (E7)	07:03	07:46 (E8)	08:05		08:11	08:50	13:20 (E13)
	21:43		20:35	34 07:22 (E7)	19:12	19 08:05 (E8)	17:55		15:53	15:40	1 13:21 (E13)
25	05:03		06:03	06:49 (E7)	07:05	07:45 (E8)	07:07		08:13	08:50	
	21:41		20:32	32 07:21 (E7)	19:10	20 08:05 (E8)	16:52		15:52	15:41	
26	05:04		06:05	06:49 (E7)	07:07	07:44 (E8)	07:09		08:15	08:51	
	21:39		20:29	30 07:19 (E7)	19:07	21 08:05 (E8)	16:50		15:51	15:42	
27	05:06		06:07	06:51 (E7)	07:09	07:45 (E8)	07:12		08:17	08:51	
	21:38		20:27	26 07:17 (E7)	19:04	21 08:06 (E8)	16:47		15:49	15:43	
28	05:08		06:09	06:52 (E7)	07:11	07:44 (E8)	07:14		08:19	08:51	
	21:36		20:24	23 07:15 (E7)	19:02	22 08:06 (E8)	16:45		15:48	15:44	
29	05:10		06:11	06:54 (E7)	07:13	07:44 (E8)	07:16		08:21	08:51	
	21:34		20:22	18 07:12 (E7)	18:59	21 08:05 (E8)	16:43		15:47	15:44	
30	05:12		06:13	06:54 (E6)	07:15	07:44 (E8)	07:18		08:22	08:51	
	21:32		20:19	15 07:09 (E7)	18:56	20 08:04 (E8)	16:40		15:46	15:45	
31	05:14	07:05 (E7)	06:15	06:53 (E6)			07:20			08:51	
	21:30	7 07:12 (E7)	20:17	17 07:10 (E6)			16:38			15:47	
Potential sun hours	529		469		385		324		247	216	
Total, worst case	78		966		286		42			13	
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		0.64		0.63			0.63	
Total reduction	0.32		0.32		0.27		0.16			0.04	
Total, real	25		309		76		7			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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	19:54 (E16) 20:06 (E16)	04:36 21:52	04:30 22:09	05:16 21:28	06:17 20:14	07:17 18:53	07:22 16:36
2	08:50 15:49	08:12 16:47	07:08 17:50	06:46 19:55	05:30 20:57	19:56 (E16) 20:04 (E16)	04:35 21:54	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:34
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	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31
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 18:45	07:29 16:29
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
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
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
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
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 19:53	07:33 18:32	07:40 16:19
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 (E16) 20:10 (E16)	06:35 19:50	07:35 18:30
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	20:04 (E16) 20:13 (E16)	06:37 19:47	07:38 18:27
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	20:02 (E16) 20:15 (E16)	06:39 19:45	07:40 18:24
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	20:01 (E16) 20:16 (E16)	06:41 19:42	07:42 18:22
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	20:00 (E16) 20:17 (E16)	06:43 19:39	07:44 18:19
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	19:59 (E16) 20:17 (E16)	06:45 19:36	07:46 18:17
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	19:59 (E16) 20:18 (E16)	06:47 19:34	07:48 18:14
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	19:58 (E16) 20:17 (E16)	06:49 19:31	07:50 18:12
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	19:58 (E16) 20:17 (E16)	06:51 19:28	07:52 18:09
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	19:58 (E16) 20:15 (E16)	06:53 19:26	07:54 18:07
20	08:34 16:20	07:33 17:28	06:21 18:28	05:59 20:32	19:56 (E16) 20:02 (E16)		04:25 22:09	04:54 21:49	05:53 20:44	19:58 (E16) 20:13 (E16)	06:55 19:23	07:56 18:04
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 20:34	19:55 (E16) 20:04 (E16)		04:25 22:10	04:56 21:48	05:55 20:42	19:59 (E16) 20:11 (E16)	06:57 19:20	07:59 18:02
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	19:54 (E16) 20:06 (E16)		04:25 22:10	04:57 21:46	05:57 20:39	20:00 (E16) 20:08 (E16)	06:59 19:18	08:01 17:59
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	19:53 (E16) 20:08 (E16)		04:26 22:10	04:59 21:44	05:59 20:37	20:01 (E16) 20:06 (E16)	07:01 19:15	08:03 17:57
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:41	19:52 (E16) 20:10 (E16)		04:26 22:10	05:01 21:43	06:01 20:34		07:03 19:12	08:05 17:54
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	19:52 (E16) 20:11 (E16)		04:26 22:10	05:03 21:41	06:03 20:32		07:05 19:09	08:07 16:52
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	19:51 (E16) 20:10 (E16)		04:27 22:10	05:04 21:39	06:05 20:29		07:07 19:07	08:09 16:50
27	08:23 16:34	07:16 17:43	06:02 18:42	05:42 20:47	19:52 (E16) 20:10 (E16)		04:27 22:10	05:06 21:37	06:07 20:27		07:09 19:04	08:11 16:47
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	19:52 (E16) 20:10 (E16)		04:28 22:10	05:08 21:35	06:09 20:24		07:11 19:01	08:18 16:45
29	08:20 16:39		06:57 19:47	05:37 20:51	19:52 (E16) 20:08 (E16)		04:29 22:09	05:10 21:33	06:11 20:22		07:13 18:59	08:20 16:43
30	08:18 16:41		06:54 19:49	05:35 20:53	19:53 (E16) 20:07 (E16)		04:29 22:09	05:12 21:31	06:13 20:19		07:15 18:56	08:22 16:40
31	08:16 16:43		06:51 19:51					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
Total, worst case												
Sun reduction				0.50	0.57				189			
Oper. time red.				0.98	0.98				0.50			
Wind dir. red.				0.62	0.62				0.62			
Total reduction				0.30	0.35				0.30			
Total, real				50	7				57			

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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Jaunjosti - 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	05:59 20:33	04:54 21:33	04:26 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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Jaunlakstīgas - 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	06:04 (E13) 21:53
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:58	06:04 (E13) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	06:05 (E13) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:29 (E15) 19:59	05:26 21:02	06:06 (E13) 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	07:26 (E15) 20:01	05:24 21:04	06:07 (E13) 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	07:24 (E15) 20:03	05:21 21:06	06:08 (E13) 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01	07:21 (E15) 20:06	05:19 21:08	06:10 (E13) 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	07:18 (E15) 20:08	05:17 21:10	06:17 (E13) 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	07:16 (E15) 20:10	05:15 21:12	06:18 (E13) 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07	07:15 (E15) 20:12	05:13 21:14	06:19 (E13) 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	07:15 (E15) 20:14	05:11 21:16	06:20 (E13) 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	07:08 (E14) 20:16	05:09 21:18	06:21 (E13) 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13	07:05 (E14) 20:17	05:07 21:20	06:22 (E13) 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	07:02 (E14) 20:20	05:05 21:22	06:23 (E13) 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	07:00 (E14) 20:22	05:03 21:24	06:24 (E13) 22:08
16	08:40 16:12	07:43 17:19	06:32 18:20	06:58 (E14) 20:24	05:01 21:25	06:25 (E13) 22:09
17	08:39 16:14	07:40 17:21	06:29 18:22	06:57 (E14) 20:26	04:59 21:27	06:26 (E13) 22:10
18	08:37 16:16	07:38 17:23	06:26 18:24	06:56 (E14) 20:28	04:57 21:29	06:27 (E13) 22:11
19	08:36 16:18	07:36 17:26	06:24 18:26	06:56 (E14) 20:31	04:55 21:31	06:28 (E13) 22:12
20	08:35 16:20	07:33 17:28	06:21 18:28	06:55 (E14) 20:33	04:54 21:33	06:29 (E13) 22:13
21	08:33 16:22	07:31 17:30	06:18 18:30	06:54 (E14) 20:35	04:52 21:35	06:30 (E13) 22:14
22	08:32 16:24	07:28 17:32	06:16 18:32	06:55 (E14) 20:37	04:50 21:37	06:31 (E13) 22:15
23	08:30 16:26	07:26 17:34	06:13 18:34	06:54 (E14) 20:39	06:18 (E13) 21:38	06:32 (E13) 22:16
24	08:29 16:28	07:23 17:37	06:10 18:36	06:54 (E14) 20:41	06:16 (E13) 21:40	06:33 (E13) 22:17
25	08:27 16:30	07:21 17:39	06:08 18:39	06:55 (E14) 20:43	06:14 (E13) 21:42	06:34 (E13) 22:18
26	08:26 16:32	07:18 17:41	06:05 18:41	06:55 (E14) 20:45	06:11 (E13) 21:43	06:35 (E13) 22:19
27	08:24 16:34	07:16 17:43	06:02 18:43	06:56 (E14) 20:47	06:09 (E13) 21:45	06:36 (E13) 22:20
28	08:22 16:37	07:13 17:45	06:00 18:45	06:58 (E14) 20:49	06:07 (E13) 21:47	06:37 (E13) 22:21
29	08:20 16:39		06:57 19:47	07:59 (E14) 20:51	06:05 (E13) 21:48	06:38 (E13) 22:22
30	08:19 16:41		06:54 19:49	08:02 (E14) 20:53	06:05 (E13) 21:50	06:39 (E13) 22:23
31	08:17 16:43		06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	528
Total, worst case			563	106	106	
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			143	34	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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Jaunlakstīgas - 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 (E14)	07:23
	22:09	21:28	20:14	18:54	24 08:10 (E15)	16:36
2	04:31	05:18	06:19	07:19	07:54 (E15)	07:25
	22:09	21:26	20:11	18:51	16 08:10 (E15)	16:34
3	04:32	05:20	06:21	07:21	07:53 (E15)	07:27
	22:08	21:24	20:09	18:48	18 08:11 (E15)	16:32
4	04:33	05:22	06:23	07:23	07:53 (E15)	07:29
	22:07	21:22	20:06	18:46	18 08:11 (E15)	16:30
5	04:34	05:24	06:25	07:25	07:54 (E15)	07:31
	22:07	21:20	20:04	18:43	16 08:10 (E15)	16:27
6	04:35	05:25	06:27	07:28	07:56 (E15)	07:33
	22:06	21:17	20:01	18:40	14 08:10 (E15)	16:25
7	04:36	05:27	06:29	07:30	07:58 (E15)	07:36
	22:05	21:15	19:58	18:38	11 08:09 (E15)	16:23
8	04:37	05:29	06:31	07:32	08:00 (E15)	07:38
	22:04	21:13	19:56	18:35	8 08:08 (E15)	16:21
9	04:38	05:31	06:33	07:34	08:03 (E15)	07:40
	22:03	21:11	19:53	18:33	4 08:07 (E15)	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	19:47	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	07:49	08:42
	21:59	21:02	19:42	7 08:01 (E14)	18:22	16:11
14	04:45	05:41	06:43	07:50	07:44	07:51
	21:58	20:59	19:39	14 08:04 (E14)	18:20	16:10
15	04:46	05:43	06:45	07:47	07:46	07:53
	21:57	20:57	19:37	19 08:06 (E14)	18:17	16:08
16	04:48	05:45	06:47	07:45	07:48	07:55
	21:55	20:54	19:34	23 08:08 (E14)	18:15	16:06
17	04:49	05:47	06:49	07:44	07:50	07:57
	21:54	20:52	19:31	25 08:09 (E14)	18:12	16:04
18	04:51	05:49	06:51	07:43	07:52	07:59
	21:52	20:50	19:29	26 08:09 (E14)	18:09	16:03
19	04:53	05:51	06:53	07:42	07:55	08:01
	21:51	20:47	19:26	28 08:10 (E14)	18:07	16:01
20	04:54	05:53	06:55	07:41	07:57	08:03
	21:49	20:45	19:23	29 08:10 (E14)	18:04	15:59
21	04:56	05:55	06:57	07:40	07:59	08:05
	21:48	20:42	19:21	30 08:10 (E14)	18:02	15:58
22	04:58	05:57	06:59	07:40	08:01	08:07
	21:46	20:40	19:18	30 08:10 (E14)	18:00	15:56
23	04:59	05:59	07:01	07:39	08:03	08:09
	21:45	20:37	19:15	30 08:09 (E14)	17:57	15:55
24	05:01	06:01	07:03	07:39	08:05	08:11
	21:43	20:35	19:12	30 08:09 (E14)	17:55	15:53
25	05:03	06:03	07:05	07:39	08:07	08:13
	21:41	20:32	19:10	29 08:08 (E14)	16:52	15:52
26	05:05	06:05	07:07	07:39	08:10	08:15
	21:39	20:30	19:07	28 08:07 (E14)	16:50	15:51
27	05:06	06:07	07:09	07:40	08:12	08:17
	21:38	20:27	19:04	26 08:06 (E14)	16:48	15:50
28	05:08	06:09	07:11	07:40	08:14	08:19
	21:36	20:24	19:02	24 08:04 (E14)	16:45	15:48
29	05:10	06:11	07:13	07:42	08:16	08:21
	21:34	20:22	18:59	22 08:04 (E15)	16:43	15:47
30	05:12	06:13	07:15	07:44	08:18	08:22
	21:32	20:19	18:56	24 08:08 (E15)	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		211	444	129		
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		68	118	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E14) 21:53	04:36 22:09	05:16 21:28	06:00 (E14) 20:14	06:17 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 (E14) 21:54	04:35 22:08	05:18 21:26	05:58 (E14) 20:11	06:19 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	05:28 21:00	05:56 (E14) 21:55	04:34 22:08	05:20 21:24	05:58 (E14) 20:09	06:21 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	05:26 21:02	05:54 (E14) 21:57	04:33 22:07	05:22 21:22	05:58 (E14) 20:06	06:23 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	05:24 21:04	05:52 (E14) 21:58	04:32 22:07	05:24 21:20	05:58 (E14) 20:04	06:25 18:43	07:26 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	05:50 (E14) 21:59	04:31 22:06	05:26 21:17	05:58 (E14) 20:01	06:27 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	05:19 21:08	05:48 (E14) 22:00	04:30 22:05	05:28 21:15	06:00 (E14) 19:58	06:29 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	05:17 21:10	05:48 (E14) 22:01	04:30 22:04	05:29 21:13	06:02 (E14) 19:56	06:31 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	05:15 21:12	05:48 (E14) 22:02	04:29 22:03	05:31 21:11	06:04 (E14) 19:53	06:33 18:33	07:34 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 (E14) 22:03	04:28 22:02	05:33 21:08	06:06 (E14) 19:50	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	05:11 21:16	05:48 (E14) 22:04	04:28 22:01	05:35 21:06	06:08 (E14) 19:48	06:37 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	05:09 21:18	05:48 (E14) 22:05	04:27 22:00	05:37 21:04	06:13 (E14) 19:45	06:39 18:25	07:40 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 (E14) 22:06	04:27 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	05:51 (E14) 22:07	04:26 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	05:51 (E14) 22:07	04:26 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	05:53 (E14) 22:08	04:26 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	05:50 (E14) 22:09	04:26 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 17:23	06:26 18:24	06:04 20:28	04:57 21:29	05:51 (E14) 22:10	04:25 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	05:52 (E14) 22:11	04:25 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	05:53 (E14) 22:12	04:25 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	05:54 (E14) 22:13	04:26 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	05:55 (E14) 22:14	04:26 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	05:56 (E14) 22:15	04:26 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	05:57 (E14) 22:16	04:26 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	05:58 (E14) 22:17	04:27 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	05:45 20:45	04:44 21:43	05:59 (E14) 22:18	04:27 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	06:00 (E14) 22:19	04:28 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	06:01 (E14) 22:20	04:28 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	07:11 17:57	06:57 18:57	05:37 20:51	04:40 21:48	06:02 (E14) 22:21	04:29 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	07:09 17:59	06:54 18:59	05:35 20:53	04:39 21:50	06:03 (E14) 22:22	04:30 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	07:07 18:01	06:52 19:01	05:33 20:57	04:37 21:51	06:04 (E14) 22:23	05:14 21:30	06:15 20:17	07:20 18:58	08:20 16:38	08:25 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case					215							
Sun reduction					0.57							
Oper. time red.					0.98							
Wind dir. red.					0.67							
Total reduction					0.37							
Total, real					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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	9 07:14 (E14) 07:23 (E14)	05:33 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	13 07:05 (E14) 07:18 (E14)	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	13 07:11 (E14) 07:24 (E14)	05:30 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	17 07:03 (E14) 07:20 (E14)	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	16 07:09 (E14) 07:25 (E14)	05:28 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	18 07:02 (E14) 07:20 (E14)	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	19 07:06 (E14) 07:25 (E14)	05:26 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	20 07:01 (E14) 07:21 (E14)	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	20 07:04 (E14) 07:24 (E14)	05:24 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	21 07:00 (E14) 07:21 (E14)	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	21 07:04 (E14) 07:25 (E14)	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	21 07:00 (E14) 07:21 (E14)	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	21 07:03 (E14) 07:24 (E14)	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	20 07:00 (E14) 07:20 (E14)	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	20 07:04 (E14) 07:24 (E14)	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	19 07:00 (E14) 07:19 (E14)	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	18 07:04 (E14) 07:22 (E14)	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	16 07:02 (E14) 07:18 (E14)	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	17 07:04 (E14) 07:21 (E14)	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	13 07:04 (E14) 07:17 (E14)	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	13 07:06 (E14) 07:19 (E14)	05:11 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	9 07:06 (E14) 07:15 (E14)	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	9 07:07 (E14) 07:16 (E14)	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	5 07:08 (E14) 07:13 (E14)	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	04:27 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	04:46 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 20:54	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 17:23	06:26 18:24		06:04 20:28		04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:50	06:51 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 21:49	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 18:36		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 15:53	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 22:10	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		05:45 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	05:07 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 17:45	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 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39	07:11 17:47	06:57 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		08:16 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41	07:10 17:49	06:54 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		08:18 17:41	08:22 15:46	08:51 15:46
31	08:17 16:43	07:08 19:51	06:52 19:51	5 07:17 (E14) 07:22 (E14)	06:52 20:53		04:37 21:51	04:29 22:10	05:14 21:30	06:15 20:17	9 07:07 (E14) 07:16 (E14)		08:19 17:38	08:24 15:47	08:51 15:47
Potential sun hours	235	266	366		426		508	528	529	469		385	324	247	216
Total, worst case				5	196					9		192			
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				1	63					3		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:

25/06/2024 23:53/4.0.540

## 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		09:30 (E8)	08:15		07:11	06:49		05:32		06:31 (E5)	04:36						
	15:48	56	11:17 (E7)	16:45		17:47	19:53		20:55	41	07:12 (E5)	21:53						
2	08:50		09:30 (E8)	08:13		07:08	06:46		05:30		06:31 (E5)	04:34						
	15:49	57	11:18 (E7)	16:47		17:50	19:55		20:57	41	07:12 (E5)	21:54						
3	08:50		09:29 (E8)	08:11		07:06	06:43		05:28		06:31 (E5)	04:33						
	15:50	59	11:18 (E7)	16:49		17:52	19:57		21:00	40	07:11 (E5)	21:55						
4	08:50		09:28 (E8)	08:09		07:03	06:41		05:25		06:32 (E5)	04:32						
	15:52	60	11:18 (E7)	16:52		17:54	19:59		21:02	39	07:11 (E5)	21:57						
5	08:49		09:28 (E8)	08:07		07:00	06:38		05:23		06:32 (E5)	04:31						
	15:53	61	11:19 (E7)	16:54		17:56	20:01		21:04	38	07:10 (E5)	21:58						
6	08:49		09:27 (E8)	08:05		06:58	06:35		05:21		06:32 (E5)	04:31						
	15:55	63	11:19 (E7)	16:56		17:58	20:03		21:06	38	07:10 (E5)	21:59						
7	08:48		09:26 (E8)	08:03		06:55	06:33		05:19		06:33 (E5)	04:30						
	15:56	64	11:20 (E7)	16:58		18:00	20:05		21:08	36	07:09 (E5)	22:00						
8	08:48		09:27 (E8)	08:00		06:53	06:30		05:17		06:33 (E5)	04:29						
	15:58	64	11:20 (E7)	17:01		18:03	20:07		21:10	36	07:09 (E5)	22:01						
9	08:47		09:27 (E8)	07:58		06:50	06:27		05:15		06:34 (E5)	04:28						
	15:59	64	11:20 (E7)	17:03		18:05	20:10		21:12	34	07:08 (E5)	22:02						
10	08:46		09:27 (E8)	07:56		06:47	06:25		05:12		06:34 (E5)	04:28						
	16:01	65	11:21 (E7)	17:05		18:07	20:12		21:14	33	07:07 (E5)	22:03						
11	08:45		09:28 (E8)	07:54		06:45	06:22		05:10		06:35 (E5)	04:27						
	16:03	64	11:21 (E7)	17:07		18:09	20:14		21:16	31	07:06 (E5)	22:04						
12	08:44		09:28 (E8)	07:52	08:20 (E6)	06:42	06:20		05:08		06:36 (E5)	04:27						
	16:04	65	11:22 (E7)	17:10	6	08:26 (E6)	18:11		20:16	28	07:04 (E5)	22:05						
13	08:43		09:28 (E8)	07:49	08:18 (E6)	06:39	06:17		05:06		06:37 (E5)	04:26						
	16:06	64	11:21 (E7)	17:12	11	08:29 (E6)	18:13		20:18	26	07:03 (E5)	22:06						
14	08:42		09:28 (E8)	07:47	08:15 (E6)	06:37	06:14		05:04		06:39 (E5)	04:26						
	16:08	65	11:22 (E7)	17:14	15	08:30 (E6)	18:15		20:20	23	07:02 (E5)	22:07						
15	08:41		09:29 (E8)	07:45	08:13 (E6)	06:34	06:12	06:51 (E5)	05:02		06:40 (E5)	04:25						
	16:10	64	11:22 (E7)	17:16	18	08:31 (E6)	18:17	8	06:59 (E5)	20	07:00 (E5)	22:07						
16	08:40		09:29 (E8)	07:43	08:10 (E6)	06:31	06:09	06:46 (E5)	05:00		06:42 (E5)	04:25						
	16:12	64	11:22 (E7)	17:19	21	08:31 (E6)	18:20	17	07:03 (E5)	16	06:58 (E5)	22:08						
17	08:39		09:30 (E8)	07:40	08:10 (E6)	06:29	06:07	06:44 (E5)	04:59		06:44 (E5)	04:25						
	16:14	62	11:22 (E7)	17:21	22	08:32 (E6)	18:22	22	07:06 (E5)	11	06:55 (E5)	22:09						
18	08:37		09:30 (E8)	07:38	08:09 (E6)	06:26	06:04	06:41 (E5)	04:57			04:25						
	16:15	61	11:22 (E7)	17:23	23	08:32 (E6)	18:24	26	07:07 (E5)		21:29	22:09						
19	08:36		09:31 (E8)	07:35	08:09 (E6)	06:23	06:02	06:39 (E5)	04:55			04:25						
	16:17	59	11:21 (E7)	17:25	24	08:33 (E6)	18:26	30	07:09 (E5)		21:31	22:09						
20	08:35		09:32 (E8)	07:33	08:09 (E6)	06:21	05:59	06:37 (E5)	04:53			04:25						
	16:19	57	11:22 (E7)	17:28	23	08:32 (E6)	18:28	32	07:09 (E5)		21:33	22:10						
21	08:33		09:32 (E8)	07:31	08:09 (E6)	06:18	05:57	06:36 (E5)	04:51			04:25						
	16:21	56	11:21 (E7)	17:30	24	08:33 (E6)	18:30	34	07:10 (E5)		21:35	22:10						
22	08:32		09:33 (E8)	07:28	08:09 (E6)	06:15	05:54	06:36 (E5)	04:50			04:25						
	16:24	53	11:21 (E7)	17:32	23	08:32 (E6)	18:32	35	07:11 (E5)		21:37	22:10						
23	08:30		09:34 (E8)	07:26	08:10 (E6)	06:13	05:52	06:34 (E5)	04:48			04:25						
	16:26	49	11:20 (E7)	17:34	22	08:32 (E6)	18:34	37	07:11 (E5)		21:38	22:10						
24	08:29		09:37 (E8)	07:23	08:11 (E6)	06:10	05:49	06:34 (E5)	04:47			04:26						
	16:28	44	11:20 (E7)	17:36	19	08:30 (E6)	18:36	38	07:12 (E5)		21:40	22:10						
25	08:27		09:38 (E8)	07:21	08:11 (E6)	06:07	05:47	06:33 (E5)	04:45			04:26						
	16:30	39	11:19 (E7)	17:39	17	08:28 (E6)	18:38	40	07:13 (E5)		21:42	22:10						
26	08:26		09:42 (E8)	07:18	08:14 (E6)	06:05	05:44	06:32 (E5)	04:44			04:27						
	16:32	30	11:18 (E7)	17:41	13	08:27 (E6)	18:40	40	07:12 (E5)		21:43	22:10						
27	08:24		10:53 (E7)	07:16	08:16 (E6)	06:02	05:42	06:32 (E5)	04:42			04:27						
	16:34	24	11:17 (E7)	17:43	7	08:23 (E6)	18:43	40	07:12 (E5)		21:45	22:10						
28	08:22		10:55 (E7)	07:13		05:59	05:39	06:32 (E5)	04:41			04:28						
	16:36	20	11:15 (E7)	17:45		18:45	20:49	41	07:13 (E5)		21:47	22:10						
29	08:20		10:58 (E7)			06:57	05:37	06:31 (E5)	04:39			04:28						
	16:38	15	11:13 (E7)			19:47	20:51	41	07:12 (E5)		21:48	22:10						
30	08:18		11:03 (E7)			06:54	05:35	06:31 (E5)	04:38			04:29						
	16:41	5	11:08 (E7)			19:49	20:53	41	07:12 (E5)		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	1573				288						522		531					
Sun reduction	0.13				0.20						0.50		0.57					
Oper. time red.	0.98				0.98						0.98		0.98					
Wind dir. red.	0.61				0.62						0.65		0.65					
Total reduction	0.08				0.12						0.32		0.36					
Total, real	124				35						167		193					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E5)	06:17	07:17	07:23
	22:09	21:28	29 07:15 (E5)	20:14	18:53	16:36
2	04:31	05:17	06:45 (E5)	06:19	07:19	07:25
	22:09	21:26	31 07:16 (E5)	20:11	18:51	16:34
3	04:31	05:19	06:44 (E5)	06:21	07:21	07:27
	22:08	21:24	33 07:17 (E5)	20:09	18:48	16:31
4	04:32	05:21	06:44 (E5)	06:23	07:23	07:29
	22:07	21:22	34 07:18 (E5)	20:06	18:46	16:29
5	04:33	05:23	06:42 (E5)	06:25	07:25	07:31
	22:07	21:19	36 07:18 (E5)	20:03	18:43	16:27
6	04:34	05:25	06:42 (E5)	06:27	07:27	07:33
	22:06	21:17	37 07:19 (E5)	20:01	18:40	16:25
7	04:36	05:27	06:41 (E5)	06:29	07:29	07:36
	22:05	21:15	38 07:19 (E5)	19:58	18:38	16:23
8	04:37	05:29	06:41 (E5)	06:31	07:31	07:38
	22:04	21:13	39 07:20 (E5)	19:55	18:35	16:21
9	04:38	05:31	06:41 (E5)	06:33	07:34	07:40
	22:03	21:11	39 07:20 (E5)	19:53	18:32	16:19
10	04:39	05:33	06:40 (E5)	06:35	07:36	07:42
	22:02	21:08	40 07:20 (E5)	19:50	18:30	16:17
11	04:40	05:35	06:39 (E5)	06:37	07:38	07:44
	22:01	21:06	41 07:20 (E5)	19:47	18:27	16:15
12	04:42	05:37	06:39 (E5)	06:39	07:40	07:46
	22:00	21:04	41 07:20 (E5)	19:45	18:25	16:13
13	04:43	05:39	06:39 (E5)	06:41	07:42	07:49
	21:59	21:01	41 07:20 (E5)	19:42	18:22	16:11
14	04:45	05:41	06:39 (E5)	06:43	07:44	07:51
	21:58	20:59	41 07:20 (E5)	19:39	18:19	16:09
15	04:46	05:43	06:39 (E5)	06:45	07:46	07:53
	21:57	20:57	41 07:20 (E5)	19:37	18:17	16:07
16	04:48	05:45	06:39 (E5)	06:47	07:48	07:55
	21:55	20:54	41 07:20 (E5)	19:34	18:14	16:06
17	04:49	05:47	06:39 (E5)	06:49	07:50	07:57
	21:54	20:52	39 07:18 (E5)	19:31	18:12	16:04
18	04:51	05:49	06:39 (E5)	06:51	07:52	07:59
	21:52	20:49	39 07:18 (E5)	19:28	18:09	16:02
19	04:52	05:51	06:39 (E5)	06:53	07:54	08:01
	21:51	20:47	38 07:17 (E5)	19:26	18:07	16:01
20	04:54	05:53	06:40 (E5)	06:55	07:57	08:03
	21:49	20:45	37 07:17 (E5)	19:23	18:04	16:00
21	04:56	05:55	06:40 (E5)	06:57	07:59	08:05
	21:48	20:42	36 07:16 (E5)	19:20	18:02	15:57
22	04:57	05:57	06:41 (E5)	06:59	08:01	08:07
	21:46	20:40	34 07:15 (E5)	19:18	17:59	15:56
23	04:59	05:59	06:42 (E5)	07:01	08:03	08:09
	21:45	20:37	32 07:14 (E5)	19:15	17:57	15:54
24	05:01	06:01	06:43 (E5)	07:03	08:05	08:11
	21:43	20:35	29 07:12 (E5)	19:12	17:54	15:53
25	05:02	06:03	06:44 (E5)	07:05	08:07	08:13
	21:41	20:32	26 07:10 (E5)	19:10	16:52	15:52
26	05:04	06:05	06:46 (E5)	07:07	08:09	08:15
	21:39	20:29	21 07:07 (E5)	19:07	16:50	15:50
27	05:06	06:07	06:48 (E5)	07:09	08:11	08:17
	21:38	20:27	17 07:05 (E5)	19:04	16:47	15:49
28	05:08	06:09	06:52 (E5)	07:11	08:13	08:19
	21:36	20:24	8 07:00 (E5)	19:02	16:45	15:48
29	05:10	06:11	07:13	07:16	08:17	08:21
	21:34	20:22	18:59	16:43	10 07:58 (E6)	15:47
30	05:12	06:13	07:15	07:18	08:22	08:26
	21:32	20:19	18:56	16:40	5 07:55 (E6)	15:46
31	05:14	06:15	07:20	07:23		08:27
	21:30	20:17	16:38	16:38		15:46
Potential sun hours	529	469	385	324	247	216
Total, worst case	108	958		291	897	1688
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		0.62	0.61	0.61
Total reduction	0.32	0.32		0.16	0.05	0.04
Total, real	34	306		46	44	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	10	05:07 (E12) 21:28 (E15)	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	8	05:08 (E12) 21:28 (E15)	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	21:23 (E15) 21:28 (E15)	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	3	21:24 (E15) 21:27 (E15)	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	21:25 (E15) 21:27 (E15)	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	21:19 (E15) 21:20 (E15)			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	21:19 (E15) 21:22 (E15)			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	4	21:18 (E15) 21:22 (E15)			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	05:04 (E12) 21:23 (E15)			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	10	05:03 (E12) 21:24 (E15)			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	12	05:03 (E12) 21:25 (E15)			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	13	05:03 (E12) 21:26 (E15)			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	15	05:03 (E12) 21:27 (E15)			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	15	05:02 (E12) 21:26 (E15)			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	16	05:02 (E12) 21:27 (E15)			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	18	05:02 (E12) 21:28 (E15)			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	18	05:02 (E12) 21:28 (E15)			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	18	05:02 (E12) 21:28 (E15)			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	20	05:02 (E12) 21:29 (E15)			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	20	05:03 (E12) 21:30 (E15)			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	20	05:03 (E12) 21:30 (E15)			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	18	05:03 (E12) 21:29 (E15)			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	18	05:04 (E12) 21:30 (E15)			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	18	05:04 (E12) 21:30 (E15)			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	17	05:04 (E12) 21:29 (E15)			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	16	05:05 (E12) 21:30 (E15)			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	15	05:05 (E12) 21:29 (E15)			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	07:11 17:47	05:57 19:47	05:37 20:51	04:40 21:48	04:29 22:09	14	05:06 (E12) 21:29 (E15)			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	07:09 17:54	05:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	12	05:07 (E12) 21:29 (E15)			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	07:07 19:51	05:51 20:51	05:37 21:51	04:37 21:51	04:30 22:10		05:14 21:30			06:15 20:16	07:20 16:38	07:20 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							337		28						
Sun reduction							0.56		0.49						
Oper. time red.							0.98		0.98						
Wind dir. red.							0.62		0.61						
Total reduction							0.34		0.29						
Total, real							115		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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			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:

25/06/2024 23:53/4.0.540

## 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			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:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	08:14 (E7)	06:49	05:32
	15:48	16:45	17:47	16	08:30 (E7)	19:53
2	08:51	08:13	07:08	08:16 (E7)	06:46	05:30
	15:49	16:47	17:50	11	08:27 (E7)	19:55
3	08:50	08:11	07:06		06:43	05:28
	15:50	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	07:00	07:26 (E6)	06:38	05:23
	15:53	16:54	17:56	3	07:29 (E6)	20:01
6	08:49	08:05	06:58	07:24 (E6)	06:35	05:21
	15:55	16:56	17:58	7	07:31 (E6)	20:03
7	08:48	08:03	06:55	07:21 (E6)	06:33	05:19
	15:56	16:59	18:00	10	07:31 (E6)	20:05
8	08:48	08:01	06:53	07:18 (E6)	06:30	05:17
	15:58	17:01	18:03	12	07:30 (E6)	20:08
9	08:47	07:58	08:27 (E8)	06:50	07:16 (E6)	06:27
	15:59	17:03	3	08:30 (E8)	18:05	15
10	08:46	07:56	08:25 (E8)	06:47	07:31 (E6)	20:10
	16:01	17:05	6	08:31 (E8)	18:07	15
11	08:45	07:54	08:23 (E8)	06:45	07:15 (E6)	06:22
	16:03	17:08	9	08:32 (E8)	18:09	14
12	08:44	07:52	08:20 (E8)	06:42	07:17 (E6)	06:20
	16:04	17:10	12	08:32 (E8)	18:11	11
13	08:43	07:50	08:18 (E7)	06:39	07:19 (E6)	06:17
	16:06	17:12	15	08:33 (E8)	18:13	6
14	08:42	07:47	08:15 (E7)	06:37	07:25 (E6)	20:18
	16:08	17:14	17	08:32 (E7)	18:15	20:20
15	08:41	07:45	08:14 (E7)	06:34	06:12	11
	16:10	17:17	20	08:34 (E7)	18:17	20:22
16	08:40	07:43	08:12 (E7)	06:32	06:09	14
	16:12	17:19	22	08:34 (E7)	18:20	20:24
17	08:39	07:40	08:12 (E7)	06:29	06:07	17
	16:14	17:21	24	08:36 (E7)	18:22	20:26
18	08:38	07:38	08:10 (E7)	06:26	06:04	20
	16:16	17:23	26	08:36 (E7)	18:24	20:28
19	08:36	07:35	08:10 (E7)	06:24	06:02	20
	16:18	17:25	27	08:37 (E7)	18:26	20:30
20	08:35	07:33	08:10 (E7)	06:21	05:59	21
	16:20	17:28	27	08:37 (E7)	18:28	20:33
21	08:33	07:31	08:10 (E7)	06:18	05:57	21
	16:22	17:30	27	08:37 (E7)	18:30	20:35
22	08:32	07:28	08:09 (E7)	06:15	05:54	19
	16:24	17:32	28	08:37 (E7)	18:32	20:37
23	08:30	07:26	08:10 (E7)	06:13	05:52	19
	16:26	17:34	27	08:37 (E7)	18:34	20:39
24	08:29	07:23	08:10 (E7)	06:10	05:49	17
	16:28	17:37	26	08:36 (E7)	18:36	20:41
25	08:27	07:21	08:10 (E7)	06:07	05:47	14
	16:30	17:39	25	08:35 (E7)	18:38	20:43
26	08:26	07:18	08:11 (E7)	06:05	05:44	11
	16:32	17:41	24	08:35 (E7)	18:40	20:45
27	08:24	07:16	08:11 (E7)	06:02	05:42	5
	16:34	17:43	22	08:33 (E7)	18:43	20:47
28	08:22	07:13	08:13 (E7)	05:59	05:39	
	16:36	17:45	20	08:33 (E7)	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			06:51		
	16:43			19:51		
Potential sun hours	235	266	366	426	508	529
Total, worst case		407	120	218		
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		50	30	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	07:57 (E6)	07:23
	22:09	21:28	20:14	18:54	08:06 (E6)	07:55 (E8)
2	04:31	05:17	06:19	07:19	07:55 (E6)	07:25
	22:09	21:26	20:11	18:51	08:07 (E6)	07:59 (E8)
3	04:32	05:19	06:21	07:21	07:53 (E6)	07:27
	22:08	21:24	20:09	18:48	08:08 (E6)	07:31
4	04:32	05:21	06:23	07:23	07:52 (E6)	07:29
	22:07	21:22	20:06	18:46	08:08 (E6)	07:29
5	04:33	05:23	06:25	07:25	07:54 (E6)	07:31
	22:07	21:20	20:03	18:43	08:08 (E6)	07:31
6	04:35	05:25	06:27	07:27	07:56 (E6)	07:33
	22:06	21:17	20:01	18:40	08:07 (E6)	07:33
7	04:36	05:27	06:29	07:29	07:58 (E6)	07:36
	22:05	21:15	19:58	18:38	08:06 (E6)	07:36
8	04:37	05:29	06:31	07:32	08:00 (E6)	07:38
	22:04	21:13	19:55	18:35	08:05 (E6)	07:38
9	04:38	05:31	06:33	07:34	08:03 (E6)	07:40
	22:03	21:11	19:53	18:32	08:04 (E6)	07:40
10	04:39	05:33	06:35	07:36		07:42
	22:02	21:08	19:50	18:30		07:42
11	04:40	05:35	06:37	07:38	08:53 (E7)	07:44
	22:01	21:06	19:47	18:27	08:59 (E7)	07:44
12	04:42	05:37	06:39	07:40	08:49 (E7)	07:46
	22:00	21:04	19:45	18:25	09:02 (E7)	07:46
13	04:43	05:39	06:41	07:42	08:46 (E7)	07:49
	21:59	21:02	19:42	18:22	09:04 (E7)	07:49
14	04:45	05:41	06:43	07:44	08:44 (E7)	07:51
	21:58	20:59	19:39	18:19	09:05 (E7)	07:51
15	04:46	05:43	06:45	07:46	08:44 (E7)	07:53
	21:57	20:57	19:37	18:17	09:07 (E7)	07:53
16	04:48	05:45	06:47	07:48	08:43 (E7)	07:55
	21:55	20:54	19:34	18:14	09:07 (E7)	07:55
17	04:49	05:47	06:49	07:50	08:41 (E7)	07:57
	21:54	20:52	19:31	18:12	09:08 (E7)	07:57
18	04:51	05:49	06:51	07:52	08:41 (E7)	07:59
	21:53	20:50	19:29	18:09	09:08 (E7)	07:59
19	04:52	05:51	06:53	07:55	08:41 (E7)	08:01
	21:51	20:47	19:26	18:07	09:08 (E7)	08:01
20	04:54	05:53	06:55	07:57	08:40 (E7)	08:03
	21:49	20:45	19:23	18:04	09:08 (E7)	08:03
21	04:56	05:55	06:57	07:59	08:40 (E7)	08:05
	21:48	20:42	19:20	18:02	09:08 (E7)	08:05
22	04:57	05:57	06:59	08:01	08:40 (E7)	08:07
	21:46	20:40	19:18	17:59	09:07 (E7)	08:07
23	04:59	05:59	07:01	08:03	08:41 (E7)	08:09
	21:45	20:37	19:15	17:57	09:07 (E7)	08:09
24	05:01	06:01	07:03	08:05	08:41 (E7)	08:11
	21:43	20:35	19:12	17:55	09:06 (E7)	08:11
25	05:03	06:03	07:05	08:07	07:41 (E7)	08:13
	21:41	20:32	19:10	16:52	08:05 (E7)	08:13
26	05:04	06:05	07:07	08:09	07:43 (E7)	08:15
	21:39	20:30	19:07	16:50	08:05 (E7)	08:15
27	05:06	06:07	07:09	08:11	07:44 (E7)	08:17
	21:38	20:27	19:04	16:47	08:03 (E7)	08:17
28	05:08	06:09	07:11	08:13	07:45 (E7)	08:19
	21:36	20:24	19:02	16:45	08:02 (E8)	08:19
29	05:10	06:11	07:13	08:15	07:48 (E7)	08:21
	21:34	20:22	19:00	16:43	08:02 (E8)	08:21
30	05:12	06:13	07:15	08:17	07:50 (E8)	08:22
	21:32	20:19	18:56	16:40	08:02 (E8)	08:22
31	05:14	06:15		07:20	07:53 (E8)	08:24
	21:30	20:17		16:38	08:02 (E8)	08:24
Potential sun hours	529	469	385	324	247	216
Total, worst case		221		528	8	
Sun reduction		0.50		0.26	0.08	
Oper. time red.		0.98		0.98	0.98	
Wind dir. red.		0.65		0.62	0.62	
Total reduction		0.32		0.16	0.05	
Total, real		70		83	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	07:39 (E14) 19:53	06:49 20:56	05:33 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	08:51 15:50	08:13 16:48	07:08 17:50	07:40 (E14) 19:55	06:46 20:58	05:30 21:54	04:35 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	07:40 (E14) 19:57	06:44 21:00	05:28 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	07:42 (E14) 19:59	06:41 21:02	05:26 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	07:49 (E14) 19:59	06:38 21:01	05:24 21:04	04:32 21:58	05:24 22:07	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 21:06	05:21 21:59	04:31 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	06:59 18:01		06:33 21:06	05:19 22:00	04:30 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 21:08	05:17 22:01	04:29 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 21:10	05:15 22:02	04:29 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 21:12	05:13 22:03	04:28 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 21:14	05:11 22:04	04:28 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 21:16	05:09 22:05	04:27 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 21:18	05:07 22:06	04:27 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 21:20	05:05 22:07	04:26 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 21:22	05:03 22:07	04:26 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 21:24	05:01 22:08	04:26 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 21:26	04:59 22:09	04:25 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 21:28	04:57 22:09	04:25 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 21:31	04:55 22:09	04:25 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 21:33	04:54 22:10	04:25 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 21:35	04:52 22:10	04:25 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 21:37	04:50 22:10	04:26 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 21:38	04:49 22:10	04:26 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	07:50 (E14)	05:49 21:40	04:47 22:11	04:26 21:43	05:01 20:35	06:01 19:13	07:03 17:55	08:05 15:53	08:50 15:41	
25	08:27 16:30	07:21 17:39	06:08 18:39	07:52 (E14)	05:47 21:42	04:45 22:11	04:27 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	07:45 (E14)	05:45 21:43	04:44 22:10	04:27 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	07:42 (E14)	05:42 21:45	04:42 22:10	04:28 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	07:40 (E14)	05:40 21:47	04:41 22:10	04:28 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 21:48	04:40 22:10	04:29 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 21:50	04:38 22:09	04:29 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	04:37 22:10	05:14 21:30	06:15 20:17	07:21 17:38	07:21 16:38	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													
Sun reduction		43			46						94		
Oper. time red.		0.20			0.41						0.26		
Wind dir. red.		0.98			0.98						0.98		
Total reduction		0.63			0.63						0.63		
		0.12			0.25						0.16		
Total, real		5			12						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:

25/06/2024 23:53/4.0.540

## 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	06:49 19:53	07:31 (E11) 08:05 (E11)	05:32 20:55	06:00 (E4) 20:23 (E13)	04:36 21:52	05:49 (E10) 06:19 (E10)
2	08:50 15:49	08:13 16:47	16:00 (E16) 17:50	07:08 19:55	07:30 (E11) 08:04 (E11)	05:30 20:57	05:58 (E4) 20:24 (E13)	04:35 21:54	05:49 (E10) 06:19 (E10)
3	08:50 15:51	08:11 16:50	15:58 (E16) 17:52	17:14 (E15) 19:57	07:29 (E11) 08:04 (E11)	05:28 20:59	05:56 (E4) 20:24 (E13)	04:34 21:55	05:50 (E10) 06:18 (E10)
4	08:50 15:52	08:09 16:52	15:56 (E16) 17:54	17:12 (E15) 19:59	07:29 (E11) 08:04 (E11)	05:26 21:01	05:55 (E4) 20:24 (E13)	04:33 21:56	05:50 (E10) 06:18 (E10)
5	08:49 15:53	08:07 16:54	15:54 (E16) 17:56	17:10 (E15) 19:57	07:28 (E11) 08:04 (E11)	05:23 21:03	05:55 (E4) 20:24 (E13)	04:32 21:58	05:51 (E10) 06:18 (E10)
6	08:49 15:55	08:05 16:56	15:53 (E16) 17:58	07:25 (E12) 19:59	07:29 (E11) 08:04 (E11)	05:21 21:05	05:55 (E4) 20:23 (E13)	04:31 21:59	05:52 (E10) 06:18 (E10)
7	08:48 15:56	08:02 16:59	15:53 (E16) 18:00	07:22 (E12) 19:59	07:28 (E11) 08:03 (E11)	05:19 21:08	05:55 (E10) 20:23 (E13)	04:30 22:00	05:52 (E10) 06:17 (E10)
8	08:47 15:58	08:00 17:01	15:51 (E16) 18:03	07:20 (E12) 19:59	07:28 (E11) 08:02 (E11)	05:17 21:10	05:53 (E10) 20:22 (E13)	04:29 22:01	05:53 (E10) 06:18 (E10)
9	08:47 15:59	07:58 17:03	15:51 (E16) 18:05	07:19 (E12) 19:59	07:29 (E11) 08:01 (E11)	05:15 21:12	05:52 (E10) 20:21 (E13)	04:28 22:02	05:53 (E10) 06:17 (E10)
10	08:46 16:01	07:56 17:05	15:51 (E16) 18:07	07:18 (E12) 19:59	07:29 (E11) 08:00 (E11)	05:13 21:14	05:50 (E10) 20:20 (E13)	04:28 22:03	05:54 (E10) 06:17 (E10)
11	08:45 16:03	07:54 17:08	15:50 (E16) 18:09	07:17 (E12) 19:59	07:30 (E11) 07:59 (E11)	05:10 21:16	05:49 (E10) 20:18 (E13)	04:27 22:04	05:54 (E10) 06:17 (E10)
12	08:44 16:04	07:52 17:10	15:51 (E16) 18:11	07:16 (E12) 19:59	07:30 (E11) 07:57 (E11)	05:08 21:18	05:48 (E10) 20:16 (E13)	04:27 22:05	05:55 (E10) 06:17 (E10)
13	08:43 16:06	07:49 17:12	15:51 (E16) 18:13	07:16 (E12) 19:59	07:32 (E11) 07:56 (E11)	05:06 21:19	05:48 (E10) 06:17 (E10)	04:26 22:06	05:55 (E10) 06:17 (E10)
14	08:42 16:08	07:47 17:14	15:51 (E16) 18:15	07:16 (E12) 19:59	07:33 (E11) 07:53 (E11)	05:04 21:21	05:48 (E10) 06:18 (E10)	04:26 22:06	05:55 (E10) 06:16 (E10)
15	08:41 16:10	07:45 17:16	15:51 (E16) 18:17	07:15 (E12) 19:59	07:35 (E11) 07:51 (E11)	05:02 21:23	05:47 (E10) 06:19 (E10)	04:26 22:07	05:56 (E10) 06:16 (E10)
16	08:40 16:12	07:42 17:19	15:51 (E16) 18:19	07:16 (E12) 19:59	07:39 (E11) 07:46 (E11)	05:01 21:25	05:46 (E10) 06:19 (E10)	04:25 22:08	05:56 (E10) 06:16 (E10)
17	08:39 16:14	07:40 17:21	15:52 (E16) 18:22	07:16 (E12) 19:59	07:46 (E11) 07:57 (E11)	04:59 21:27	05:47 (E10) 06:20 (E10)	04:25 22:08	05:57 (E10) 06:16 (E10)
18	08:37 16:16	07:38 17:23	15:53 (E16) 18:24	07:17 (E12) 19:59	07:57 (E11) 07:57 (E11)	04:57 21:29	05:46 (E10) 06:19 (E10)	04:25 22:09	05:57 (E10) 06:16 (E10)
19	08:36 16:18	07:35 17:25	15:54 (E16) 18:26	07:19 (E12) 19:59	07:59 (E11) 07:59 (E11)	04:55 21:31	05:46 (E10) 06:19 (E10)	04:25 22:09	05:57 (E10) 06:17 (E10)
20	08:35 16:20	07:33 17:28	15:55 (E16) 18:28	07:20 (E12) 19:59	07:59 (E11) 18:00 (E14)	04:53 21:33	05:46 (E10) 06:20 (E10)	04:25 22:09	05:58 (E10) 06:17 (E10)
21	08:33 16:22	07:30 17:30	15:57 (E16) 18:30	07:23 (E12) 19:59	07:57 (E11) 18:02 (E14)	04:52 21:35	05:46 (E10) 06:19 (E10)	04:25 22:10	05:59 (E10) 06:18 (E10)
22	08:32 16:24	07:28 17:32	15:59 (E16) 18:32	17:53 (E14) 18:04 (E14)	05:54 20:37	04:50 21:36	05:46 (E10) 06:20 (E10)	04:25 22:10	05:59 (E10) 06:18 (E10)
23	08:30 16:26	07:26 17:34	16:10 (E16) 18:34	17:53 (E14) 18:06 (E14)	05:52 20:39	04:48 21:38	05:46 (E10) 06:19 (E10)	04:26 22:10	05:59 (E10) 06:18 (E10)
24	08:29 16:28	07:23 17:36	17:52 (E14) 18:36	18:06 (E14) 18:08 (E14)	05:49 20:41	04:47 21:40	05:46 (E10) 06:20 (E10)	04:26 22:10	05:58 (E10) 06:18 (E10)
25	08:27 16:30	07:21 17:39	18:36 18:38	18:08 (E14) 18:07 (E14)	20:41 20:43	04:45 21:41	05:47 (E10) 06:20 (E10)	04:26 22:10	05:59 (E10) 06:18 (E10)
26	08:25 16:32	07:18 17:41	18:40 18:40	18:07 (E14) 18:07 (E14)	20:45 20:45	04:44 21:43	05:47 (E10) 06:20 (E10)	04:27 22:10	05:59 (E10) 06:18 (E10)
27	08:24 16:34	07:16 17:43	18:42 18:42	18:07 (E14) 18:05 (E14)	20:47 20:47	04:42 21:45	05:47 (E10) 06:19 (E10)	04:27 22:10	05:59 (E10) 06:19 (E10)
28	08:22 16:36	07:13 17:45	18:45 18:45	18:05 (E14) 18:02 (E14)	20:49 20:49	04:41 21:46	05:47 (E10) 06:19 (E10)	04:28 22:10	05:58 (E10) 06:19 (E10)
29	08:20 16:39	07:11 17:47	18:47 19:47	18:04 (E11) 08:03 (E11)	20:53 20:51	04:39 21:48	05:48 (E10) 06:19 (E10)	04:28 22:09	05:59 (E10) 06:20 (E10)
30	08:18 16:41	07:09 17:54	19:49 19:49	08:03 (E11) 08:04 (E11)	20:53 20:53	04:38 21:49	05:48 (E10) 06:19 (E10)	04:29 22:09	05:59 (E10) 06:21 (E10)
31	08:16 16:43	07:07 17:51	19:51 19:51	07:31 (E11) 08:04 (E11)	20:53 20:53	04:37 21:51	05:49 (E10) 06:19 (E10)	04:29 22:09	05:59 (E10) 06:21 (E10)
Potential sun hours	235	266	366	426	508	528			
Total, worst case		481	847	529	1037	670			
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.		0.67	0.64	0.65	0.66	0.67			
Total reduction		0.13	0.26	0.32	0.37	0.37			
Total, real		63	218	168	381	245			

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:

25/06/2024 23:53/4.0.540

## 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		05:58 (E10)	05:16		05:59 (E10)	06:17		07:29 (E11)	07:17		07:56 (E12)	07:22		15:21 (E16)	08:24	
	22:09	23	06:21 (E10)	21:28	36	20:27 (E13)	20:14	29	07:58 (E11)	18:53	46	18:07 (E15)	16:36	28	15:49 (E16)	15:45	
2	04:31		05:58 (E10)	05:17		06:00 (E10)	06:19		07:28 (E11)	07:19		07:56 (E12)	07:25		15:21 (E16)	08:26	
	22:08	23	06:21 (E10)	21:26	38	20:29 (E13)	20:11	31	07:59 (E11)	18:51	47	18:07 (E15)	16:34	27	15:48 (E16)	15:44	
3	04:32		05:58 (E10)	05:19		06:01 (E10)	06:21		07:27 (E11)	07:21		07:56 (E12)	07:27		15:21 (E16)	08:27	
	22:08	24	06:22 (E10)	21:24	40	20:31 (E13)	20:09	32	07:59 (E11)	18:48	46	18:07 (E15)	16:31	26	15:47 (E16)	15:43	
4	04:33		05:58 (E10)	05:21		06:02 (E10)	06:23		07:25 (E11)	07:23		07:56 (E12)	07:29		15:23 (E16)	08:29	
	22:07	25	06:23 (E10)	21:21	40	20:32 (E13)	20:06	34	07:59 (E11)	18:45	46	18:07 (E15)	16:29	24	15:47 (E16)	15:42	
5	04:34		05:58 (E10)	05:23		06:03 (E10)	06:25		07:24 (E11)	07:25		07:57 (E12)	07:31		15:23 (E16)	08:31	
	22:06	25	06:23 (E10)	21:19	37	20:32 (E13)	20:03	35	07:59 (E11)	18:43	42	18:06 (E15)	16:27	23	15:46 (E16)	15:42	
6	04:35		05:58 (E10)	05:25		06:05 (E10)	06:27		07:24 (E11)	07:27		07:58 (E12)	07:33		15:25 (E16)	08:32	
	22:06	26	06:24 (E10)	21:17	34	20:32 (E13)	20:01	35	07:59 (E11)	18:40	39	18:06 (E15)	16:25	20	15:45 (E16)	15:41	
7	04:36		05:58 (E10)	05:27		06:05 (E4)	06:29		07:24 (E11)	07:29		07:59 (E12)	07:35		15:26 (E16)	08:34	
	22:05	27	06:25 (E10)	21:15	34	20:33 (E13)	19:58	35	07:59 (E11)	18:38	35	18:05 (E15)	16:23	17	15:43 (E16)	15:40	
8	04:37		05:58 (E10)	05:29		06:04 (E4)	06:31		07:23 (E11)	07:31		08:02 (E12)	07:38		15:28 (E16)	08:35	
	22:04	27	06:25 (E10)	21:13	35	20:33 (E13)	19:55	36	07:59 (E11)	18:35	27	18:03 (E15)	16:21	13	15:41 (E16)	15:40	
9	04:38		05:57 (E10)	05:31		06:04 (E4)	06:33		07:23 (E11)	07:33		17:45 (E15)	07:40		15:31 (E16)	08:36	
	22:03	28	06:25 (E10)	21:11	36	20:33 (E13)	19:53	35	07:58 (E11)	18:32	16	18:01 (E15)	16:19	7	15:38 (E16)	15:39	
10	04:39		05:57 (E10)	05:33		06:05 (E4)	06:35		07:23 (E11)	07:36		17:47 (E15)	07:42			08:38	
	22:02	29	06:26 (E10)	21:08	34	20:32 (E13)	19:50	35	07:58 (E11)	18:30	12	17:59 (E15)	16:17			15:39	
11	04:41		05:57 (E10)	05:35		06:07 (E4)	06:37		07:23 (E11)	07:38		17:50 (E15)	07:44			08:39	
	22:01	29	06:26 (E10)	21:06	32	20:32 (E13)	19:47	34	07:57 (E11)	18:27	6	17:56 (E15)	16:15			15:38	
12	04:42		05:57 (E10)	05:37		06:09 (E4)	06:39		07:23 (E11)	07:40			07:46			08:40	
	22:00	30	06:27 (E10)	21:04	27	20:31 (E13)	19:45	33	07:56 (E11)	18:25			16:13			15:38	
13	04:43		05:57 (E10)	05:39		06:11 (E4)	06:41		07:24 (E11)	07:42			07:48			08:41	
	21:59	31	06:28 (E10)	21:01	23	20:29 (E13)	19:42	31	07:55 (E11)	18:22			16:11			15:38	
14	04:45		05:56 (E10)	05:41		06:13 (E4)	06:43		07:24 (E11)	07:44			07:50			08:42	
	21:58	32	06:28 (E10)	20:59	17	20:27 (E13)	19:39	30	07:54 (E11)	18:19			16:09			15:38	
15	04:46		05:56 (E10)	05:43		20:15 (E13)	06:45		07:25 (E11)	07:46			07:53			08:43	
	21:56	32	06:28 (E10)	20:57	10	20:25 (E13)	19:37	34	18:52 (E14)	18:17			16:07			15:38	
16	04:48		05:57 (E10)	05:45		20:16 (E13)	06:47		07:26 (E11)	07:48			07:55			08:44	
	21:55	32	06:29 (E10)	20:54	7	20:23 (E13)	19:34	36	18:54 (E14)	18:14			16:06			15:38	
17	04:49		05:56 (E10)	05:47		20:18 (E13)	06:49		07:28 (E11)	07:50			07:57			08:45	
	21:54	33	06:29 (E10)	20:52	1	20:19 (E13)	19:31	34	18:55 (E14)	18:12			16:04			15:38	
18	04:51		05:57 (E10)	05:49			06:51		07:30 (E11)	07:52			07:59			08:46	
	21:52	33	06:30 (E10)	20:49			19:28	31	18:55 (E14)	18:09			16:02			15:38	
19	04:52		05:56 (E10)	05:51			06:53		07:34 (E11)	07:54		16:34 (E16)	08:01			08:47	
	21:51	33	06:29 (E10)	20:47			19:26	20	18:54 (E14)	18:07	3	16:37 (E16)	16:01			15:38	
20	04:54		05:57 (E10)	05:53			06:55		18:38 (E14)	07:56		16:30 (E16)	08:03			08:48	
	21:49	33	06:30 (E10)	20:44			19:23	14	18:52 (E14)	18:04	13	16:43 (E16)	15:59			15:39	
21	04:56		05:56 (E10)	05:55			06:57		18:38 (E14)	07:59		16:27 (E16)	08:05			08:48	
	21:48	34	06:30 (E10)	20:42			19:20	12	18:50 (E14)	18:02	17	16:44 (E16)	15:58			15:39	
22	04:57		05:57 (E10)	05:57			06:59		18:38 (E14)	08:01		16:25 (E16)	08:07			08:49	
	21:46	33	06:30 (E10)	20:39			19:18	9	18:47 (E14)	17:59	21	16:46 (E16)	15:56			15:39	
23	04:59		05:56 (E10)	05:59			07:01		08:05 (E12)	08:03		16:24 (E16)	08:09			08:49	
	21:44	34	06:30 (E10)	20:37			19:15	16	18:44 (E14)	17:57	23	16:47 (E16)	15:55			15:40	
24	05:01		05:57 (E10)	06:01			07:03		08:02 (E12)	08:05		16:23 (E16)	08:11			08:50	
	21:43	33	06:30 (E10)	20:34			19:12	18	18:42 (E14)	17:54	25	16:48 (E16)	15:53			15:40	
25	05:03		05:56 (E10)	06:03			07:05		08:00 (E12)	07:07		15:21 (E16)	08:13			08:50	
	21:41	33	06:29 (E10)	20:32			19:10	19	08:19 (E12)	16:52	27	15:48 (E16)	15:52			15:41	
26	05:04		05:57 (E10)	06:05			07:07		07:59 (E12)	07:09		15:21 (E16)	08:15			08:50	
	21:39	33	06:30 (E10)	20:29			19:07	21	08:20 (E12)	16:50	27	15:48 (E16)	15:51			15:42	
27	05:06		05:57 (E10)	06:07		07:40 (E11)	07:09		07:57 (E12)	07:12		15:21 (E16)	08:17			08:51	
	21:37	33	06:30 (E10)	20:27	9	07:49 (E11)	19:04	31	18:01 (E15)	16:47	28	15:49 (E16)	15:49			15:43	
28	05:08		05:57 (E10)	06:09			07:36 (E11)		07:56 (E12)	07:14		15:20 (E16)	08:19			08:51	
	21:35	32	06:29 (E10)	20:24	16	07:52 (E11)	19:01	38	18:04 (E15)	16:45	29	15:49 (E16)	15:48			15:44	
29	05:10		05:58 (E10)	06:11			07:34 (E11)		07:56 (E12)	07:16		15:21 (E16)	08:20			08:51	
	21:34	31	06:29 (E10)	20:22	20	07:54 (E11)	18:59	42	18:05 (E15)	16:43	29	15:50 (E16)	15:47			15:45	
30	05:12		05:58 (E10)	06:13			07:32 (E11)		07:56 (E12)	07:18		15:20 (E16)	08:22			08:51	
	21:32	31	06:29 (E10)	20:19	24	07:56 (E11)	18:56	45	18:07 (E15)	16:40	29	15:49 (E16)	15:46			15:46	
31	05:14		05:59 (E10)	06:15			07:30 (E11)			07:20		15:20 (E16)				08:51	
	21:30	29	06:28 (E10)	20:16	27	07:57 (E11)				16:38	28	15:48 (E16)				15:47	
Potential sun hours	529			469				385		324			247			216	
Total, worst case		931			577			885		661			185				
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			0.65			0.65		0.65			0.67				
Total reduction		0.32			0.32			0.27		0.16			0.05				
Total, real		300			182			239		109			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:

25/06/2024 23:53/4.0.540

## 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	06:49 19:53	07:32 (E11) 08:06 (E11)	05:32 20:55	06:00 (E4) 20:22 (E13)	04:36 21:52	05:48 (E10) 06:19 (E10)
2	08:50 15:49	08:13 16:47	07:08 17:50	06:46 19:55	07:31 (E11) 08:06 (E11)	05:30 20:57	05:58 (E4) 20:23 (E13)	04:35 21:54	05:49 (E10) 06:19 (E10)
3	08:50 15:51	08:11 16:50	07:05 17:52	06:43 19:57	07:30 (E11) 08:06 (E11)	05:28 20:59	05:56 (E4) 20:23 (E13)	04:34 21:55	05:49 (E10) 06:19 (E10)
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:30 (E11) 08:06 (E11)	05:26 21:01	05:54 (E4) 20:23 (E13)	04:33 21:56	05:49 (E10) 06:18 (E10)
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 19:57	07:29 (E11) 08:05 (E11)	05:23 21:03	05:55 (E4) 20:22 (E13)	04:32 21:58	05:51 (E10) 06:19 (E10)
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 19:59	07:30 (E11) 08:05 (E11)	05:21 21:05	05:55 (E4) 20:22 (E13)	04:31 21:59	05:51 (E10) 06:19 (E10)
7	08:48 15:56	08:02 16:59	06:55 18:00	06:33 19:59	07:30 (E11) 08:04 (E11)	05:19 21:08	05:55 (E10) 20:21 (E13)	04:30 22:00	05:51 (E10) 06:18 (E10)
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 19:59	07:29 (E11) 08:03 (E11)	05:17 21:10	05:53 (E10) 20:20 (E13)	04:29 22:01	05:52 (E10) 06:18 (E10)
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 19:59	07:30 (E11) 08:03 (E11)	05:15 21:12	05:52 (E10) 20:19 (E13)	04:28 22:02	05:52 (E10) 06:18 (E10)
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 19:59	07:30 (E11) 08:01 (E11)	05:13 21:14	05:50 (E10) 20:18 (E13)	04:28 22:03	05:53 (E10) 06:18 (E10)
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 19:59	07:31 (E11) 08:01 (E11)	05:10 21:16	05:49 (E10) 20:16 (E13)	04:27 22:04	05:53 (E10) 06:17 (E10)
12	08:44 16:04	07:52 17:10	06:42 18:11	06:20 19:59	07:32 (E11) 07:59 (E11)	05:08 21:18	05:48 (E10) 20:17 (E10)	04:27 22:05	05:54 (E10) 06:18 (E10)
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 19:59	07:33 (E11) 07:57 (E11)	05:06 21:19	05:47 (E10) 20:17 (E10)	04:26 22:06	05:54 (E10) 06:18 (E10)
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 19:59	07:34 (E11) 07:55 (E11)	05:04 21:21	05:48 (E10) 20:18 (E10)	04:26 22:06	05:54 (E10) 06:17 (E10)
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 19:59	07:37 (E11) 07:52 (E11)	05:02 21:23	05:47 (E10) 20:19 (E10)	04:26 22:07	05:55 (E10) 06:17 (E10)
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 19:59	07:40 (E11) 07:47 (E11)	05:01 21:25	05:46 (E10) 20:19 (E10)	04:25 22:08	05:55 (E10) 06:17 (E10)
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 19:59	07:47 (E11) 07:40 (E12)	04:59 21:27	05:47 (E10) 20:20 (E10)	04:25 22:08	05:56 (E10) 06:18 (E10)
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 19:59	07:18 (E12) 07:38 (E12)	04:57 21:29	05:46 (E10) 20:19 (E10)	04:25 22:09	05:56 (E10) 06:18 (E10)
19	08:36 16:18	07:35 17:25	06:23 18:26	06:02 19:59	07:20 (E12) 17:58 (E14)	04:55 21:31	05:45 (E10) 20:19 (E10)	04:25 22:09	05:56 (E10) 06:18 (E10)
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 19:59	07:22 (E12) 18:00 (E14)	04:53 21:33	05:46 (E10) 20:20 (E10)	04:25 22:09	05:56 (E10) 06:18 (E10)
21	08:33 16:22	07:30 17:30	06:18 18:30	05:57 19:59	17:53 (E14) 18:02 (E14)	04:52 21:35	05:45 (E10) 20:20 (E10)	04:25 22:10	05:57 (E10) 06:19 (E10)
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 19:59	17:52 (E14) 18:04 (E14)	04:50 21:36	05:46 (E10) 20:20 (E10)	04:25 22:10	05:57 (E10) 06:19 (E10)
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 19:59	17:52 (E14) 18:06 (E14)	04:48 21:38	05:45 (E10) 20:19 (E10)	04:26 22:10	05:57 (E10) 06:19 (E10)
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 19:59	06:48 (E11) 18:08 (E14)	04:47 21:40	05:46 (E10) 20:20 (E10)	04:26 22:10	05:57 (E10) 06:19 (E10)
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 19:59	06:43 (E11) 18:07 (E14)	04:45 21:41	05:46 (E10) 20:20 (E10)	04:26 22:10	05:58 (E10) 06:20 (E10)
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 19:59	06:40 (E11) 18:06 (E14)	04:44 21:43	05:47 (E10) 20:20 (E10)	04:27 22:10	05:57 (E10) 06:19 (E10)
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 19:59	06:38 (E11) 18:04 (E14)	04:42 21:45	05:46 (E10) 20:20 (E10)	04:27 22:10	05:58 (E10) 06:20 (E10)
28	08:22 16:36	07:13 17:45	05:59 18:45	05:39 19:59	06:36 (E11) 18:01 (E14)	04:41 21:46	05:47 (E10) 20:20 (E10)	04:28 22:10	05:57 (E10) 06:20 (E10)
29	08:20 16:39	07:11 17:47	05:57 19:47	05:37 19:59	06:35 (E11) 08:05 (E11)	04:39 21:48	05:47 (E10) 20:20 (E10)	04:28 22:09	05:58 (E10) 06:21 (E10)
30	08:18 16:41	07:09 17:54	05:54 19:54	05:35 19:59	07:33 (E11) 08:06 (E11)	04:38 21:49	05:48 (E10) 20:20 (E10)	04:29 22:09	05:58 (E10) 06:22 (E10)
31	08:16 16:43	07:07 17:51	05:51 19:51	05:32 19:59	07:32 (E11) 08:06 (E11)	04:37 21:51	05:48 (E10) 20:19 (E10)	04:29 22:09	05:58 (E10) 06:22 (E10)
Potential sun hours	235	266	366	426	508	528			
Total, worst case		469	869	540	1029	731			
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.		0.67	0.64	0.65	0.66	0.67			
Total reduction		0.13	0.26	0.32	0.37	0.37			
Total, real		62	224	171	378	267			

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:

25/06/2024 23:53/4.0.540

## 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		05:57 (E10)	05:16		05:59 (E10)	06:17		07:30 (E11)	07:17		07:57 (E12)	07:22			15:22 (E16)	08:24	
	22:09	25	06:22 (E10)	21:28	29	20:23 (E13)	20:14	30	08:00 (E11)	18:53	46	18:07 (E15)	16:36	28		15:50 (E16)	15:45	
2	04:31		05:57 (E10)	05:17		06:00 (E10)	06:19		07:29 (E11)	07:19		07:57 (E12)	07:25			15:22 (E16)	08:26	
	22:08	25	06:22 (E10)	21:26	35	20:27 (E13)	20:11	31	08:00 (E11)	18:51	46	18:07 (E15)	16:34	27		15:49 (E16)	15:44	
3	04:32		05:57 (E10)	05:19		06:01 (E10)	06:21		07:28 (E11)	07:21		07:57 (E12)	07:27			15:22 (E16)	08:27	
	22:08	26	06:23 (E10)	21:24	37	20:29 (E13)	20:09	33	08:01 (E11)	18:48	46	18:07 (E15)	16:31	26		15:48 (E16)	15:43	
4	04:33		05:57 (E10)	05:21		06:03 (E10)	06:23		07:26 (E11)	07:23		07:57 (E12)	07:29			15:24 (E16)	08:29	
	22:07	27	06:24 (E10)	21:21	36	20:30 (E13)	20:06	34	08:00 (E11)	18:45	46	18:07 (E15)	16:29	24		15:48 (E16)	15:42	
5	04:34		05:57 (E10)	05:23		06:03 (E10)	06:25		07:26 (E11)	07:25		07:57 (E12)	07:31			15:24 (E16)	08:31	
	22:06	27	06:24 (E10)	21:19	36	20:30 (E13)	20:03	34	08:00 (E11)	18:43	44	18:06 (E15)	16:27	22		15:46 (E16)	15:42	
6	04:35		05:57 (E10)	05:25		06:05 (E4)	06:27		07:25 (E11)	07:27		07:58 (E12)	07:33			15:26 (E16)	08:32	
	22:06	28	06:25 (E10)	21:17	33	20:31 (E13)	20:01	36	08:01 (E11)	18:40	41	18:06 (E15)	16:25	20		15:46 (E16)	15:41	
7	04:36		05:57 (E10)	05:27		06:04 (E4)	06:29		07:25 (E11)	07:29		07:59 (E12)	07:35			15:27 (E16)	08:34	
	22:05	28	06:25 (E10)	21:15	34	20:31 (E13)	19:58	35	08:00 (E11)	18:38	37	18:05 (E15)	16:23	17		15:44 (E16)	15:40	
8	04:37		05:57 (E10)	05:29		06:04 (E4)	06:31		07:24 (E11)	07:31		08:01 (E12)	07:38			15:29 (E16)	08:35	
	22:04	29	06:26 (E10)	21:13	35	20:32 (E13)	19:55	36	08:00 (E11)	18:35	32	18:04 (E15)	16:21	12		15:41 (E16)	15:40	
9	04:38		05:57 (E10)	05:31		06:04 (E4)	06:33		07:24 (E11)	07:33		17:45 (E15)	07:40			15:34 (E16)	08:36	
	22:03	29	06:26 (E10)	21:11	36	20:32 (E13)	19:53	36	08:00 (E11)	18:32	16	18:01 (E15)	16:19	4		15:38 (E16)	15:39	
10	04:39		05:56 (E10)	05:33		06:05 (E4)	06:35		07:24 (E11)	07:36		17:47 (E15)	07:42				08:38	
	22:02	30	06:26 (E10)	21:08	34	20:31 (E13)	19:50	35	07:59 (E11)	18:30	12	17:59 (E15)	16:17				15:39	
11	04:41		05:56 (E10)	05:35		06:07 (E4)	06:37		07:24 (E11)	07:38		17:50 (E15)	07:44				08:39	
	22:01	31	06:27 (E10)	21:06	32	20:31 (E13)	19:47	35	07:59 (E11)	18:27	6	17:56 (E15)	16:15				15:38	
12	04:42		05:57 (E10)	05:37		06:09 (E4)	06:39		07:24 (E11)	07:40			07:46				08:40	
	22:00	31	06:28 (E10)	21:04	29	20:31 (E13)	19:45	34	07:58 (E11)	18:25			16:13				15:38	
13	04:43		05:56 (E10)	05:39		06:11 (E4)	06:41		07:25 (E11)	07:42			07:48				08:41	
	21:59	32	06:28 (E10)	21:01	24	20:29 (E13)	19:42	32	07:57 (E11)	18:22			16:11				15:38	
14	04:45		05:56 (E10)	05:41		06:13 (E4)	06:43		07:25 (E11)	07:44			07:50				08:42	
	21:58	32	06:28 (E10)	20:59	19	20:27 (E13)	19:39	31	07:56 (E11)	18:19			16:09				15:38	
15	04:46		05:55 (E10)	05:43		20:13 (E13)	06:45		07:26 (E11)	07:46			07:53				08:43	
	21:56	33	06:28 (E10)	20:57	12	20:25 (E13)	19:37	31	18:50 (E14)	18:17			16:07				15:38	
16	04:48		05:56 (E10)	05:45		20:14 (E13)	06:47		07:27 (E11)	07:48			07:55				08:44	
	21:55	33	06:29 (E10)	20:54	9	20:23 (E13)	19:34	36	18:53 (E14)	18:14			16:06				15:38	
17	04:49		05:56 (E10)	05:47		20:15 (E13)	06:49		07:28 (E11)	07:50			07:57				08:45	
	21:54	33	06:29 (E10)	20:52	4	20:19 (E13)	19:31	35	18:54 (E14)	18:12			16:04				15:38	
18	04:51		05:56 (E10)	05:49			06:51		07:30 (E11)	07:52			07:59				08:46	
	21:52	34	06:30 (E10)	20:49			19:28	33	18:55 (E14)	18:09			16:02				15:38	
19	04:52		05:56 (E10)	05:51			06:53		07:33 (E11)	07:54			16:36 (E16)	08:01			08:47	
	21:51	34	06:30 (E10)	20:47			19:26	26	18:54 (E14)	18:07	2		16:38 (E16)	16:01			15:38	
20	04:54		05:56 (E10)	05:53			06:55		18:38 (E14)	07:56			16:31 (E16)	08:03			08:48	
	21:49	34	06:30 (E10)	20:44			19:23	14	18:52 (E14)	18:04	12		16:43 (E16)	15:59			15:39	
21	04:56		05:56 (E10)	05:55			06:57		18:38 (E14)	07:59			16:28 (E16)	08:05			08:48	
	21:48	34	06:30 (E10)	20:42			19:20	12	18:50 (E14)	18:02	17		16:45 (E16)	15:58			15:39	
22	04:57		05:56 (E10)	05:57			06:59		18:38 (E14)	08:01			16:26 (E16)	08:07			08:49	
	21:46	34	06:30 (E10)	20:39			19:18	9	18:47 (E14)	17:59	20		16:46 (E16)	15:56			15:39	
23	04:59		05:56 (E10)	05:59			07:01		08:07 (E12)	08:03			16:25 (E16)	08:09			08:49	
	21:44	34	06:30 (E10)	20:37			19:15	16	18:44 (E14)	17:57	23		16:48 (E16)	15:55			15:40	
24	05:01		05:56 (E10)	06:01			07:03		08:04 (E12)	08:05			16:24 (E16)	08:11			08:50	
	21:43	34	06:30 (E10)	20:34			19:12	18	18:42 (E14)	17:54	25		16:49 (E16)	15:53			15:40	
25	05:03		05:56 (E10)	06:03			07:05		08:02 (E12)	07:07			15:23 (E16)	08:13			08:50	
	21:41	33	06:29 (E10)	20:32			19:10	18	08:20 (E12)	16:52	26		15:49 (E16)	15:52			15:41	
26	05:04		05:56 (E10)	06:05			07:07		08:00 (E12)	07:09			15:22 (E16)	08:15			08:50	
	21:39	34	06:30 (E10)	20:29			19:07	21	08:21 (E12)	16:50	27		15:49 (E16)	15:51			15:42	
27	05:06		05:57 (E10)	06:07		07:42 (E11)	07:09		07:59 (E12)	07:12			15:22 (E16)	08:17			08:51	
	21:37	33	06:30 (E10)	20:27	8	07:50 (E11)	19:04	26	17:59 (E15)	16:47	28		15:50 (E16)	15:49			15:43	
28	05:08		05:57 (E10)	06:09			07:11		07:58 (E12)	07:14			15:21 (E16)	08:19			08:51	
	21:35	32	06:29 (E10)	20:24	17	07:54 (E11)	19:01	36	18:03 (E15)	16:45	29		15:50 (E16)	15:48			15:44	
29	05:10		05:57 (E10)	06:11			07:13		07:57 (E12)	07:16			15:22 (E16)	08:20			08:51	
	21:34	32	06:29 (E10)	20:22	21	07:56 (E11)	18:59	41	18:05 (E15)	16:43	28		15:50 (E16)	15:47			15:45	
30	05:12		05:58 (E10)	06:13			07:15		07:57 (E12)	07:18			15:21 (E16)	08:22			08:51	
	21:32	30	06:28 (E10)	20:19	24	07:57 (E11)	18:56	44	18:06 (E15)	16:40	29		15:50 (E16)	15:46			15:46	
31	05:14		05:59 (E10)	06:15			07:31 (E11)			07:20			15:21 (E16)				08:51	
	21:30	29	06:28 (E10)	20:16	28	07:59 (E11)				16:38	28		15:49 (E16)				15:47	
Potential sun hours	529			469			385			324			247				216	
Total, worst case		960			572		888			666			180					
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			0.65		0.65			0.65			0.67					
Total reduction		0.32			0.32		0.27			0.16			0.05					
Total, real		310			180		240			110			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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 15:48	08:15 16:45	07:11 17:47	06:49 19:53	05:32 20:55	04:36 21:53
2	08:50 15:49	08:13 16:47	07:08 17:50	06:46 19:55	30 07:00 (E7) 20:57	6 05:16 (E5) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	30 07:00 (E7) 20:58	8 05:17 (E5) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	28 06:59 (E7) 21:02	9 05:17 (E5) 21:57
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	27 06:59 (E7) 21:04	11 05:18 (E5) 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	26 06:58 (E7) 21:06	12 05:19 (E5) 21:59
7	08:48 15:56	08:03 16:59	06:55 18:00	06:33 20:05	23 06:56 (E7) 21:08	13 05:19 (E5) 22:00
8	08:48 15:58	08:00 17:01	06:53 18:03	06:30 20:08	20 06:55 (E6) 21:10	14 05:19 (E5) 22:01
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:10	17 06:53 (E7) 21:12	15 05:20 (E5) 22:02
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	13 06:51 (E7) 21:14	16 05:20 (E5) 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	6 06:48 (E6) 21:16	16 05:20 (E5) 22:04
12	08:44 16:04	07:52 17:10	06:42 18:11	06:20 20:16	16 07:04 (E6) 21:18	17 05:20 (E5) 22:05
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	17 07:03 (E6) 21:20	18 05:21 (E5) 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	16 06:47 (E6) 21:22	18 05:21 (E5) 22:07
15	08:41 16:10	07:45 17:17	06:34 18:17	06:12 20:22	14 07:01 (E6) 21:24	19 05:21 (E5) 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	13 07:01 (E6) 21:25	18 05:21 (E5) 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	16 06:58 (E6) 21:27	19 05:22 (E5) 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	17 06:57 (E7) 21:29	19 05:22 (E5) 22:09
19	08:36 16:18	07:35 17:25	06:24 18:26	06:02 20:30	21 06:58 (E7) 21:31	19 05:22 (E5) 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	24 07:00 (E7) 21:33	18 05:22 (E5) 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	26 07:00 (E7) 21:35	18 05:22 (E5) 22:10
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:37	28 07:01 (E7) 21:37	18 05:23 (E5) 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	29 07:02 (E7) 21:38	18 05:23 (E5) 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	31 07:02 (E7) 21:40	18 05:23 (E5) 22:10
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	31 07:02 (E7) 21:42	19 05:23 (E5) 22:10
26	08:26 16:32	07:18 17:41	06:05 18:40	05:44 20:45	32 07:03 (E7) 21:43	19 05:24 (E5) 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	32 07:02 (E7) 21:45	18 05:24 (E5) 22:10
28	08:22 16:36	07:13 17:45	05:59 18:45	05:40 20:49	32 06:30 (E7) 21:47	18 05:24 (E5) 22:10
29	08:20 16:39	07:10 17:42	05:57 18:47	05:37 20:51	32 06:30 (E7) 21:48	19 05:24 (E5) 22:10
30	08:18 16:41	07:08 17:40	05:54 18:49	05:35 20:53	32 06:29 (E7) 21:50	18 05:24 (E5) 22:09
31	08:17 16:43	07:06 17:38	05:51 18:51	05:32 20:50	32 07:01 (E7) 21:51	18 05:25 (E5) 22:09
Potential sun hours	235	266	366	426	508	529
Total, worst case			173	525	227	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			45	168	82	177

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:

25/06/2024 23:53/4.0.540

## 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 (E5)	05:16		06:17		06:47 (E6)	07:17	07:23	08:24		
	22:09	17 05:24 (E5)	21:28		20:14	16	07:03 (E6)	18:54	16:36	15:45		
2	04:31	05:08 (E5)	05:17		06:19		06:49 (E6)	07:19	07:25	08:26		
	22:09	17 05:25 (E5)	21:26		20:11	13	07:02 (E6)	18:51	16:34	15:44		
3	04:32	05:09 (E5)	05:19		06:21		06:51 (E6)	07:21	07:27	08:28		
	22:08	16 05:25 (E5)	21:24	9	06:59 (E7)	20:09	10	07:01 (E6)	18:48	16:31	15:43	
4	04:33	05:10 (E5)	05:21		06:47 (E7)	06:23		06:53 (E6)	07:23	07:29	08:29	
	22:07	15 05:25 (E5)	21:22	15	07:02 (E7)	20:06	7	07:00 (E6)	18:46	16:29	15:42	
5	04:34	05:11 (E5)	05:23		06:45 (E7)	06:25		06:54 (E6)	07:25	07:31	08:31	
	22:07	14 05:25 (E5)	21:19	18	07:03 (E7)	20:03	4	06:58 (E6)	18:43	16:27	15:42	
6	04:35	05:12 (E5)	05:25		06:43 (E7)	06:27			07:27	07:33	08:32	
	22:06	13 05:25 (E5)	21:17	22	07:05 (E7)	20:01			18:40	16:25	15:41	
7	04:36	05:13 (E5)	05:27		06:42 (E7)	06:29			07:29	07:36	08:34	
	22:05	12 05:25 (E5)	21:15	24	07:06 (E7)	19:58			18:38	16:23	15:40	
8	04:37	05:14 (E5)	05:29		06:41 (E7)	06:31			07:32	07:38	08:35	
	22:04	11 05:25 (E5)	21:13	26	07:07 (E7)	19:55			18:35	16:21	15:40	
9	04:38	05:15 (E5)	05:31		06:41 (E7)	06:33			07:34	07:40	08:37	
	22:03	10 05:25 (E5)	21:11	27	07:08 (E7)	19:53			18:32	16:19	15:39	
10	04:39	05:16 (E5)	05:33		06:39 (E7)	06:35			07:36	07:42	08:38	
	22:02	8 05:24 (E5)	21:08	29	07:08 (E7)	19:50			18:30	16:17	15:39	
11	04:41	05:17 (E5)	05:35		06:39 (E7)	06:37			07:38	07:44	08:39	
	22:01	7 05:24 (E5)	21:06	30	07:09 (E7)	19:47			18:27	16:15	15:38	
12	04:42	05:19 (E5)	05:37		06:38 (E7)	06:39			07:40	07:46	08:40	
	22:00	5 05:24 (E5)	21:04	31	07:09 (E7)	19:45			18:25	16:13	15:38	
13	04:43	05:20 (E5)	05:39		06:38 (E7)	06:41			07:42	07:49	08:42	
	21:59	3 05:23 (E5)	21:01	31	07:09 (E7)	19:42			18:22	16:11	15:38	
14	04:45	05:21 (E5)	05:41		06:37 (E7)	06:43			07:44	07:51	08:43	
	21:58	1 05:22 (E5)	20:59	33	07:10 (E7)	19:39			18:19	16:09	15:38	
15	04:46		05:43		06:37 (E7)	06:45			07:46	07:53	08:44	
	21:57		20:57	33	07:10 (E7)	19:37			18:17	16:07	15:38	
16	04:48		05:45		06:37 (E7)	06:47			07:48	07:55	08:45	
	21:55		20:54	33	07:10 (E7)	19:34			18:14	16:06	15:38	
17	04:49		05:47		06:36 (E7)	06:49			07:50	07:57	08:46	
	21:54		20:52	33	07:09 (E7)	19:31	7	07:48 (E8)	18:12	16:04	15:38	
18	04:51		05:49		06:36 (E7)	06:51			07:52	07:59	08:46	
	21:52		20:50	32	07:08 (E7)	19:29	12	07:50 (E8)	18:09	16:02	15:38	
19	04:52		05:51		06:37 (E7)	06:53			07:55	08:01	08:47	
	21:51		20:47	31	07:08 (E7)	19:26	16	07:52 (E8)	18:07	16:01	15:38	
20	04:54		05:53		06:37 (E7)	06:55			07:57	08:03	08:48	
	21:49		20:45	30	07:07 (E7)	19:23	17	07:52 (E8)	18:04	15:59	15:38	
21	04:56		05:55		06:37 (E7)	06:57			07:59	08:05	08:48	
	21:48		20:42	30	07:07 (E7)	19:20	19	07:53 (E8)	18:02	15:58	12:49 (E13)	
22	04:57		05:57		06:38 (E7)	06:59			08:01	08:07	08:49	
	21:46		20:40	28	07:06 (E7)	19:18	20	07:53 (E8)	17:59	15:56	12:50 (E13)	
23	04:59		05:59		06:39 (E7)	07:01			08:03	08:09	08:50	
	21:45		20:37	26	07:05 (E7)	19:15	19	07:51 (E8)	17:57	15:55	15:40	
24	05:01		06:01		06:40 (E7)	07:03			08:05	08:11	08:50	
	21:43		20:35	24	07:04 (E7)	19:12	19	07:51 (E8)	17:55	15:53	15:40	
25	05:03		06:03		06:41 (E7)	07:05			08:13	08:19	08:50	
	21:41		20:32	21	07:02 (E7)	19:10	17	07:50 (E8)	17:52	15:52	15:41	
26	05:04		06:05		06:42 (E7)	07:07			08:15	08:21	08:51	
	21:39		20:29	17	06:59 (E7)	19:07	14	07:50 (E8)	17:50	15:51	15:42	
27	05:06		06:07		06:44 (E7)	07:09			08:17	08:23	08:51	
	21:38		20:27	16	07:00 (E6)	19:04	10	07:48 (E8)	17:47	15:49	15:43	
28	05:08		06:09		06:49 (E6)	07:11			08:19	08:25	08:51	
	21:36		20:24	13	07:02 (E6)	19:02	6	07:46 (E8)	17:45	15:48	15:44	
29	05:10		06:11		06:48 (E6)	07:13			08:21	08:27	08:51	
	21:34		20:22	14	07:02 (E6)	18:59			16:43	15:47	15:44	
30	05:12		06:13		06:47 (E6)	07:15			08:22	08:28	08:51	
	21:32		20:19	16	07:03 (E6)	18:56			16:40	15:46	15:46	
31	05:14		06:15		06:46 (E6)				07:20	08:26	08:51	
	21:30		20:17	17	07:03 (E6)				16:38	15:47	15:47	
Potential sun hours	529		469		385			324	247	216		
Total, worst case		149		709		226					2	
Sun reduction		0.49		0.50		0.43					0.07	
Oper. time red.		0.98		0.98		0.98					0.98	
Wind dir. red.		0.67		0.65		0.64					0.64	
Total reduction		0.32		0.32		0.27					0.04	
Total, real		48		226		61					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:

25/06/2024 23:53/4.0.540

## 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		14:19 (E13)	08:15		14:23 (E13)	07:11			06:49			05:32					04:36
	15:48	30	14:49 (E14)	16:45	35	14:58 (E13)	17:47			19:53			20:55					21:52
2	08:50		14:19 (E13)	08:13		14:24 (E13)	07:08			06:46			05:30					04:35
	15:49	31	14:50 (E14)	16:47	34	14:58 (E13)	17:50			19:55			20:57					21:54
3	08:50		14:19 (E13)	08:11		14:25 (E13)	07:06			06:43			05:28			05:56 (E6)		04:34
	15:51	31	14:50 (E14)	16:50	32	14:57 (E13)	17:52			19:57			20:59	1		05:57 (E6)		21:55
4	08:50		14:18 (E13)	08:09		14:26 (E13)	07:03			06:41			05:26			05:54 (E6)		04:33
	15:52	32	14:50 (E14)	16:52	31	14:57 (E13)	17:54			19:59			21:02	5		05:59 (E6)		21:57
5	08:49		14:19 (E13)	08:07		14:28 (E13)	07:00			06:38			05:23			05:52 (E6)		04:32
	15:53	32	14:51 (E14)	16:54	28	14:56 (E13)	17:56			20:01			21:04	8		06:00 (E6)		21:58
6	08:49		14:19 (E13)	08:05		14:29 (E13)	06:58			06:35			05:21			05:50 (E6)		04:31
	15:55	32	14:51 (E14)	16:56	25	14:54 (E13)	17:58			20:03			21:06	11		06:01 (E6)		21:59
7	08:48		14:19 (E13)	08:03		14:31 (E13)	06:55			06:33			05:19			05:48 (E6)		04:30
	15:56	32	14:51 (E14)	16:59	22	14:53 (E13)	18:00			20:05			21:08	13		06:01 (E6)		22:00
8	08:47		14:18 (E13)	08:00		14:34 (E13)	06:53			06:30			05:17			05:46 (E6)		04:29
	15:58	33	14:51 (E14)	17:01	17	14:51 (E13)	18:03			20:07			21:10	16		06:02 (E6)		22:01
9	08:47		14:18 (E13)	07:58		14:37 (E13)	06:50			06:27			05:15			05:44 (E6)		04:28
	15:59	33	14:51 (E14)	17:03	9	14:46 (E13)	18:05			20:10			21:12	18		06:02 (E6)		22:02
10	08:46		14:18 (E13)	07:56			06:47			06:25			05:13			05:43 (E6)		04:28
	16:01	33	14:51 (E14)	17:05			18:07	3	07:16 (E9)	20:12			21:14	19		06:02 (E6)		22:03
11	08:45		14:18 (E13)	07:54			06:45			06:22			05:10			05:43 (E6)		04:27
	16:03	33	14:51 (E14)	17:08			18:09	7	07:17 (E9)	20:14			21:16	18		06:01 (E6)		22:04
12	08:44		14:18 (E13)	07:52			06:42			06:20			05:08			05:43 (E6)		04:27
	16:04	33	14:51 (E13)	17:10			18:11	10	07:18 (E9)	20:16	9	06:45 (E8)	21:18	18		06:01 (E6)		22:05
13	08:43		14:18 (E13)	07:49			06:39			06:17			05:06			05:43 (E6)		04:26
	16:06	34	14:52 (E13)	17:12			18:13	13	07:18 (E9)	20:18	14	06:57 (E8)	21:20	18		06:01 (E6)		22:06
14	08:42		14:18 (E13)	07:47			06:37			06:14			05:04			05:44 (E6)		04:26
	16:08	35	14:53 (E13)	17:14			18:15	15	07:17 (E9)	20:20	17	06:57 (E8)	21:22	17		06:01 (E6)		22:07
15	08:41		14:17 (E13)	07:45			06:34			06:12			05:02			05:45 (E6)		04:26
	16:10	37	14:54 (E13)	17:17			18:17	15	07:16 (E9)	20:22	20	06:59 (E8)	21:24	15		06:00 (E6)		22:07
16	08:40		14:18 (E13)	07:43			06:31			06:09			05:01			05:45 (E6)		04:25
	16:12	37	14:55 (E13)	17:19			18:20	14	07:16 (E9)	20:24	22	06:59 (E8)	21:25	14		05:59 (E6)		22:08
17	08:39		14:17 (E13)	07:40			06:29			06:07			04:59			05:47 (E6)		04:25
	16:14	38	14:55 (E13)	17:21			18:22	11	07:14 (E9)	20:26	22	06:59 (E8)	21:27	12		05:59 (E6)		22:08
18	08:37		14:18 (E13)	07:38			06:26			06:04			04:57			05:48 (E6)		04:25
	16:16	38	14:56 (E13)	17:23			18:24	6	07:11 (E9)	20:28	23	06:59 (E8)	21:29	9		05:57 (E6)		22:09
19	08:36		14:18 (E13)	07:35			06:23			06:02			04:55			05:50 (E6)		04:25
	16:18	38	14:56 (E13)	17:25			18:26			20:30	23	06:59 (E8)	21:31	4		05:54 (E6)		22:09
20	08:35		14:19 (E13)	07:33			06:21			05:59			04:53					04:25
	16:20	38	14:57 (E13)	17:28			18:28			20:32	23	06:58 (E8)	21:33					22:10
21	08:33		14:18 (E13)	07:31			06:18			05:57			04:52					04:25
	16:22	40	14:58 (E13)	17:30			18:30			20:35	23	06:58 (E8)	21:35					22:10
22	08:32		14:18 (E13)	07:28			06:15			05:54			04:50					04:25
	16:24	40	14:58 (E13)	17:32			18:32			20:37	22	06:58 (E8)	21:36					22:10
23	08:30		14:18 (E13)	07:26			06:13			05:52			04:48					04:26
	16:26	40	14:58 (E13)	17:34			18:34			20:39	20	06:56 (E8)	21:38					22:10
24	08:29		14:18 (E13)	07:23			06:10			05:49			04:47					04:26
	16:28	40	14:58 (E13)	17:37			18:36			20:41	19	06:56 (E8)	21:40					22:10
25	08:27		14:20 (E13)	07:21			06:07			05:47			04:45					04:26
	16:30	39	14:59 (E13)	17:39			18:38			20:43	17	06:55 (E8)	21:42					22:10
26	08:25		14:20 (E13)	07:18			06:05			05:44			04:44					04:27
	16:32	39	14:59 (E13)	17:41			18:40			20:45	13	06:52 (E8)	21:43					22:10
27	08:24		14:20 (E13)	07:16			06:02			05:42			04:42					04:27
	16:34	39	14:59 (E13)	17:43			18:43			20:47	9	06:50 (E8)	21:45					22:10
28	08:22		14:21 (E13)	07:13			05:59			05:40			04:41					04:28
	16:36	38	14:59 (E13)	17:45			18:45			20:49			21:47					22:10
29	08:20		14:21 (E13)				06:57			05:37			04:39					04:28
	16:39	38	14:59 (E13)				19:47			20:51			21:48					22:10
30	08:18		14:22 (E13)				06:54			05:35			04:38					04:29
	16:41	37	14:59 (E13)				19:49			20:53			21:50					22:09
31	08:17		14:22 (E13)				06:51						04:37					
	16:43	36	14:58 (E13)				19:51						21:51					
Potential sun hours		235		266			366			426			508					529
Total, worst case		1106		233			94			296			216					
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			0.25			0.32			0.37					
Total, real		96		30			24			95			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:

25/06/2024 23:53/4.0.540

## 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	18	05:53 (E6) 06:11 (E6)	06:17 20:14		07:17 18:54	11	07:46 (E9) 07:57 (E9)	07:22 16:36		08:24 15:45	33	14:00 (E13) 14:33 (E14)
2	04:31 22:08		05:17 21:26	18	05:54 (E6) 06:12 (E6)	06:19 20:11		07:19 18:51	8	07:48 (E9) 07:56 (E9)	07:25 16:34	14:06 (E13) 14:17 (E13)	08:26 15:44	33	14:01 (E13) 14:34 (E14)
3	04:32 22:08		05:19 21:24	18	05:54 (E6) 06:12 (E6)	06:21 20:09		07:21 18:48	5	07:50 (E9) 07:55 (E9)	07:27 16:31	14:03 (E13) 14:21 (E13)	08:27 15:43	33	14:01 (E13) 14:34 (E14)
4	04:33 22:07		05:21 21:22	17	05:55 (E6) 06:12 (E6)	06:23 20:06		07:23 18:46	1	07:52 (E9) 07:53 (E9)	07:29 16:29	14:00 (E13) 14:22 (E13)	08:29 15:42	33	14:02 (E13) 14:35 (E14)
5	04:34 22:07		05:23 21:19	15	05:56 (E6) 06:11 (E6)	06:25 20:03		07:25 18:43			07:31 16:27	13:58 (E13) 14:24 (E13)	08:31 15:42	32	14:04 (E13) 14:36 (E14)
6	04:35 22:06		05:25 21:17	12	05:58 (E6) 06:10 (E6)	06:27 20:01		07:27 18:40			07:33 16:25	13:57 (E13) 14:26 (E13)	08:32 15:41	32	14:05 (E13) 14:37 (E14)
7	04:36 22:05		05:27 21:15	10	06:00 (E6) 06:10 (E6)	06:29 19:58		07:29 18:38			07:36 16:23	13:56 (E13) 14:26 (E13)	08:34 15:40	32	14:05 (E13) 14:37 (E14)
8	04:37 22:04		05:29 21:13	7	06:02 (E6) 06:09 (E6)	06:31 19:55		07:32 18:35			07:38 16:21	13:55 (E13) 14:28 (E13)	08:35 15:40	32	14:06 (E13) 14:38 (E14)
9	04:38 22:03		05:31 21:11	4	06:04 (E6) 06:08 (E6)	06:33 19:53		07:34 18:32			07:40 16:19	13:54 (E13) 14:28 (E13)	08:37 15:39	31	14:07 (E13) 14:38 (E14)
10	04:39 22:02		05:33 21:08			06:35 19:50		07:36 18:30			07:42 16:17	13:53 (E13) 14:29 (E13)	08:38 15:39	31	14:08 (E13) 14:39 (E14)
11	04:41 22:01		05:35 21:06			06:37 19:47		07:38 18:27			07:44 16:15	13:53 (E13) 14:30 (E13)	08:39 15:38	31	14:09 (E13) 14:40 (E14)
12	04:42 22:00		05:37 21:04			06:39 19:45		07:40 18:25			07:46 16:13	13:53 (E13) 14:30 (E13)	08:40 15:38	30	14:11 (E13) 14:41 (E14)
13	04:43 21:59		05:39 21:01			06:41 19:42		07:42 18:22			07:49 16:11	13:53 (E13) 14:31 (E13)	08:41 15:38	30	14:11 (E13) 14:41 (E14)
14	04:45 21:58		05:41 20:59			06:43 19:39		07:44 18:19			07:51 16:09	13:53 (E13) 14:31 (E13)	08:43 15:38	29	14:12 (E13) 14:41 (E14)
15	04:46 21:57		05:43 20:57			06:45 19:37		07:46 18:17			07:53 16:08	13:52 (E13) 14:31 (E13)	08:44 15:38	29	14:13 (E13) 14:42 (E14)
16	04:48 21:55		05:45 20:54	10	06:48 (E8) 06:58 (E8)	06:47 19:34		07:48 18:14			07:55 16:06	13:53 (E13) 14:32 (E13)	08:45 15:38	28	14:14 (E13) 14:42 (E14)
17	04:49 21:54		05:47 20:52	14	06:45 (E8) 06:59 (E8)	06:49 19:31		07:50 18:12			07:57 16:04	13:53 (E13) 14:32 (E13)	08:45 15:38	28	14:15 (E13) 14:43 (E14)
18	04:51 21:52		05:49 20:49	17	06:43 (E8) 07:00 (E8)	06:51 19:29		07:52 18:09			07:59 16:02	13:52 (E13) 14:32 (E13)	08:46 15:38	27	14:16 (E13) 14:43 (E14)
19	04:52 21:51		05:51 20:47	19	06:42 (E8) 07:01 (E8)	06:53 19:26		07:54 18:07			08:01 16:01	13:53 (E13) 14:33 (E13)	08:47 15:38	27	14:16 (E13) 14:43 (E14)
20	04:54 21:49		05:53 20:45	21	06:41 (E8) 07:02 (E8)	06:55 19:23		07:57 18:04			08:03 15:59	13:53 (E13) 14:33 (E13)	08:48 15:39	27	14:17 (E13) 14:44 (E14)
21	04:56 21:48		05:55 20:42	22	06:41 (E8) 07:03 (E8)	06:57 19:20		07:59 18:02			08:05 15:58	13:53 (E13) 14:33 (E13)	08:48 15:39	27	14:18 (E13) 14:45 (E14)
22	04:57 21:46		05:57 20:40	23	06:40 (E8) 07:03 (E8)	06:59 19:18		08:01 17:59			08:07 15:56	13:55 (E13) 14:33 (E13)	08:49 15:39	27	14:18 (E13) 14:45 (E14)
23	04:59 21:45		05:59 20:37	23	06:40 (E8) 07:03 (E8)	07:01 19:15		08:03 17:57			08:09 15:55	13:55 (E13) 14:33 (E13)	08:49 15:40	27	14:19 (E13) 14:46 (E14)
24	05:01 21:43		06:01 20:35	23	06:40 (E8) 07:03 (E8)	07:03 19:12		08:05 17:55			08:11 15:53	13:55 (E13) 14:33 (E13)	08:50 15:40	27	14:19 (E13) 14:46 (E14)
25	05:03 21:41	7	05:59 (E6) 06:06 (E6)	22	06:03 (E8) 07:02 (E8)	07:05 19:10	4	07:07 (E9) 07:53 (E9)			08:13 15:52	13:56 (E13) 14:33 (E13)	08:50 15:41	27	14:19 (E13) 14:46 (E14)
26	05:04 21:39	11	05:57 (E6) 06:08 (E6)	22	06:05 (E8) 07:01 (E8)	07:07 19:07	10	07:45 (E9) 07:55 (E9)			08:15 15:51	13:56 (E13) 14:33 (E13)	08:51 15:42	28	14:19 (E13) 14:47 (E14)
27	05:06 21:37	12	05:57 (E6) 06:09 (E6)	21	06:07 (E8) 07:00 (E8)	07:09 19:04	13	07:45 (E9) 07:58 (E9)			08:17 15:49	13:58 (E13) 14:34 (E13)	08:51 15:43	28	14:19 (E13) 14:47 (E14)
28	05:08 21:36	15	05:55 (E6) 06:10 (E6)	19	06:09 (E8) 06:59 (E8)	07:11 19:02	15	07:43 (E9) 07:58 (E9)			08:19 15:48	13:58 (E13) 14:34 (E13)	08:53 15:44	29	14:19 (E13) 14:48 (E14)
29	05:10 21:34	16	05:55 (E6) 06:11 (E6)	17	06:11 (E8) 06:58 (E8)	07:13 18:59	15	07:43 (E9) 07:58 (E9)			08:21 15:47	13:59 (E13) 14:33 (E13)	08:51 15:45	29	14:19 (E13) 14:48 (E14)
30	05:12 21:32	16	05:55 (E6) 06:11 (E6)	13	06:13 (E8) 06:56 (E8)	07:15 18:56	14	07:44 (E9) 07:58 (E9)			08:22 15:46	14:00 (E13) 14:33 (E13)	08:51 15:46	30	14:19 (E13) 14:49 (E14)
31	05:14 21:30	18	05:54 (E6) 06:12 (E6)	9	06:15 (E8) 06:54 (E8)			07:20 16:38					08:51 15:47	29	14:20 (E13) 14:49 (E14)
Potential sun hours	529		469			385		324			247		216		
Total, worst case	95		414		71		25		993		916				
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		0.63		0.63		0.66		0.66				
Total reduction	0.32		0.32		0.26		0.16		0.05		0.05				
Total, real	31		133		19		4		53		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Kvieš i - 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	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	08:50 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:

25/06/2024 23:53/4.0.540

## 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	14:50 (E16)	08:15	09:07 (E12)	07:11	07:51 (E10)	06:49	07:14 (E4)	05:32	06:00 (E3)	04:36						
	15:48	15:05 (E16)	16:45	16:10 (E15)	17:47	08:14 (E10)	19:53	07:28 (E4)	20:55	07:04 (E9)	21:52						
2	08:50	14:50 (E16)	08:13	09:08 (E12)	07:08	07:49 (E10)	06:46	07:11 (E4)	05:30	06:00 (E3)	04:35						
	15:49	15:06 (E16)	16:47	16:13 (E15)	17:50	08:15 (E10)	19:55	07:28 (E4)	20:57	07:04 (E9)	21:54						
3	08:50	14:51 (E16)	08:11	09:09 (E12)	07:05	07:48 (E10)	06:43	07:09 (E4)	05:28	06:00 (E3)	04:34						
	15:51	15:08 (E16)	16:50	16:15 (E15)	17:52	08:17 (E10)	19:57	07:27 (E4)	20:59	07:04 (E9)	21:55						
4	08:50	14:51 (E16)	08:09	09:10 (E12)	07:03	07:46 (E10)	06:41	07:09 (E4)	05:26	06:00 (E3)	04:33						
	15:52	15:09 (E16)	16:52	16:18 (E15)	17:54	08:18 (E10)	19:59	07:27 (E4)	21:01	07:04 (E9)	21:56						
5	08:49	14:51 (E16)	08:07	09:11 (E11)	07:00	07:44 (E10)	06:38	07:09 (E4)	05:23	06:00 (E3)	04:32						
	15:53	15:10 (E16)	16:54	16:20 (E15)	17:56	08:19 (E10)	20:01	07:26 (E4)	21:03	07:04 (E9)	21:58						
6	08:49	14:52 (E16)	08:05	09:12 (E11)	06:58	07:44 (E10)	06:35	07:10 (E4)	05:21	06:01 (E3)	04:31						
	15:55	15:11 (E16)	16:56	16:22 (E15)	17:58	08:20 (E10)	20:03	07:26 (E4)	21:05	07:04 (E9)	21:59						
7	08:48	14:52 (E16)	08:02	09:13 (E11)	06:55	07:43 (E10)	06:33	07:10 (E4)	05:19	06:02 (E3)	04:30						
	15:56	15:12 (E16)	16:58	16:22 (E15)	18:00	08:20 (E10)	20:05	07:24 (E4)	21:08	07:04 (E9)	22:00						
8	08:47	14:53 (E16)	08:00	09:14 (E11)	06:53	07:42 (E10)	06:30	07:11 (E4)	05:17	06:03 (E3)	04:29						
	15:58	15:12 (E16)	17:01	16:23 (E15)	18:02	08:20 (E10)	20:07	07:22 (E4)	21:10	07:04 (E9)	22:01						
9	08:47	14:53 (E16)	07:58	09:14 (E11)	06:50	07:42 (E10)	06:27	07:15 (E4)	05:15	06:05 (E3)	04:28						
	15:59	15:12 (E16)	17:03	16:21 (E15)	18:05	08:21 (E10)	20:09	07:18 (E4)	21:12	07:03 (E9)	22:02						
10	08:46	14:53 (E16)	07:56	09:15 (E11)	06:47	07:41 (E10)	06:25		05:12	06:24 (E9)	04:28						
	16:01	15:13 (E16)	17:05	16:21 (E15)	18:07	08:20 (E10)	20:12		21:14	07:03 (E9)	22:03						
11	08:45	14:54 (E16)	07:54	09:16 (E11)	06:45	07:40 (E10)	06:22		05:10	06:24 (E9)	04:27						
	16:03	15:13 (E16)	17:07	16:20 (E15)	18:09	08:20 (E10)	20:14		21:16	07:02 (E9)	22:04						
12	08:44	14:54 (E16)	07:52	09:18 (E11)	06:42	07:40 (E10)	06:20		05:08	06:24 (E9)	04:27						
	16:04	15:13 (E16)	17:10	16:18 (E15)	18:11	08:19 (E10)	20:16		21:18	07:02 (E9)	22:05						
13	08:43	14:55 (E16)	07:49	09:22 (E11)	06:39	07:40 (E10)	06:17		05:06	06:24 (E9)	04:26						
	16:06	15:13 (E16)	17:12	09:33 (E11)	18:13	08:20 (E10)	20:18		21:19	07:01 (E9)	22:06						
14	08:42	14:55 (E16)	07:47	14:55 (E16)	06:37	07:40 (E10)	06:14		05:04	06:26 (E9)	04:26						
	16:08	15:14 (E16)	17:14		18:15	08:19 (E10)	20:20		21:21	07:01 (E9)	22:06						
15	08:41	14:56 (E16)	07:45		06:34	07:40 (E10)	06:12		05:02	06:26 (E9)	04:26						
	16:10	15:13 (E16)	17:16		18:17	08:18 (E10)	20:22		21:23	07:00 (E9)	22:07						
16	08:40	14:57 (E16)	07:42		06:31	07:41 (E10)	06:09		05:00	06:26 (E9)	04:25						
	16:12	15:14 (E16)	17:19		18:19	08:17 (E10)	20:24		21:25	06:59 (E9)	22:08						
17	08:39	09:13 (E12)	07:40		06:29	07:41 (E10)	06:07		04:59	06:27 (E9)	04:25						
	16:14	15:13 (E16)	17:21		18:22	08:16 (E10)	20:26		21:27	06:58 (E9)	22:08						
18	08:37	09:12 (E12)	07:38		06:26	07:41 (E10)	06:04		04:57	06:28 (E9)	04:25						
	16:16	15:13 (E16)	17:23		18:24	08:14 (E10)	20:28		21:29	06:58 (E9)	22:09						
19	08:36	09:10 (E12)	07:35		06:23	07:43 (E10)	06:02		04:55	06:29 (E9)	04:25						
	16:18	15:13 (E16)	17:25		18:26	07:58 (E13)	20:30		21:31	06:57 (E9)	22:09						
20	08:35	09:08 (E12)	07:33		06:21	07:43 (E10)	05:59	06:40 (E9)	04:53	06:30 (E9)	04:25						
	16:20	15:11 (E16)	17:28		18:28	18:00 (E13)	20:32	11	06:51 (E9)	21:33	26	06:56 (E9)	22:10				
21	08:33	09:07 (E12)	07:31		06:18	07:45 (E10)	05:57		06:37 (E9)	04:52							
	16:22	15:11 (E16)	17:30		18:30	18:02 (E13)	20:34	18	06:55 (E9)	21:35	23	06:54 (E9)	22:10				
22	08:32	09:05 (E12)	07:28		06:15	07:46 (E10)	05:54		06:35 (E9)	04:50							
	16:24	09:34 (E11)	17:32		18:32	18:03 (E13)	20:37	23	06:58 (E9)	21:36	22	06:54 (E9)	22:10				
23	08:30	09:05 (E12)	07:26		06:13	07:50 (E10)	05:52		06:32 (E9)	04:48							
	16:26	09:35 (E11)	17:34		18:34	18:06 (E13)	20:39	27	06:59 (E9)	21:38	19	06:52 (E9)	22:10				
24	08:29	09:05 (E12)	07:23		06:10	17:47 (E13)	05:49		06:31 (E9)	04:47							
	16:28	09:36 (E11)	17:36		18:36	18:06 (E13)	20:41	29	07:00 (E9)	21:40	14	06:50 (E9)	22:10				
25	08:27	09:04 (E12)	07:21		06:07	17:47 (E13)	05:47		06:30 (E9)	04:45							
	16:30	09:37 (E11)	17:39		18:38	18:06 (E13)	20:43	32	07:02 (E9)	21:41	10	06:48 (E9)	22:10				
26	08:25	09:05 (E12)	07:18		06:05	17:48 (E13)	05:44		06:11 (E3)	04:44							
	16:32	09:39 (E11)	17:41		18:40	18:06 (E13)	20:45	37	07:02 (E9)	21:43							
27	08:24	09:05 (E12)	07:16	07:58 (E10)	06:02	17:48 (E13)	05:42		06:09 (E3)	04:42							
	16:34	09:40 (E11)	17:43	10	08:08 (E10)	18:04 (E13)	20:47	43	07:03 (E9)	21:45							
28	08:22	09:05 (E12)	07:13	07:53 (E10)	05:59	17:48 (E13)	05:39		06:07 (E3)	04:41							
	16:36	09:40 (E11)	17:45	18	08:11 (E10)	18:03 (E13)	20:49	47	07:03 (E9)	21:46							
29	08:20	09:06 (E12)			06:57	07:22 (E4)	05:37		06:04 (E3)	04:39							
	16:38	09:41 (E11)			19:47	19:02 (E13)	20:51	51	07:03 (E9)	21:48							
30	08:18	09:05 (E12)			06:54	07:19 (E4)	05:35		06:02 (E3)	04:38							
	16:41	09:41 (E11)			19:49	18:58 (E13)	20:53	54	07:04 (E9)	21:49							
31	08:16	09:06 (E12)			06:51	07:16 (E4)				04:37							
	16:43	09:41 (E11)			19:51	07:27 (E4)				21:51							
Potential sun hours	235		266		366		426		508		529						
Total, worst case	764		530		934		500		951								
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.	0.62		0.61		0.63		0.65		0.65								
Total reduction	0.08		0.12		0.25		0.32		0.36								
Total, real	62		64		238		160		345								

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 22:09	05:16 21:28	06:34 (E9) 07:12 (E9)	06:17 20:14		07:17 18:53	08:20 (E10) 08:59 (E10)	07:22 16:36	08:45 (E11) 15:51 (E15)	08:24 15:45	14:35 (E16) 20
2	04:31 22:08	05:17 21:26	06:34 (E9) 07:13 (E9)	06:19 20:11		07:19 18:51	08:19 (E10) 08:59 (E10)	07:25 16:34	08:43 (E11) 15:51 (E15)	08:26 15:44	14:36 (E16) 19
3	04:32 22:08	05:19 21:24	06:34 (E9) 07:13 (E9)	06:21 20:09	07:13 (E4) 07:16 (E4)	07:21 18:48	08:19 (E10) 08:58 (E10)	07:27 16:31	08:42 (E11) 15:51 (E15)	08:27 15:43	14:36 (E16) 20
4	04:32 22:07	05:21 21:21	06:15 (E3) 07:14 (E9)	06:23 20:06	07:08 (E4) 07:19 (E4)	07:23 18:45	08:19 (E10) 08:58 (E10)	07:29 16:29	08:42 (E11) 15:52 (E15)	08:29 15:42	14:37 (E16) 19
5	04:33 22:06	05:23 21:19	06:12 (E3) 07:13 (E9)	06:25 20:03	07:06 (E4) 07:20 (E4)	07:25 18:43	08:19 (E10) 08:57 (E10)	07:31 16:27	08:41 (E11) 15:52 (E15)	08:31 15:41	14:37 (E16) 20
6	04:35 22:06	05:25 21:17	06:11 (E3) 07:14 (E9)	06:27 20:01	07:05 (E4) 07:21 (E4)	07:27 18:40	08:19 (E10) 08:56 (E10)	07:33 16:25	08:42 (E11) 15:50 (E15)	08:32 15:41	14:38 (E16) 19
7	04:36 22:05	05:27 21:15	06:10 (E3) 07:14 (E9)	06:29 19:58	07:04 (E4) 07:21 (E4)	07:29 18:38	08:19 (E10) 08:55 (E10)	07:35 16:23	08:40 (E12) 15:48 (E15)	08:34 15:40	14:38 (E16) 19
8	04:37 22:04	05:29 21:13	06:10 (E3) 07:14 (E9)	06:31 19:55	07:04 (E4) 07:21 (E4)	07:31 18:35	08:19 (E10) 08:54 (E10)	07:38 16:21	08:38 (E12) 15:45 (E15)	08:35 15:40	14:39 (E16) 19
9	04:38 22:03	05:31 21:11	06:09 (E3) 07:14 (E9)	06:33 19:53	07:03 (E4) 07:21 (E4)	07:33 18:32	08:20 (E10) 08:53 (E10)	07:40 16:19	08:38 (E12) 15:43 (E15)	08:36 15:39	14:39 (E16) 17
10	04:39 22:02	05:33 21:08	06:08 (E3) 07:13 (E9)	06:35 19:50	07:04 (E4) 07:21 (E4)	07:36 18:30	08:21 (E10) 08:52 (E10)	07:42 16:17	08:37 (E12) 15:41 (E15)	08:38 15:39	14:40 (E16) 16
11	04:41 22:01	05:35 21:06	06:08 (E3) 07:13 (E9)	06:37 19:47	07:06 (E4) 07:20 (E4)	07:38 18:27	08:22 (E10) 08:51 (E10)	07:44 16:15	08:38 (E12) 15:41 (E15)	08:39 15:38	14:40 (E16) 16
12	04:42 22:00	05:37 21:04	06:09 (E3) 07:12 (E9)	06:39 19:45	07:08 (E4) 07:19 (E4)	07:40 18:24	08:23 (E10) 08:49 (E10)	07:46 16:13	08:37 (E12) 15:41 (E15)	08:40 15:38	14:41 (E16) 14
13	04:43 21:59	05:39 21:01	06:11 (E3) 07:12 (E9)	06:41 19:42	07:10 (E4) 07:12 (E4)	07:42 18:22	08:25 (E10) 08:46 (E10)	07:48 16:11	08:38 (E12) 15:41 (E15)	08:41 15:38	14:42 (E16) 13
14	04:45 21:58	05:41 20:59	06:13 (E3) 07:11 (E9)	06:43 19:39	07:12 (E4) 18:52 (E13)	07:44 18:19	08:28 (E10) 08:43 (E10)	07:51 16:09	08:37 (E12) 15:41 (E15)	08:42 15:38	14:43 (E16) 12
15	04:46 21:56	05:43 20:57	06:15 (E3) 07:11 (E9)	06:45 19:37	18:39 (E13) 18:53 (E13)	07:46 18:17	08:34 (E10) 08:35 (E10)	07:53 16:07	08:37 (E12) 15:42 (E15)	08:43 15:38	14:43 (E16) 12
16	04:48 21:55	05:45 20:54	06:17 (E3) 07:10 (E9)	06:47 19:34	18:37 (E13) 18:54 (E13)	07:48 18:14	07:55 16:06	34	08:38 (E12) 15:42 (E15)	08:44 15:38	14:44 (E16) 10
17	04:49 21:54	05:47 20:52	06:18 (E3) 07:08 (E9)	06:49 19:31	18:36 (E13) 18:54 (E13)	07:50 18:12	07:57 16:04	33	08:38 (E12) 15:41 (E15)	08:45 15:38	14:44 (E16) 11
18	04:51 21:52	05:49 20:49	06:35 (E9) 07:07 (E9)	06:51 19:28	18:34 (E13) 18:53 (E13)	07:52 18:09	07:59 16:02	31	08:39 (E12) 15:41 (E15)	08:46 15:38	14:45 (E16) 10
19	04:52 21:51	05:51 20:47	06:37 (E9) 07:06 (E9)	06:53 19:26	18:34 (E13) 18:53 (E13)	07:54 18:07	08:01 16:01	30	08:40 (E12) 15:41 (E15)	08:47 15:38	14:45 (E16) 9
20	04:54 21:49	05:53 20:44	06:38 (E9) 07:04 (E9)	06:55 19:23	08:37 (E10) 18:52 (E13)	07:56 18:04	08:03 15:59	29	08:40 (E12) 15:42 (E15)	08:48 15:38	14:46 (E16) 9
21	04:56 21:48	05:55 20:42	06:43 (E9) 07:03 (E9)	06:57 19:20	08:33 (E10) 18:50 (E13)	07:59 18:02	08:05 15:57	33	08:42 (E12) 14:46 (E16)	08:48 15:39	14:46 (E16) 9
22	04:57 21:46	05:57 20:39	06:42 (E9) 07:05 (E9)	06:59 19:18	08:30 (E10) 18:47 (E13)	08:01 17:59	08:07 15:56	32	08:44 (E12) 14:47 (E16)	08:49 15:39	14:47 (E16) 9
23	04:59 21:44	05:59 20:37	06:46 (E9) 07:05 (E9)	07:01 19:15	08:28 (E10) 18:44 (E13)	08:03 17:57	08:09 15:55	31	08:47 (E12) 14:50 (E16)	08:49 15:40	14:47 (E16) 9
24	05:01 21:43	06:01 20:34	06:40 (E9) 07:07 (E9)	07:03 19:12	08:26 (E10) 18:42 (E13)	08:05 17:54	08:11 15:53	26	08:49 (E12) 14:51 (E16)	08:50 15:40	14:48 (E16) 9
25	05:03 21:41	06:03 20:32	06:38 (E9) 07:07 (E9)	07:05 19:10	08:24 (E10) 08:57 (E10)	07:07 16:52	08:13 15:52	20	08:51 (E12) 14:51 (E16)	08:50 15:41	14:48 (E16) 10
26	05:04 21:39	06:05 20:29	06:38 (E9) 07:09 (E9)	07:07 19:07	08:23 (E10) 08:57 (E10)	07:09 16:50	08:15 15:51	17	08:51 (E12) 14:52 (E16)	08:50 15:42	14:48 (E16) 10
27	05:06 21:37	06:07 20:27	06:38 (E9) 07:10 (E9)	07:09 19:04	08:22 (E10) 08:58 (E10)	07:12 16:47	08:17 15:49	18	08:51 (E12) 14:53 (E16)	08:51 15:43	14:49 (E16) 10
28	05:08 21:35	06:09 20:24	06:36 (E9) 07:10 (E9)	07:11 19:01	08:21 (E10) 08:58 (E10)	07:14 16:45	08:19 15:51	18	08:51 (E12) 14:53 (E16)	08:51 15:44	14:49 (E16) 11
29	05:10 21:34	06:11 20:22	06:36 (E9) 07:11 (E9)	07:13 18:59	08:20 (E10) 08:58 (E10)	07:16 16:43	08:20 15:45	19	08:51 (E12) 14:54 (E16)	08:51 15:44	14:49 (E16) 12
30	05:12 21:32	06:13 20:19	06:36 (E9) 07:12 (E9)	07:15 18:56	08:20 (E10) 08:59 (E10)	07:18 16:40	08:22 15:48	19	08:51 (E12) 14:55 (E16)	08:51 15:45	14:50 (E16) 13
31	05:14 21:30	06:15 20:16	06:34 (E9) 07:12 (E9)	06:15 18:56	07:20 16:38	15:49 (E15)	08:45 (E11) 15:49 (E15)	19	08:51 (E12) 15:47	08:51 15:47	14:50 (E16) 13
Potential sun hours	529	469		385		324		247		216	
Total, worst case	365	974		638		539		999		419	
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		0.64		0.62		0.61		0.66	
Total reduction	0.31	0.32		0.27		0.16		0.05		0.05	
Total, real	115	310		171		85		49		19	

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:

25/06/2024 23:53/4.0.540

## 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 22:01	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 18:32	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	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 16:48	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	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			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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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		09:52 (E14)	08:15		08:45 (E16)	07:11		06:49		07:22 (E13)	05:33		04:36				
	15:48	25	10:17 (E14)	16:45	68	10:33 (E14)	17:48		19:53	17	07:39 (E13)	20:55		21:53				
2	08:50		09:52 (E14)	08:13		08:44 (E16)	07:08		06:46		07:19 (E13)	05:30		04:35				
	15:49	27	10:19 (E14)	16:48	67	10:32 (E14)	17:50		19:55	22	07:41 (E13)	20:57		21:54				
3	08:50		09:52 (E14)	08:11		08:45 (E16)	07:06		06:43		07:17 (E13)	05:28		04:34				
	15:51	27	10:19 (E14)	16:50	66	10:32 (E14)	17:52		19:57	26	07:43 (E13)	21:00		21:55				
4	08:50		09:51 (E14)	08:09		08:45 (E16)	07:03		06:41		07:15 (E13)	05:26		04:33				
	15:52	29	10:20 (E14)	16:52	64	10:31 (E14)	17:54		19:59	28	07:43 (E13)	21:02		21:57				
5	08:49		09:52 (E14)	08:07		08:46 (E16)	07:01		06:38		07:13 (E13)	05:23		04:32				
	15:53	29	10:21 (E14)	16:54	60	10:30 (E14)	17:56		20:01	31	07:44 (E13)	21:04		21:58				
6	08:49		09:52 (E14)	08:05		08:47 (E16)	06:58		06:35		07:13 (E13)	05:21		04:31				
	15:55	30	10:22 (E14)	16:56	55	10:28 (E14)	17:58		20:03	32	07:45 (E13)	21:06		21:59				
7	08:48		09:52 (E14)	08:03		08:49 (E16)	06:55		06:33		07:12 (E13)	05:19		04:30				
	15:56	31	10:23 (E14)	16:59	49	10:27 (E14)	18:01		20:05	33	07:45 (E13)	21:08		22:00				
8	08:48		09:51 (E14)	08:01		08:52 (E16)	06:53		06:30		07:11 (E13)	05:17		04:29				
	15:58	33	10:24 (E14)	17:01	39	10:25 (E14)	18:03		20:08	35	07:46 (E13)	21:10		22:01				
9	08:47		09:51 (E14)	07:58		08:58 (E15)	06:50		06:28		07:10 (E13)	05:15		04:29				
	16:00	34	10:25 (E14)	17:03	27	10:21 (E14)	18:05		20:10	35	07:45 (E13)	21:12		22:02				
10	08:46		09:51 (E14)	07:56		09:01 (E15)	06:47		06:25		07:09 (E13)	05:13		04:28				
	16:01	35	10:26 (E14)	17:05	10	09:11 (E15)	18:07		20:12	36	07:45 (E13)	21:14		22:03				
11	08:45		09:52 (E14)	07:54			06:45		06:22		07:10 (E13)	05:11		04:27				
	16:03	35	10:27 (E14)	17:08			18:09		20:14	35	07:45 (E13)	21:16		22:04				
12	08:44		09:51 (E14)	07:52			06:42		06:20		07:09 (E13)	05:09		04:27				
	16:05	36	10:27 (E14)	17:10			18:11		20:16	35	07:44 (E13)	21:18		22:05				
13	08:43		09:51 (E14)	07:50			06:40		06:17		07:09 (E13)	05:07		04:26				
	16:06	37	10:28 (E14)	17:12			18:13		20:18	35	07:44 (E13)	21:20		22:06				
14	08:42		09:51 (E14)	07:47			06:37		06:15		07:09 (E13)	05:05		04:26				
	16:08	38	10:29 (E14)	17:14			18:15		20:20	34	07:43 (E13)	21:22		22:07				
15	08:41		09:51 (E14)	07:45			06:34		06:12		07:09 (E13)	05:03		04:26				
	16:10	38	10:29 (E14)	17:17			18:18		20:22	34	07:43 (E13)	21:24		22:07				
16	08:40		09:51 (E14)	07:43			06:32		06:09		07:09 (E13)	05:01		04:26				
	16:12	39	10:30 (E14)	17:19			18:20		20:24	32	07:41 (E13)	21:25		22:08				
17	08:39		09:51 (E14)	07:40			06:29		06:07		07:10 (E13)	04:59		04:25				
	16:14	39	10:30 (E14)	17:21			18:22		20:26	31	07:41 (E13)	21:27		22:08				
18	08:37		09:52 (E14)	07:38			06:26		06:04		07:10 (E13)	04:57		04:25				
	16:16	39	10:31 (E14)	17:23			18:24		20:28	29	07:39 (E13)	21:29		22:09				
19	08:36		09:51 (E14)	07:36			06:24		06:02		07:12 (E13)	04:55		04:25				
	16:18	40	10:31 (E14)	17:26			18:26		20:30	26	07:38 (E13)	21:31		22:09				
20	08:35		09:52 (E14)	07:33			06:21		05:59		07:12 (E13)	04:53		04:25				
	16:20	40	10:32 (E14)	17:28			18:28		20:33	24	07:36 (E13)	21:33		22:10				
21	08:33		09:52 (E14)	07:31			06:18		05:57		07:14 (E13)	04:52		04:25				
	16:22	41	10:33 (E14)	17:30			18:30		20:35	20	07:34 (E13)	21:35		22:10				
22	08:32		09:52 (E14)	07:28			06:16		05:54		07:16 (E13)	04:50		04:26				
	16:24	41	10:33 (E14)	17:32			18:32		20:37	16	07:32 (E13)	21:37		22:10				
23	08:30		09:03 (E15)	07:26			06:13		05:52		07:19 (E13)	04:48		04:26				
	16:26	45	10:33 (E14)	17:34			18:34		20:39	9	07:28 (E13)	21:38		22:10				
24	08:29		09:02 (E15)	07:23			06:10		05:49			04:47		04:26				
	16:28	49	10:34 (E14)	17:37			18:36		20:41			21:40		22:10				
25	08:27		09:00 (E15)	07:21			06:08		05:47			04:45		04:26				
	16:30	52	10:34 (E14)	17:39			18:38		20:43			21:42		22:10				
26	08:26		08:58 (E15)	07:18			06:05		05:44			04:44		04:27				
	16:32	56	10:34 (E14)	17:41			18:41		20:45			21:43		22:10				
27	08:24		08:56 (E16)	07:16			06:02		05:42			04:42		04:27				
	16:34	58	10:34 (E14)	17:43			18:43		20:47			21:45		22:10				
28	08:22		08:54 (E16)	07:13			05:59		05:40			04:41		04:28				
	16:37	61	10:34 (E14)	17:45			18:45		20:49			21:47		22:10				
29	08:20		08:52 (E16)				06:57		05:37			04:40		04:29				
	16:39	62	10:34 (E14)				19:47		20:51			21:48		22:10				
30	08:18		08:50 (E16)				06:54		05:35			04:38		04:29				
	16:41	65	10:34 (E14)				19:49		20:53			21:50		22:09				
31	08:17		08:48 (E16)				06:51					04:37						
	16:43	67	10:34 (E14)				19:51	10	07:26 (E13)			21:51						
									07:36 (E13)									
Potential sun hours	235			266			366			426			508			529		
Total, worst case	1278			505			10			655								
Sun reduction	0.13			0.20			0.41			0.50								
Oper. time red.	0.98			0.98			0.98			0.98								
Wind dir. red.	0.61			0.60			0.66			0.66								
Total reduction	0.08			0.12			0.26			0.32								
Total, real	101			60			3			211								

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	07:08 (E13) 18:54	07:17 16:36	08:24 15:45
2	04:31 22:08	05:18 21:26	06:19 20:11	07:08 (E13) 18:51	07:19 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:08 (E13) 18:48	07:21 16:32	08:28 15:43
4	04:33 22:07	05:21 21:22	06:23 20:06	07:08 (E13) 18:46	07:23 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:03	07:09 (E13) 18:43	07:25 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:08 (E13) 18:40	07:27 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:09 (E13) 18:38	07:30 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:55	07:09 (E13) 18:35	07:32 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:10 (E13) 18:32	07:34 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:35 19:50	07:12 (E13) 18:30	07:36 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:13 (E13) 18:27	07:38 16:15	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:16 (E13) 18:25	07:40 16:13	08:40 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:16 (E13) 18:22	07:42 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:17 (E13) 18:20	07:44 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:18 (E13) 18:17	07:46 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:19 (E13) 18:14	07:48 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:20 (E13) 18:12	07:50 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:22 (E13) 18:09	07:52 16:02	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:25 (E13) 18:07	07:55 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:28 (E13) 18:04	07:57 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:30 (E13) 18:02	07:59 15:58	08:48 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	07:33 (E13) 18:00	08:01 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	07:36 (E13) 17:57	08:03 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	07:39 (E13) 17:55	08:05 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:42 (E13) 17:52	08:07 15:52	08:51 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:45 (E13) 17:50	08:09 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:48 (E13) 17:48	08:11 15:49	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:51 (E13) 17:46	08:13 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:54 (E13) 17:43	08:15 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:57 (E13) 17:41	08:17 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	07:17 18:54	07:59 (E13) 17:39	08:19 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		330	345	1	1453	775
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	0.59	0.61	0.61
Total reduction		0.32	0.27	0.15	0.05	0.04
Total, real		106	95	0	71	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	07:37 (E14)	06:49	05:33
	15:48	16:45	17:48	17:54 (E15)	19:53	20:55
2	08:50	08:13	07:08	07:34 (E14)	06:46	05:30
	15:50	16:48	17:50	17:54 (E14)	19:55	20:58
3	08:50	08:11	07:06	07:33 (E14)	06:43	05:28
	15:51	16:50	17:52	17:56 (E14)	19:57	21:00
4	08:50	08:09	07:03	07:31 (E14)	06:41	05:26
	15:52	16:52	17:54	17:57 (E14)	19:59	21:02
5	08:49	08:07	07:01	07:29 (E14)	06:38	05:24
	15:54	16:54	17:56	17:57 (E14)	20:01	21:04
6	08:49	08:05	06:58	07:29 (E14)	06:36	05:21
	15:55	16:56	17:58	17:58 (E14)	20:03	21:06
7	08:48	08:03	06:55	07:28 (E14)	06:33	05:19
	15:56	16:59	18:01	17:58 (E14)	20:06	21:08
8	08:48	08:01	06:53	07:27 (E14)	06:30	05:17
	15:58	17:01	18:03	17:58 (E14)	20:08	21:10
9	08:47	07:58	06:50	07:27 (E14)	06:28	05:15
	16:00	17:03	18:05	17:59 (E14)	20:10	21:12
10	08:46	07:56	06:48	07:27 (E14)	06:25	05:13
	16:01	17:05	18:07	17:58 (E14)	20:12	21:14
11	08:45	07:54	06:45	07:26 (E14)	06:22	05:11
	16:03	17:08	18:09	17:57 (E14)	20:14	21:16
12	08:44	07:52	06:42	07:27 (E14)	06:20	05:09
	16:05	17:10	18:11	17:58 (E14)	20:16	21:18
13	08:43	07:50	06:40	07:27 (E14)	06:17	05:07
	16:06	17:12	18:13	17:57 (E14)	20:18	21:20
14	08:42	07:47	06:37	07:27 (E14)	06:15	05:05
	16:08	17:14	18:15	17:55 (E14)	20:20	21:22
15	08:41	07:45	06:34	07:28 (E14)	06:12	05:03
	16:10	17:17	18:18	17:55 (E14)	20:22	21:24
16	08:40	07:43	06:32	07:29 (E14)	06:09	05:01
	16:12	17:19	18:20	17:53 (E14)	20:24	21:25
17	08:39	07:40	06:29	07:30 (E14)	06:07	04:59
	16:14	17:21	18:22	17:51 (E14)	20:26	21:27
18	08:38	07:38	06:26	07:31 (E14)	06:04	04:57
	16:16	17:23	18:24	17:48 (E14)	20:28	21:29
19	08:36	07:36	06:24	07:34 (E14)	06:02	04:55
	16:18	17:26	18:26	17:46 (E14)	20:31	21:31
20	08:35	07:33	06:21	05:59	04:53	04:53
	16:20	17:28	18:28	20:33	15	06:41 (E13)
21	08:33	07:31	06:18	05:57	04:52	21:33
	16:22	17:30	18:30	20:35	18	06:41 (E13)
22	08:32	07:28	06:16	05:54	04:50	21:35
	16:24	17:32	18:32	20:37	20	06:41 (E13)
23	08:30	07:26	06:13	05:52	04:48	21:37
	16:26	17:34	18:34	20:39	22	06:41 (E13)
24	08:29	07:23	06:10	05:49	04:47	21:38
	16:28	17:37	18:36	20:41	22	06:41 (E13)
25	08:27	07:21	07:48 (E15)	05:47	04:45	21:40
	16:30	17:39	4 07:52 (E15)	20:43	22	06:41 (E13)
26	08:26	07:18	07:45 (E15)	05:44	04:44	21:42
	16:32	17:41	8 07:53 (E15)	20:45	20	06:39 (E13)
27	08:24	07:16	07:42 (E15)	05:42	04:42	21:43
	16:34	17:43	11 07:53 (E15)	20:47	20	06:39 (E13)
28	08:22	07:13	07:40 (E15)	05:40	04:41	21:45
	16:37	17:45	14 07:54 (E15)	20:49	18	06:38 (E13)
29	08:20		06:57	05:37	04:40	21:47
	16:39		19:47	20:51	16	06:37 (E13)
30	08:19		06:54	05:35	04:38	21:48
	16:41		19:49	20:53	14	06:36 (E13)
31	08:17		06:51		04:37	21:50
	16:43		19:51		21:51	04:37
Potential sun hours	235	266	366	426	508	529
Total, worst case		37	488	233	10	
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		5	122	74	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:06 (E14)	07:23
	22:09	21:28	20:14	18:54	30 08:36 (E14)	16:36
2	04:31	05:18	06:19	07:19	08:05 (E14)	07:25
	22:09	21:26	20:11	18:51	31 08:36 (E14)	16:34
3	04:32	05:20	06:21	07:21	08:05 (E14)	07:27
	22:08	21:24	20:09	18:48	31 08:36 (E14)	16:32
4	04:33	05:22	06:23	07:23	08:04 (E14)	07:29
	22:07	21:22	20:06	18:46	32 08:36 (E14)	16:30
5	04:34	05:23	06:25	07:25	08:04 (E14)	07:31
	22:07	21:20	20:03	18:43	31 08:35 (E14)	16:27
6	04:35	05:25	06:27	07:28	08:04 (E14)	07:33
	22:06	21:17	20:01	18:40	31 08:35 (E14)	16:25
7	04:36	05:27	06:29	07:30	08:04 (E14)	07:36
	22:05	21:15	19:58	18:38	30 08:34 (E14)	16:23
8	04:37	05:29	06:31	07:32	08:04 (E14)	07:38
	22:04	21:13	19:56	18:35	29 08:33 (E14)	16:21
9	04:38	05:31	06:33	07:34	08:06 (E14)	07:40
	22:03	21:11	19:53	18:33	26 08:32 (E14)	16:19
10	04:40	05:33	06:35	07:36	08:06 (E14)	07:42
	22:02	21:08	19:50	18:30	25 08:31 (E14)	16:17
11	04:41	05:35	06:37	07:38	08:07 (E14)	07:44
	22:01	21:06	5 06:40 (E13)	18:27	22 08:29 (E14)	16:15
12	04:42	05:37	06:39	07:40	08:09 (E14)	07:46
	22:00	21:04	11 06:42 (E13)	18:25	18 08:27 (E14)	16:13
13	04:44	05:39	06:41	07:42	08:11 (E14)	07:49
	21:59	21:02	15 06:44 (E13)	18:22	16 08:27 (E15)	16:11
14	04:45	05:41	06:43	07:44	08:13 (E15)	07:51
	21:58	20:59	17 06:45 (E13)	18:20	13 08:26 (E15)	16:10
15	04:46	05:43	06:45	07:46	08:16 (E15)	07:53
	21:57	20:57	19 06:46 (E13)	18:17	10 08:26 (E15)	16:08
16	04:48	05:45	06:47	07:48	08:18 (E15)	07:55
	21:55	20:54	20 06:47 (E13)	18:15	6 08:24 (E15)	16:06
17	04:49	05:47	06:49	07:50	08:20 (E15)	07:57
	21:54	20:52	21 06:47 (E13)	18:12	3 08:23 (E15)	16:04
18	04:51	05:49	06:51	07:52		07:59
	21:52	20:50	21 06:47 (E13)	18:09		16:03
19	04:53	05:51	06:53	07:55		08:01
	21:51	20:47	22 06:46 (E13)	18:07		16:01
20	04:54	05:53	06:55	07:57		08:03
	21:49	20:45	22 06:46 (E13)	18:04		15:59
21	04:56	05:55	06:57	07:59		08:05
	21:48	20:42	20 06:46 (E13)	18:02		15:58
22	04:58	05:57	06:59	08:01		08:07
	21:46	20:40	17 06:45 (E13)	18:00		15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	15 06:45 (E13)	17:57		15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	12 06:44 (E13)	8 08:28 (E14)		15:53
25	05:03	06:03	07:05	08:16 (E14)		08:13
	21:41	20:32	8 06:42 (E13)	15 08:31 (E14)		15:52
26	05:05	06:05	07:07	08:13 (E14)		08:15
	21:39	20:30	4 06:40 (E13)	20 08:33 (E14)		15:51
27	05:06	06:07	07:09	08:11 (E14)		08:17
	21:38	20:27	23 07:04	08:34 (E14)		15:50
28	05:08	06:09	07:11	08:09 (E14)		08:19
	21:36	20:24	26 07:13	08:35 (E14)		15:48
29	05:10	06:11	07:13	08:08 (E14)		08:21
	21:34	20:22	28 07:15	08:36 (E14)		15:47
30	05:12	06:13	07:15	08:07 (E14)		08:22
	21:32	20:19	29 07:15	08:36 (E14)		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		249	149	384		
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		79	39	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E14)	06:49	05:33
	15:48	16:45	17:48	24 08:01 (E14)	19:53	20:55
2	08:50	08:13	07:08	07:36 (E14)	06:46	05:30
	15:50	16:48	17:50	25 08:01 (E14)	19:55	20:58
3	08:50	08:11	07:06	07:36 (E14)	06:44	05:28
	15:51	16:50	17:52	26 08:02 (E14)	19:57	21:00
4	08:50	08:09	07:03	07:35 (E14)	06:41	05:26
	15:52	16:52	17:54	27 08:02 (E14)	19:59	21:02
5	08:49	08:07	07:01	07:34 (E14)	06:38	05:24
	15:54	16:54	17:56	27 08:01 (E14)	20:01	21:04
6	08:49	08:05	06:58	07:35 (E14)	06:36	05:21
	15:55	16:57	17:58	27 08:02 (E14)	20:03	21:06
7	08:48	08:03	06:55	07:34 (E14)	06:33	05:19
	15:56	16:59	18:01	27 08:01 (E14)	20:06	21:08
8	08:48	08:01	06:53	07:34 (E14)	06:30	05:17
	15:58	17:01	18:03	26 08:00 (E14)	20:08	21:10
9	08:47	07:58	06:50	07:35 (E14)	06:28	05:15
	16:00	17:03	18:05	24 07:59 (E14)	20:10	21:12
10	08:46	07:56	06:48	07:36 (E14)	06:25	06:50 (E13)
	16:01	17:05	18:07	22 07:58 (E14)	20:12	06:53 (E13)
11	08:45	07:54	06:45	07:37 (E14)	06:22	06:48 (E13)
	16:03	17:08	18:09	19 07:56 (E14)	20:14	06:55 (E13)
12	08:44	07:52	06:42	07:39 (E14)	06:20	06:45 (E13)
	16:05	17:10	18:11	15 07:54 (E14)	20:16	06:55 (E13)
13	08:43	07:50	06:40	07:41 (E14)	06:17	06:43 (E13)
	16:06	17:12	18:13	10 07:51 (E14)	20:18	06:56 (E13)
14	08:42	07:47	06:37	06:15	13 06:56 (E13)	21:20
	16:08	17:14	18:15	20:20	06:40 (E13)	05:05
15	08:41	07:45	06:34	06:12	16 06:56 (E13)	21:22
	16:10	17:17	18:18	20:22	06:38 (E13)	05:03
16	08:40	07:43	06:32	06:09	18 06:56 (E13)	21:24
	16:12	17:19	18:20	20:24	06:36 (E13)	05:01
17	08:39	07:40	06:29	06:07	20 06:56 (E13)	21:26
	16:14	17:21	18:22	20:26	06:36 (E13)	04:59
18	08:38	07:38	06:26	06:04	20 06:56 (E13)	21:27
	16:16	17:23	18:24	20:28	06:36 (E13)	04:57
19	08:36	07:36	06:24	06:02	18 06:54 (E13)	21:29
	16:18	17:26	18:26	20:31	06:36 (E13)	04:55
20	08:35	07:33	06:21	05:59	18 06:54 (E13)	21:31
	16:20	17:28	18:28	20:33	06:38 (E13)	04:53
21	08:33	07:31	06:18	05:57	15 06:53 (E13)	21:33
	16:22	17:30	18:30	20:35	06:38 (E13)	04:52
22	08:32	07:28	06:16	05:54	13 06:51 (E13)	21:35
	16:24	17:32	18:32	20:37	06:41 (E13)	04:50
23	08:30	07:26	07:53 (E15)	05:52	8 06:49 (E13)	21:37
	16:26	17:34	18:34	20:39		04:48
24	08:29	07:23	07:50 (E15)	05:49		21:38
	16:28	17:37	5 07:55 (E15)	20:41		22:10
25	08:27	07:21	07:48 (E14)	05:47		04:47
	16:30	17:39	8 07:56 (E14)	20:43		22:10
26	08:26	07:18	07:45 (E14)	05:44		04:45
	16:32	17:41	13 07:58 (E14)	20:45		04:44
27	08:24	07:16	07:42 (E14)	05:42		21:43
	16:34	17:43	17 07:59 (E14)	20:47		04:42
28	08:22	07:13	07:40 (E14)	05:40		22:10
	16:37	17:45	21 08:01 (E14)	20:49		04:41
29	08:20		06:57	05:37		22:10
	16:39		19:47	20:51		21:47
30	08:19		06:54	05:35		04:40
	16:41		19:49	20:53		21:48
31	08:17		06:52			04:38
	16:43		19:51			21:50
Potential sun hours	235	266	366	426	508	529
Total, worst case		65	299	179		
Sun reduction		0.20	0.41	0.50		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.63	0.62	0.66		
Total reduction		0.12	0.25	0.32		
Total, real		8	75	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	06:47 (E13) 18:54	07:17 13	08:19 (E14) 16:36
2	04:31 22:09	05:18 21:26	06:19 20:11	06:49 (E13) 18:51	07:19 18	08:16 (E14) 16:34
3	04:32 22:08	05:20 21:24	06:21 20:09	06:52 (E13) 18:51	07:21 21	08:14 (E14) 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:23 23	08:13 (E14) 16:30
5	04:34 22:07	05:24 21:20	06:25 20:04	07:25 18:43	07:25 25	08:12 (E14) 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:28 26	08:11 (E14) 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:30 27	08:10 (E14) 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:32 28	08:09 (E14) 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:34 27	08:10 (E14) 16:19
10	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:36 27	08:10 (E14) 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:38 26	08:10 (E14) 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:40 25	08:10 (E14) 16:13
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:42 23	08:11 (E14) 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:44 19	08:13 (E14) 16:10
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:46 15	08:16 (E14) 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:48 11	08:18 (E14) 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:50 7	08:20 (E14) 16:04
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	07:52 4	08:22 (E15) 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	07:55 16:01	08:01 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	07:57 15:59	08:03 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	07:59 15:58	08:05 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:01 15:56	08:07 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:03 15:55	08:09 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:05 15:53	08:11 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:07 15:52	08:13 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 17:50	08:10 15:51	08:15 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 17:48	08:12 15:50	08:17 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 17:45	08:14 15:48	08:19 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:43	08:16 15:47	08:21 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:23 (E14) 16:41	08:23 (E14) 15:46	08:22 15:46
31	05:14 21:30	06:15 20:17	07:17 18:53	08:25 (E14) 16:38	08:25 (E14) 15:47	08:24 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		171	16	365		
Sun reduction		0.50	0.43	0.26		
Oper. time red.		0.98	0.98	0.98		
Wind dir. red.		0.66	0.64	0.62		
Total reduction		0.32	0.27	0.16		
Total, real		55	4	58		

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 15:48	08:15 16:45	07:11 17:48	07:37 (E15) 07:44 (E15)	06:49 19:53	05:33 20:55
2	08:51 15:50	08:13 16:48	07:08 17:50	07:34 (E15) 07:44 (E15)	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	07:06 17:52	07:32 (E14) 07:45 (E15)	06:44 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	07:03 17:54	07:29 (E14) 07:44 (E15)	06:41 19:59	05:26 21:02
5	08:49 15:54	08:07 16:54	07:01 17:56	07:26 (E14) 07:43 (E15)	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:57	06:58 17:58	07:24 (E14) 07:43 (E14)	06:36 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	06:55 18:01	07:21 (E14) 07:43 (E14)	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	06:53 18:03	07:19 (E14) 07:43 (E14)	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	06:50 18:05	07:19 (E14) 07:44 (E14)	06:28 20:10	05:15 21:12
10	08:46 16:01	07:56 17:06	06:48 18:07	07:19 (E14) 07:43 (E14)	06:25 20:12	05:13 21:14
11	08:45 16:03	07:54 17:08	06:45 18:09	07:18 (E14) 07:42 (E14)	06:22 20:14	05:11 21:16
12	08:44 16:05	07:52 17:10	06:42 18:11	07:19 (E14) 07:42 (E14)	06:20 20:16	05:09 21:18
13	08:43 16:06	07:50 17:12	06:40 18:13	07:19 (E14) 07:41 (E14)	06:17 20:18	05:07 21:20
14	08:42 16:08	07:47 17:14	06:37 18:16	07:20 (E14) 07:40 (E14)	06:15 20:20	05:05 21:22
15	08:41 16:10	07:45 17:17	06:34 18:18	07:21 (E14) 07:39 (E14)	06:12 20:22	05:03 21:24
16	08:40 16:12	07:43 17:19	06:32 18:20	07:22 (E14) 07:36 (E14)	06:09 20:24	05:01 21:26
17	08:39 16:14	07:40 17:21	06:29 18:22	07:25 (E14) 07:33 (E14)	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	06:04 (E13) 21:29	04:57 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	06:51 (E13) 21:31	04:55 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	06:35 (E13) 21:33	04:54 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	06:37 (E13) 21:35	04:52 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	06:47 (E13) 21:37	04:50 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:48 21:38	04:48 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	04:47 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	04:45 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	04:44 22:10
27	08:24 16:34	07:16 17:43	07:42 (E15) 07:43 (E15)	06:02 18:43	05:42 20:47	04:42 21:45
28	08:22 16:37	07:13 17:45	07:40 (E15) 07:44 (E15)	06:00 18:45	05:40 20:49	04:41 21:47
29	08:20 16:39			06:57 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		5	305	137		
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		1	76	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	06:47 (E13) 06:50 (E13)	07:17 18:54	07:58 (E14) 08:21 (E14)	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	07:58 (E14) 08:21 (E14)	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	07:57 (E14) 08:21 (E14)	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	07:56 (E14) 08:21 (E14)	07:29 16:30	08:29 15:43
5	04:34 22:07	05:24 21:20	06:25 20:04		07:26 18:43	07:56 (E14) 08:20 (E14)	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	07:56 (E14) 08:19 (E14)	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	07:58 (E14) 08:18 (E14)	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	08:00 (E14) 08:17 (E14)	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	08:03 (E14) 08:19 (E15)	07:40 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 (E14) 08:19 (E15)	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	08:07 (E14) 08:19 (E15)	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	08:09 (E15) 08:18 (E15)	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	08:11 (E15) 08:17 (E15)	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	08:13 (E15) 08:16 (E15)	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 21:52	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		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 (E14)	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	08:05 (E14) 08:17 (E14)	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	08:03 (E14) 08:19 (E14)	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	08:01 (E14) 08:20 (E14)	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	08:00 (E14) 08:21 (E14)	07:18 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		138	74		239			
Sun reduction		0.50	0.43		0.26			
Oper. time red.		0.98	0.98		0.98			
Wind dir. red.		0.66	0.62		0.62			
Total reduction		0.32	0.26		0.16			
Total, real		44	19		38			

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	07:44 (E14)	06:49	05:33
	15:48	16:45	17:48	26 08:10 (E14)	19:53	20:55
2	08:51	08:13	07:08	07:43 (E14)	06:46	05:30
	15:50	16:48	17:50	26 08:09 (E14)	19:55	20:58
3	08:50	08:11	07:06	07:44 (E14)	06:44	05:28
	15:51	16:50	17:52	25 08:09 (E14)	19:57	21:00
4	08:50	08:09	07:03	07:44 (E14)	06:41	05:26
	15:52	16:52	17:54	24 08:08 (E14)	19:59	21:02
5	08:49	08:07	07:01	07:44 (E14)	06:38	05:24
	15:54	16:54	17:56	23 08:07 (E14)	20:01	21:04
6	08:49	08:05	06:58	07:45 (E14)	06:36	05:21
	15:55	16:57	17:58	22 08:07 (E14)	20:03	21:06
7	08:48	08:03	06:55	07:46 (E14)	06:33	05:19
	15:56	16:59	18:01	19 08:05 (E14)	20:06	21:08
8	08:48	08:01	06:53	07:47 (E14)	06:30	05:17
	15:58	17:01	18:03	16 08:03 (E14)	20:08	21:10
9	08:47	07:58	06:50	07:50 (E14)	06:28	05:15
	16:00	17:03	18:05	10 08:00 (E14)	20:10	21:12
10	08:46	07:56	06:48	06:25	06:50 (E13)	05:13
	16:01	17:05	18:07	20:12	15 07:05 (E13)	21:14
11	08:45	07:54	06:45	06:22	06:48 (E13)	05:11
	16:03	17:08	18:09	20:14	17 07:05 (E13)	21:16
12	08:44	07:52	06:42	06:20	06:45 (E13)	05:09
	16:05	17:10	18:11	20:16	20 07:05 (E13)	21:18
13	08:43	07:50	06:40	06:17	06:45 (E13)	05:07
	16:06	17:12	18:13	20:18	20 07:05 (E13)	21:20
14	08:42	07:47	06:37	06:15	06:45 (E13)	05:05
	16:08	17:14	18:15	20:20	19 07:04 (E13)	21:22
15	08:41	07:45	06:34	06:12	06:46 (E13)	05:03
	16:10	17:17	18:18	20:22	17 07:03 (E13)	21:24
16	08:40	07:43	06:32	06:09	06:46 (E13)	05:01
	16:12	17:19	18:20	20:24	16 07:02 (E13)	21:26
17	08:39	07:40	06:29	06:07	06:47 (E13)	04:59
	16:14	17:21	18:22	20:26	13 07:00 (E13)	21:27
18	08:38	07:38	06:26	06:04	06:49 (E13)	04:57
	16:16	17:23	18:24	20:28	8 06:57 (E13)	21:29
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	06:21	05:59	04:53	04:25
	16:20	17:28	18:28	20:33	21:33	22:10
21	08:33	07:31	07:58 (E14)	06:18	05:57	04:52
	16:22	17:30	4 08:02 (E14)	18:30	20:35	21:35
22	08:32	07:28	07:55 (E14)	06:16	05:54	04:50
	16:24	17:32	9 08:04 (E14)	18:32	20:37	21:37
23	08:30	07:26	07:53 (E14)	06:13	05:52	04:48
	16:26	17:34	14 08:07 (E14)	18:34	20:39	21:38
24	08:29	07:23	07:50 (E14)	06:10	05:49	04:47
	16:28	17:37	18 08:08 (E14)	18:36	20:41	21:40
25	08:27	07:21	07:48 (E14)	06:08	05:47	04:45
	16:30	17:39	21 08:09 (E14)	18:39	20:43	21:42
26	08:26	07:18	07:45 (E14)	06:05	05:44	04:44
	16:32	17:41	24 08:09 (E14)	18:41	20:45	21:43
27	08:24	07:16	07:44 (E14)	06:02	05:42	04:42
	16:34	17:43	25 08:09 (E14)	18:43	20:47	21:45
28	08:22	07:13	07:44 (E14)	06:00	05:40	04:41
	16:37	17:45	26 08:10 (E14)	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		141	191	172		
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		17	48	55		

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 22:09	05:16 21:28	06:17 20:14	06:47 (E13) 17 07:04 (E13)	07:17 18:54	07:23 16:36
2	04:31 22:09	05:18 21:26	06:19 20:11	06:49 (E13) 15 07:04 (E13)	07:19 18:51	07:25 16:34
3	04:32 22:08	05:20 21:24	06:21 20:09	06:51 (E13) 12 07:03 (E13)	07:21 18:48	07:27 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	06:53 (E13) 9 07:02 (E13)	07:23 18:46	08:29 (E14) 6 08:35 (E14)
5	04:34 22:07	05:24 21:20	06:25 20:04	06:55 (E13) 5 07:00 (E13)	07:25 18:43	08:25 (E14) 14 08:39 (E14)
6	04:35 22:06	05:25 21:17	06:27 20:01	06:57 (E13) 1 06:58 (E13)	07:28 18:40	08:23 (E14) 17 08:40 (E14)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:21 (E14) 20 08:41 (E14)	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:19 (E14) 23 08:42 (E14)	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:19 (E14) 24 08:43 (E14)	07:40 16:19
10	04:40 22:02	05:33 21:08	06:35 19:50	07:36 18:30	08:18 (E14) 25 08:43 (E14)	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	08:17 (E14) 26 08:43 (E14)	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:17 (E14) 26 08:43 (E14)	07:46 16:13
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:17 (E14) 26 08:43 (E14)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:16 (E14) 26 08:42 (E14)	07:51 16:10
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:17 (E14) 25 08:42 (E14)	07:53 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	08:18 (E14) 23 08:41 (E14)	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:20 (E14) 20 08:40 (E14)	07:57 16:04
18	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:09	08:22 (E14) 16 08:38 (E14)	07:59 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:25 (E14) 12 08:37 (E14)	08:01 16:01
20	04:54 21:49	05:53 20:45	06:55 19:23	07:57 18:04	08:27 (E14) 8 08:35 (E14)	08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:29 (E14) 1 08:30 (E14)	08:05 15:58
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:31 15:56	08:07 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:33 15:55	08:09 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:35 15:53	08:11 15:41
25	05:03 21:41	06:03 20:32	06:52 (E13) 9 07:01 (E13)	07:05 19:10	07:07 16:52	08:13 15:52
26	05:05 21:39	06:05 20:30	06:50 (E13) 13 07:03 (E13)	07:07 19:07	07:10 16:50	08:15 15:51
27	05:06 21:38	06:07 20:27	06:49 (E13) 15 07:04 (E13)	07:09 19:04	07:12 16:48	08:17 15:50
28	05:08 21:36	06:09 20:24	06:47 (E13) 17 07:04 (E13)	07:11 19:02	07:14 16:45	08:19 15:48
29	05:10 21:34	06:11 20:22	06:46 (E13) 19 07:05 (E13)	07:13 18:59	07:16 16:43	08:21 15:47
30	05:12 21:32	06:13 20:19	06:45 (E13) 20 07:05 (E13)	07:15 18:56	07:18 16:41	08:22 15:46
31	05:14 21:30	06:15 20:17	06:45 (E13) 20 07:05 (E13)	07:20 16:38	07:20 16:38	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		113	59	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		36	16	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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

	January	February	March	April	May	June
1	08:51	08:15	09:05 (E14)	07:11	07:37 (E13)	06:49
	15:48	16:45	10 09:15 (E14)	17:48	6 07:43 (E13)	19:53
2	08:51	08:13	09:06 (E14)	07:08	07:34 (E13)	06:46
	15:49	16:48	7 09:13 (E14)	17:50	9 07:43 (E13)	19:55
3	08:50	08:11		07:06	07:32 (E13)	06:44
	15:51	16:50		17:52	12 07:44 (E13)	19:57
4	08:50	08:09		07:03	07:29 (E13)	06:41
	15:52	16:52		17:54	15 07:44 (E13)	19:59
5	08:49	08:07		07:01	07:28 (E13)	06:38
	15:53	16:54		17:56	16 07:44 (E13)	20:01
6	08:49	08:05		06:58	07:28 (E13)	06:36
	15:55	16:56		17:58	15 07:43 (E13)	20:04
7	08:48	08:03		06:55	07:28 (E13)	06:33
	15:56	16:59		18:01	14 07:42 (E13)	20:06
8	08:48	08:01		06:53	07:29 (E13)	06:30
	15:58	17:01		18:03	11 07:40 (E13)	20:08
9	08:47	07:58		06:50	07:31 (E13)	06:28
	16:00	17:03		18:05	8 07:39 (E13)	20:10
10	08:46	07:56		06:48		06:25
	16:01	17:05		18:07		20:12
11	08:45	07:54		06:45		06:22
	16:03	17:08		18:09		20:14
12	08:44	07:52		06:42		06:20
	16:05	17:10		18:11		20:16
13	08:43	07:50		06:40		06:17
	16:06	17:12		18:13		20:18
14	08:42	07:47		06:37		06:15
	16:08	17:14		18:16		20:20
15	08:41	07:45		06:34		06:12
	16:10	17:17		18:18		20:22
16	08:40	07:43		06:32		06:09
	16:12	17:19		18:20		20:24
17	08:39	07:40		06:29		06:07
	16:14	17:21		18:22		20:26
18	08:38	07:38		06:26		06:04
	16:16	17:23		18:24		20:28
19	08:36	09:10 (E14)		06:24		06:02
	16:18	2 09:12 (E14)		18:26		20:31
20	08:35	09:09 (E14)		06:21		05:59
	16:20	5 09:14 (E14)		18:28		20:33
21	08:33	09:07 (E14)		06:18		05:57
	16:22	7 09:14 (E14)		18:30		20:35
22	08:32	09:05 (E14)		06:16		05:54
	16:24	10 09:15 (E14)		18:32		20:37
23	08:30	09:03 (E14)		06:13		05:52
	16:26	12 09:15 (E14)		18:34		20:39
24	08:29	09:02 (E14)		06:10		05:49
	16:28	15 09:17 (E14)		18:36		20:41
25	08:27	09:00 (E14)		06:08		05:47
	16:30	17 09:17 (E14)		18:39		20:43
26	08:26	09:00 (E14)		06:05		05:44
	16:32	17 09:17 (E14)		18:41		20:45
27	08:24	09:00 (E14)		06:02		05:42
	16:34	18 09:18 (E14)		18:43		20:47
28	08:22	09:01 (E14)	07:13	06:00		05:40
	16:37	17 09:18 (E14)	2 07:42 (E13)	18:45		20:49
29	08:20	09:01 (E14)		06:57		05:37
	16:39	16 09:17 (E14)		19:47		20:51
30	08:19	09:02 (E14)		06:54		05:35
	16:41	15 09:17 (E14)		19:49		20:53
31	08:17	09:03 (E14)		06:52		04:37
	16:43	13 09:16 (E14)		19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case	164	19	106			
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	0.12	0.25			
Total, real	13	2	27			

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:

25/06/2024 23:53/4.0.540

## 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	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	08:11 (E13)	07:29	08:29
	22:07	21:22	20:06	18:46	2 08:13 (E13)	16:30	15:42
5	04:34	05:23	06:25	07:26	08:07 (E13)	07:31	08:31
	22:07	21:20	20:04	18:43	10 08:17 (E13)	16:27	15:42
6	04:35	05:25	06:27	07:28	08:05 (E13)	07:34	08:32
	22:06	21:17	20:01	18:40	13 08:18 (E13)	16:25	15:41
7	04:36	05:27	06:29	07:30	08:03 (E13)	07:36	08:34
	22:05	21:15	19:58	18:38	15 08:18 (E13)	16:23	15:40
8	04:37	05:29	06:31	07:32	08:04 (E13)	07:38	08:35
	22:04	21:13	19:56	18:35	15 08:19 (E13)	16:21	15:40
9	04:38	05:31	06:33	07:34	08:03 (E13)	07:40	08:37
	22:03	21:11	19:53	18:33	16 08:19 (E13)	16:19	7 08:44 (E14) 15:39
10	04:39	05:33	06:35	07:36	08:05 (E13)	07:42	08:36 (E14) 08:38
	22:02	21:09	19:50	18:30	14 08:19 (E13)	16:17	10 08:46 (E14) 15:39
11	04:41	05:35	06:37	07:38	08:07 (E13)	07:44	08:34 (E14) 08:39
	22:01	21:06	19:48	18:27	11 08:18 (E13)	16:15	13 08:47 (E14) 15:39
12	04:42	05:37	06:39	07:40	08:09 (E13)	07:47	08:33 (E14) 08:41
	22:00	21:04	19:45	18:25	8 08:17 (E13)	16:13	15 08:48 (E14) 15:38
13	04:43	05:39	06:41	07:42	08:11 (E13)	07:49	08:33 (E14) 08:42
	21:59	21:02	19:42	18:22	4 08:15 (E13)	16:11	16 08:49 (E14) 15:38
14	04:45	05:41	06:43	07:44		07:51	08:33 (E14) 08:43
	21:58	20:59	19:39	18:20		16:09	16 08:49 (E14) 15:38
15	04:46	05:43	06:45	07:46		07:53	08:33 (E14) 08:44
	21:57	20:57	19:37	18:17		16:08	17 08:50 (E14) 15:38
16	04:48	05:45	06:47	07:48		07:55	08:33 (E14) 08:45
	21:55	20:54	19:34	18:15		16:06	17 08:50 (E14) 15:38
17	04:49	05:47	06:49	07:50		07:57	08:33 (E14) 08:46
	21:54	20:52	19:31	18:12		16:04	17 08:50 (E14) 15:38
18	04:51	05:49	06:51	07:53		07:59	08:36 (E14) 08:46
	21:53	20:50	19:29	18:09		16:03	15 08:51 (E14) 15:38
19	04:53	05:51	06:53	07:55		08:01	08:38 (E14) 08:47
	21:51	20:47	19:26	18:07		16:01	12 08:50 (E14) 15:38
20	04:54	05:53	06:55	07:57		08:03	08:40 (E14) 08:48
	21:50	20:45	19:23	18:04		15:59	10 08:50 (E14) 15:39
21	04:56	05:55	06:57	07:59		08:05	08:43 (E14) 08:49
	21:48	20:42	19:21	18:02		15:58	7 08:50 (E14) 15:39
22	04:58	05:57	06:59	08:01		08:07	08:45 (E14) 08:49
	21:46	20:40	19:18	18:00		15:56	5 08:50 (E14) 15:40
23	04:59	05:59	07:01	08:03		08:09	08:47 (E14) 08:50
	21:45	20:37	19:15	17:57		15:55	2 08:49 (E14) 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				108		179	
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				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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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:

25/06/2024 23:53/4.0.540

## 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 (E14) 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 (E14) 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 (E14) 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 (E14) 17:54	07:03 19:59	05:26 21:02	04:33 21:57
5	08:49 15:53	08:07 16:54	08:40 (E14) 17:56	07:01 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:57	08:40 (E14) 17:58	06:58 20:04	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	08:41 (E14) 18:01	06:55 20:06	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	08:42 (E14) 18:03	06:53 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	08:42 (E14) 18:05	06:50 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	08:44 (E14) 18:07	06:48 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	08:48 (E14) 18:09	06:45 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	08:52 (E14) 18:09	06:42 20:16	05:09 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	08:52 (E14) 18:13	06:40 20:18	05:07 21:20	04:26 22:06
14	08:42 16:08	07:47 17:14	08:52 (E14) 18:16	06:37 20:20	05:05 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	08:52 (E14) 18:18	06:34 20:22	05:03 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	08:52 (E14) 18:20	06:32 20:24	05:01 21:26	04:26 22:08
17	08:39 16:14	07:40 17:21	08:52 (E14) 18:22	06:29 20:26	04:59 21:27	04:25 22:09
18	08:38 16:16	07:38 17:23	08:52 (E14) 18:24	06:26 20:28	04:57 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	08:52 (E14) 18:26	06:24 20:31	04:55 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	08:52 (E14) 18:28	06:21 20:33	04:53 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	08:52 (E14) 18:30	06:18 20:35	04:52 21:35	04:25 22:10
22	08:32 16:24	07:28 17:32	08:52 (E14) 18:32	06:16 20:37	04:50 21:37	04:26 22:10
23	08:30 16:26	07:26 17:34	08:52 (E14) 18:34	06:13 20:39	04:48 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	08:52 (E14) 18:36	06:10 20:41	04:47 21:40	04:26 22:11
25	08:27 16:30	07:21 17:39	08:52 (E14) 18:39	06:08 20:43	04:45 21:42	04:27 22:11
26	08:26 16:32	07:18 17:41	08:52 (E14) 18:41	06:05 20:45	04:44 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	08:52 (E14) 18:43	06:02 20:47	04:42 21:45	04:27 22:10
28	08:22 16:37	07:13 17:45	08:52 (E14) 18:45	06:00 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39	08:52 (E14) 08:53 (E14)	08:52 (E14) 19:47	06:57 20:51	04:40 21:48	04:29 22:10
30	08:19 16:41	08:50 (E14) 08:55 (E14)	08:52 (E14) 19:49	06:54 20:53	04:38 21:50	04:29 22:09
31	08:17 16:43	08:48 (E14) 08:56 (E14)	08:52 (E14) 19:51	06:52 20:55	04:37 21:51	04:29 22:09
Potential sun hours	235	266	366	426	508	529
Total, worst case	14	155	104			
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	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:46 (E13)	07:23
	22:09	21:28	20:14	18:54	08:01 (E13)	08:13 (E14)
2	04:31	05:18	06:19	07:19	07:48 (E13)	07:25
	22:09	21:26	20:11	18:51	08:00 (E13)	08:12 (E14)
3	04:32	05:20	06:21	07:21	07:50 (E13)	07:27
	22:08	21:24	20:09	18:48	07:59 (E13)	08:11 (E14)
4	04:33	05:22	06:23	07:23	07:52 (E13)	08:10 (E14)
	22:07	21:22	20:06	18:46	07:58 (E13)	08:27 (E14)
5	04:34	05:23	06:25	07:26	07:54 (E13)	07:31
	22:07	21:20	20:04	18:43	07:56 (E13)	08:11 (E14)
6	04:35	05:25	06:27	07:28	07:56 (E13)	08:28 (E14)
	22:06	21:17	20:01	18:40	07:34	08:10 (E14)
7	04:36	05:27	06:29	07:30	07:36	08:28 (E14)
	22:05	21:15	19:58	18:38	07:36	08:10 (E14)
8	04:37	05:29	06:31	07:32	07:38	08:28 (E14)
	22:04	21:13	19:56	18:35	07:38	08:12 (E14)
9	04:38	05:31	06:33	07:34	07:40	08:28 (E14)
	22:03	21:11	19:53	18:33	07:40	08:14 (E14)
10	04:39	05:33	06:35	07:36	07:42	08:28 (E14)
	22:02	21:09	19:50	18:30	07:42	08:17 (E14)
11	04:41	05:35	06:37	07:38	07:44	08:28 (E14)
	22:01	21:06	19:48	18:27	07:44	08:19 (E14)
12	04:42	05:37	06:39	07:40	07:47	08:27 (E14)
	22:00	21:04	19:45	18:25	07:47	08:21 (E14)
13	04:44	05:39	06:41	07:42	07:49	08:26 (E14)
	21:59	21:02	19:42	18:22	07:49	08:24 (E14)
14	04:45	05:41	06:43	07:44	07:51	08:25 (E14)
	21:58	20:59	19:39	18:20	07:51	08:25 (E14)
15	04:46	05:43	06:45	07:46	07:53	08:25 (E14)
	21:57	20:57	19:37	18:17	07:53	08:25 (E14)
16	04:48	05:45	06:47	07:48	07:55	08:25 (E14)
	21:55	20:54	19:34	18:15	07:55	08:25 (E14)
17	04:49	05:47	06:49	07:50	07:57	08:25 (E14)
	21:54	20:52	19:31	18:12	07:57	08:25 (E14)
18	04:51	05:49	06:51	07:53	07:59	08:25 (E14)
	21:53	20:50	19:29	18:09	07:59	08:25 (E14)
19	04:53	05:51	06:53	07:55	08:01	08:25 (E14)
	21:51	20:47	19:26	18:07	08:01	08:25 (E14)
20	04:54	05:53	06:55	07:57	08:03	08:25 (E14)
	21:50	20:45	19:23	18:04	08:03	08:25 (E14)
21	04:56	05:55	06:57	07:59	08:05	08:25 (E14)
	21:48	20:42	19:21	18:02	08:05	08:25 (E14)
22	04:58	05:57	06:59	08:01	08:07	08:25 (E14)
	21:46	20:40	19:18	18:00	08:07	08:25 (E14)
23	04:59	05:59	07:01	08:03	08:09	08:25 (E14)
	21:45	20:37	19:15	17:57	08:09	08:25 (E14)
24	05:01	06:01	07:03	08:05	08:11	08:25 (E14)
	21:43	20:35	19:13	17:55	08:11	08:25 (E14)
25	05:03	06:03	07:05	07:07	08:13	08:25 (E14)
	21:41	20:32	19:10	16:52	08:13	08:25 (E14)
26	05:05	06:05	07:07	07:51 (E13)	08:15	08:25 (E14)
	21:39	20:30	19:07	07:57 (E13)	08:15	08:25 (E14)
27	05:06	06:07	07:09	07:48 (E13)	08:17	08:25 (E14)
	21:38	20:27	19:04	07:59 (E13)	08:17	08:25 (E14)
28	05:08	06:09	07:11	07:47 (E13)	08:19	08:25 (E14)
	21:36	20:24	19:02	08:00 (E13)	08:19	08:25 (E14)
29	05:10	06:11	07:13	07:45 (E13)	08:21	08:25 (E14)
	21:34	20:22	18:59	08:01 (E13)	08:21	08:25 (E14)
30	05:12	06:13	07:15	07:45 (E13)	08:23	08:25 (E14)
	21:32	20:19	18:56	08:01 (E13)	08:23	08:25 (E14)
31	05:14	06:15		07:20	08:16 (E14)	08:51
	21:30	20:17		16:38	08:22 (E14)	08:51
Potential sun hours	529	469	385	324	247	216
Total, worst case			62	50	165	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.63	0.63	0.61	
Total reduction			0.26	0.16	0.05	
Total, real			16	8	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	04:36 21:53	04:30 22:09	05:16 21:28	05:57 (E14) 20:16 (E14)	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	05:56 (E14) 20:11	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	05:56 (E14) 20:09	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 (E14) 20:17 (E14)	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	05:57 (E14) 20:16 (E14)	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 (E14) 20:01	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 (E14) 20:15 (E14)	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	04:29 22:01	04:37 22:04	05:29 21:13	06:02 (E14) 20:14 (E14)	06:31 20:06	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 (E14) 20:13 (E14)	06:33 20:06	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 (E14) 20:12 (E14)	06:35 20:06	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 22:04	04:41 22:01	05:35 21:06	06:08 (E14) 20:10 (E14)	06:37 20:06	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	06:10 (E14) 20:09	06:39 20:04	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	06:11 (E14) 20:07	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	06:12 (E14) 20:06	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	06:15 (E14) 20:04	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	06:17 (E14) 20:03	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	06:19 (E14) 20:02	07:50 20:01	07:57 18:12	08:04 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	06:21 (E14) 20:01	07:53 20:01	08:01 18:10	08:07 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	06:23 (E14) 20:01	07:55 20:01	08:01 18:07	08:07 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	06:25 (E14) 20:01	07:57 20:01	08:03 18:05	08:08 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	06:27 (E14) 20:01	07:59 20:01	08:05 18:02	08:08 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	06:29 (E14) 20:01	08:01 20:01	08:07 18:00	08:09 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	06:31 (E14) 20:01	08:03 20:01	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	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	06:33 (E14) 20:01	08:05 20:01	08:11 17:55	08:50 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 (E14) 20:32	06:35 (E14) 20:01	08:07 20:01	08:13 17:52	08:50 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	06:01 (E14) 20:30	06:37 (E14) 20:01	08:07 20:01	08:15 17:50	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	06:00 (E14) 20:27	06:39 (E14) 20:01	08:07 20:01	08:17 17:48	08:51 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	05:59 (E14) 20:24	06:41 (E14) 20:01	08:09 20:01	08:19 17:44	08:51 15:48
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	05:58 (E14) 20:22	06:11 (E14) 20:01	08:11 20:01	08:21 17:43	08:51 15:47
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	05:58 (E14) 20:19	06:13 (E14) 20:01	08:13 20:01	08:22 17:41	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	05:12 21:30	05:57 (E14) 20:17	06:15 (E14) 20:01	08:15 20:01	08:20 17:38	08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case					263		103	160				
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					98		33	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:

25/06/2024 23:53/4.0.540

## 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	07:38 (E13) 19:53	05:33 20:56	04:36 21:53
2	08:51 15:49	08:13 16:48	07:08 17:50	07:38 (E13) 19:55	05:30 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	07:39 (E13) 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	07:40 (E13) 19:59	05:26 21:02	04:33 21:57
5	08:49 15:53	08:07 16:54	07:01 17:56	07:42 (E13) 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	07:49 (E13) 20:04	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	06:55 18:01		05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03		05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05		05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	06:48 18:07		05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09		05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11		05:09 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	06:40 18:13		05:07 21:20	04:26 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16		05:05 21:22	04:26 22:07
15	08:41 16:10	09:17 (E14) 09:19 (E14)	07:45 17:17	06:34 18:18	05:03 21:24	04:26 22:07
16	08:40 16:12	09:15 (E14) 09:19 (E14)	07:43 17:19	06:32 18:20	05:01 21:26	04:26 22:08
17	08:39 16:14	09:14 (E14) 09:21 (E14)	07:40 17:21	06:29 18:22	04:59 21:27	04:25 22:09
18	08:38 16:16	09:12 (E14) 09:21 (E14)	07:38 17:23	06:26 18:24	04:57 21:29	04:25 22:09
19	08:36 16:18	09:10 (E14) 09:21 (E14)	07:36 17:26	06:24 18:26	04:55 21:31	04:25 22:09
20	08:35 16:20	09:09 (E14) 09:23 (E14)	07:33 17:28	06:21 18:28	04:53 21:33	04:25 22:10
21	08:33 16:22	09:07 (E14) 09:23 (E14)	07:31 17:30	06:18 18:30	04:52 21:35	04:25 22:10
22	08:32 16:24	09:06 (E14) 09:23 (E14)	07:28 17:32	06:16 18:32	04:50 21:37	04:26 22:10
23	08:30 16:26	09:06 (E14) 09:23 (E14)	07:26 17:34	06:13 18:34	04:48 21:38	04:26 22:10
24	08:29 16:28	09:07 (E14) 09:24 (E14)	07:23 17:37	07:50 (E13) 07:51 (E13)	04:47 21:40	04:26 22:11
25	08:27 16:30	09:08 (E14) 09:24 (E14)	07:21 17:39	07:48 (E13) 07:53 (E13)	04:45 21:42	04:26 22:11
26	08:26 16:32	09:09 (E14) 09:23 (E14)	07:18 17:41	06:05 07:54 (E13)	04:44 21:43	04:27 22:10
27	08:24 16:34	09:10 (E14) 09:23 (E14)	07:16 17:43	06:02 07:54 (E13)	04:42 21:45	04:27 22:10
28	08:22 16:37	09:11 (E14) 09:22 (E14)	07:13 17:45	06:00 07:54 (E13)	04:41 21:47	04:28 22:10
29	08:20 16:39	09:13 (E14) 09:21 (E14)		06:57 19:47	04:40 21:48	04:29 22:10
30	08:19 16:41			06:54 19:49	04:38 21:50	04:29 22:10
31	08:17 16:43			06:52 19:51	04:37 21:51	04:29 22:10
Potential sun hours	235	266	366	426	508	529
Total, worst case	176	41	63			
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	5	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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	08:16 (E13)	07:40	08:37
	22:03	21:11	19:53	18:33	9 08:25 (E13)	16:19	15:39
10	04:39	05:33	06:35	07:36	08:14 (E13)	07:42	08:38
	22:02	21:09	19:50	18:30	12 08:26 (E13)	16:17	15:39
11	04:41	05:35	06:37	07:38	08:13 (E13)	07:44	08:39
	22:01	21:06	19:48	18:27	14 08:27 (E13)	16:15	15:39
12	04:42	05:37	06:39	07:40	08:12 (E13)	07:47	08:41
	22:00	21:04	19:45	18:25	15 08:27 (E13)	16:13	15:38
13	04:43	05:39	06:41	07:42	08:11 (E13)	07:49	08:42
	21:59	21:02	19:42	18:22	16 08:27 (E13)	16:11	9 08:53 (E14) 15:38
14	04:45	05:41	06:43	07:44	08:14 (E13)	07:51	08:43 (E14) 08:43
	21:58	20:59	19:39	18:20	13 08:27 (E13)	16:09	11 08:54 (E14) 15:38
15	04:46	05:43	06:45	07:46	08:16 (E13)	07:53	08:42 (E14) 08:44
	21:57	20:57	19:37	18:17	11 08:27 (E13)	16:08	14 08:56 (E14) 15:38
16	04:48	05:45	06:47	07:48	08:18 (E13)	07:55	08:42 (E14) 08:45
	21:55	20:55	19:34	18:15	8 08:26 (E13)	16:06	14 08:56 (E14) 15:38
17	04:49	05:47	06:49	07:50	08:20 (E13)	07:57	08:41 (E14) 08:46
	21:54	20:52	19:31	18:12	4 08:24 (E13)	16:04	16 08:57 (E14) 15:38
18	04:51	05:49	06:51	07:53		07:59	08:41 (E14) 08:47
	21:53	20:50	19:29	18:09		16:03	17 08:58 (E14) 15:38
19	04:53	05:51	06:53	07:55		08:01	08:41 (E14) 08:47
	21:51	20:47	19:26	18:07		16:01	17 08:58 (E14) 15:38
20	04:54	05:53	06:55	07:57		08:03	08:41 (E14) 08:48
	21:50	20:45	19:23	18:04		15:59	17 08:58 (E14) 15:39
21	04:56	05:55	06:57	07:59		08:05	08:43 (E14) 08:49
	21:48	20:42	19:21	18:02		15:58	16 08:59 (E14) 15:39
22	04:58	05:57	06:59	08:01		08:07	08:45 (E14) 08:49
	21:46	20:40	19:18	18:00		15:56	14 08:59 (E14) 15:40
23	04:59	05:59	07:01	08:03		08:09	08:47 (E14) 08:50
	21:45	20:37	19:15	17:57		15:55	11 08:58 (E14) 15:40
24	05:01	06:01	07:03	08:05		08:11	08:49 (E14) 08:50
	21:43	20:35	19:12	17:55		15:53	9 08:58 (E14) 15:41
25	05:03	06:03	07:05	07:07		08:13	08:51 (E14) 08:50
	21:41	20:32	19:10	16:52		15:52	7 08:58 (E14) 15:41
26	05:05	06:05	07:07	07:10		08:15	08:54 (E14) 08:51
	21:39	20:30	19:07	16:50		15:51	4 08:58 (E14) 15:42
27	05:06	06:07	07:09	07:12		08:17	08:56 (E14) 08:51
	21:38	20:27	19:04	16:48		15:50	2 08:58 (E14) 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				102		178	
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				16		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		08:15		07:11		07:50 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	9	07:59 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:53 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	2	07:55 (E13)	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	
	15:53		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		16:56		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	1	09:25 (E14)	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	3	09:26 (E14)	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	5	09:27 (E14)	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	7	09:28 (E14)	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	9	09:28 (E14)	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	11	09:29 (E14)	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	13	09:30 (E14)	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	15	09:30 (E14)	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	17	09:31 (E14)	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	16	09:30 (E14)	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	16	09:30 (E14)	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	16	09:31 (E14)	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	16	09:31 (E14)	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	09:30 (E14)	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	13	09:30 (E14)	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	11	09:30 (E14)	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	7	09:28 (E14)	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	16	08:03 (E13)			20:45	21:43		22:10	
27	08:24		07:16		06:02			05:42	04:42		04:27	
	16:34		17:43	15	08:02 (E13)			20:47	21:45		22:10	
28	08:22		07:13		06:00			05:40	04:41		04:28	
	16:37		17:45	12	08:01 (E13)			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	190		92		11							
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	15		11		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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	08:24 (E13) 08:31 (E13)	07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:22 (E13) 08:33 (E13)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:21 (E13) 08:35 (E13)	07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:20 (E13) 08:35 (E13)	07:53 16:08
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	08:19 (E13) 08:35 (E13)	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:20 (E13) 08:35 (E13)	07:57 16:04
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	08:22 (E13) 08:34 (E13)	07:59 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:25 (E13) 08:34 (E13)	08:01 16:01
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:27 (E13) 08:33 (E13)	08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:29 (E13) 08:31 (E13)	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 20:24	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		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case				107	183	9
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	9	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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 21:43	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			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:

25/06/2024 23:53/4.0.540

## 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	06:08 (E14) 21:53	04:36 22:09	04:30 21:28	05:16 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	06:09 (E14) 21:54	04:35 22:08	04:31 21:26	05:18 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	06:10 (E14) 21:55	04:34 22:08	04:32 21:24	05:20 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	06:12 (E14) 21:57	04:33 22:07	04:33 21:22	05:22 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	06:18 (E14) 21:58	04:32 22:07	04:34 21:20	05:24 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 20:04	05:21 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	06:27 18:40	07:28 16:25	07:34 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	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	04:30 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 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	04:29 22:02	04:38 22:03	05:31 21:11	06:21 (E14) 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	04:28 22:03	04:40 22:02	05:33 21:08	06:19 (E14) 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	04:28 22:04	04:41 22:01	05:35 21:06	06:18 (E14) 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	04:27 22:05	04:42 22:00	05:37 21:04	06:16 (E14) 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	04:27 22:06	04:44 21:59	05:39 21:02	06:16 (E14) 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	04:26 22:07	04:45 21:58	05:41 20:59	06:15 (E14) 19:39	06:43 18:20	07:44 16:10	07:51 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 (E14) 19:37	06:45 18:17	07:46 16:08	07:53 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	06:17 (E14) 19:34	06:47 18:15	07:48 16:06	07:55 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 (E14) 19:31	06:49 18:12	07:50 16:04	07:57 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 (E14) 19:29	06:51 18:10	07:53 16:03	07:59 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	06:22 (E14) 19:26	06:53 18:07	07:55 16:01	08:01 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	06:24 (E14) 19:23	06:55 18:05	07:57 15:59	08:03 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	06:28 (E14) 19:21	06:57 18:02	07:59 15:58	08:05 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	07:01 18:00	08:01 15:56	08:07 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	06:21 (E14) 19:13	06:51 17:55	07:53 15:54	08:51 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	06:28 (E14) 19:10	06:55 16:52	07:57 15:52	08:51 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 15:48	08:51 15:44
29	08:20 16:39	07:11 17:47	06:57 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	07:16 16:43	08:21 15:47	08:51 15:45
30	08:19 16:41	07:09 17:49	06:54 18:54	05:35 20:53	04:39 21:50	04:30 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:22 15:46	08:51 15:46
31	08:17 16:43	07:07 17:51	06:52 18:51	05:34 20:53	04:37 21:51	04:30 22:09	05:14 21:30	06:15 20:17	07:16 18:57	07:19 16:43	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				102	44			146				
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				33	16			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:

25/06/2024 23:53/4.0.540

## 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 15:48	14:52 (E16) 15:05 (E16)	08:15 16:45	09:17 (E12) 16:10 (E15)	07:11 17:47	07:58 (E10) 08:33 (E10)	06:49 19:53	07:14 (E4) 07:33 (E4)	05:32 20:55	06:02 (E3) 07:14 (E9)	04:36 21:52
2	08:50 15:49	14:52 (E16) 15:06 (E16)	08:13 16:47	09:19 (E12) 16:13 (E15)	07:08 17:50	07:56 (E10) 08:34 (E10)	06:46 19:55	07:14 (E4) 07:32 (E4)	05:30 20:57	06:02 (E3) 07:14 (E9)	04:35 21:54
3	08:50 15:51	14:52 (E16) 15:08 (E16)	08:11 16:50	09:21 (E12) 16:15 (E15)	07:05 17:52	07:56 (E10) 08:35 (E10)	06:43 19:57	07:13 (E4) 07:31 (E4)	05:28 20:59	06:02 (E3) 07:14 (E9)	04:34 21:55
4	08:50 15:52	14:52 (E16) 15:09 (E16)	08:09 16:52	09:24 (E11) 16:18 (E15)	07:03 17:54	07:55 (E10) 08:35 (E10)	06:41 19:59	07:14 (E4) 07:31 (E4)	05:26 21:01	06:03 (E3) 07:14 (E9)	04:33 21:56
5	08:49 15:53	14:52 (E16) 15:11 (E16)	08:07 16:54	09:24 (E11) 16:20 (E15)	07:00 17:56	07:54 (E10) 08:34 (E10)	06:38 20:01	07:14 (E4) 07:29 (E4)	05:23 21:03	06:03 (E3) 07:13 (E9)	04:32 21:58
6	08:49 15:55	14:54 (E16) 15:12 (E16)	08:05 16:56	09:26 (E11) 16:21 (E15)	06:58 17:58	07:55 (E10) 08:35 (E10)	06:35 20:03	07:16 (E4) 07:28 (E4)	05:21 21:05	06:04 (E3) 07:13 (E9)	04:31 21:59
7	08:48 15:56	14:54 (E16) 15:12 (E16)	08:02 16:58	09:27 (E11) 16:21 (E15)	06:55 18:00	07:54 (E10) 08:35 (E10)	06:33 20:05	07:17 (E4) 07:25 (E4)	05:19 21:08	06:05 (E3) 07:13 (E9)	04:30 22:00
8	08:47 15:58	14:54 (E16) 15:13 (E16)	08:00 17:01	09:29 (E11) 16:21 (E15)	06:53 18:02	07:53 (E10) 08:34 (E10)	06:30 20:07		05:17 21:10	06:07 (E3) 07:12 (E9)	04:29 22:01
9	08:47 15:59	14:54 (E16) 15:13 (E16)	07:58 17:03	09:31 (E11) 16:20 (E15)	06:50 18:05	07:54 (E10) 08:34 (E10)	06:27 20:09		05:15 21:12	06:31 (E9) 07:12 (E9)	04:28 22:02
10	08:46 16:01	14:55 (E16) 15:14 (E16)	07:56 17:05	09:35 (E11) 16:20 (E15)	06:47 18:07	07:54 (E10) 08:33 (E10)	06:25 20:12		05:12 21:14	06:32 (E9) 07:11 (E9)	04:28 22:03
11	08:45 16:03	14:56 (E16) 15:14 (E16)	07:54 17:07	16:08 (E15) 16:18 (E15)	06:45 18:09	07:54 (E10) 08:32 (E10)	06:22 20:14		05:10 21:16	06:32 (E9) 07:11 (E9)	04:27 22:04
12	08:44 16:04	09:20 (E12) 15:14 (E16)	07:52 17:10	16:12 (E15) 16:14 (E15)	06:42 18:11	07:54 (E10) 08:31 (E10)	06:20 20:16		05:08 21:18	06:32 (E9) 07:10 (E9)	04:27 22:05
13	08:43 16:06	09:19 (E12) 15:14 (E16)	07:49 17:12		06:39 18:13	07:55 (E10) 08:31 (E10)	06:17 20:18		05:06 21:19	06:33 (E9) 07:09 (E9)	04:26 22:06
14	08:42 16:08	09:18 (E12) 15:15 (E16)	07:47 17:14		06:37 18:15	07:55 (E10) 08:29 (E10)	06:14 20:20		05:04 21:21	06:34 (E9) 07:09 (E9)	04:26 22:06
15	08:41 16:10	09:16 (E12) 15:14 (E16)	07:45 17:16		06:34 18:17	07:55 (E10) 08:27 (E10)	06:12 20:22		05:02 21:23	06:35 (E9) 07:08 (E9)	04:26 22:07
16	08:40 16:12	09:15 (E12) 15:15 (E16)	07:42 17:19		06:31 18:19	07:57 (E10) 08:26 (E10)	06:09 20:24		05:00 21:25	06:35 (E9) 07:07 (E9)	04:25 22:08
17	08:39 16:14	09:13 (E12) 15:14 (E16)	07:40 17:21		06:29 18:22	07:58 (E10) 17:54 (E13)	06:07 20:26	06:52 (E9)	04:59 21:27	06:36 (E9) 07:05 (E9)	04:25 22:08
18	08:37 16:16	09:12 (E12) 15:14 (E16)	07:38 17:23		06:26 18:24	08:00 (E10) 17:55 (E13)	06:04 20:28	06:46 (E9)	04:57 21:29	06:37 (E9) 07:05 (E9)	04:25 22:09
19	08:36 16:18	09:12 (E12) 15:13 (E16)	07:35 17:25		06:23 18:26	08:03 (E10) 17:58 (E13)	06:02 20:30	06:44 (E9)	04:55 21:31	06:38 (E9) 07:03 (E9)	04:25 22:09
20	08:35 16:20	09:11 (E12) 15:12 (E16)	07:33 17:28		06:21 18:28	17:46 (E13) 18:00 (E13)	05:59 20:32	06:41 (E9)	04:53 21:33	06:40 (E9) 07:02 (E9)	04:25 22:10
21	08:33 16:22	09:12 (E12) 15:10 (E16)	07:31 17:30		06:18 18:30	17:45 (E13) 18:02 (E13)	05:57 20:34	06:39 (E9)	04:51 21:35	06:41 (E9) 07:00 (E9)	04:25 22:10
22	08:32 16:24	09:12 (E12) 09:49 (E11)	07:28 17:32	08:13 (E10)	06:15 18:32	17:44 (E13) 18:03 (E13)	05:54 20:37	06:38 (E9)	04:50 21:36	06:44 (E9) 06:59 (E9)	04:25 22:10
23	08:30 16:26	09:12 (E12) 09:50 (E11)	07:26 17:34	08:19 (E10) 08:24 (E10)	06:13 18:34	17:45 (E13) 18:03 (E13)	05:52 20:39	06:36 (E9)	04:48 21:38	06:46 (E9) 06:55 (E9)	04:26 22:10
24	08:29 16:28	09:12 (E12) 09:50 (E11)	07:23 17:36	08:05 (E10) 08:27 (E10)	06:10 18:36	17:44 (E13) 18:02 (E13)	05:49 20:41	06:35 (E9)	04:47 21:40		04:26 22:10
25	08:27 16:30	09:12 (E12) 09:51 (E11)	07:21 17:39	08:03 (E10) 08:29 (E10)	06:07 18:38	17:44 (E13) 18:01 (E13)	05:47 20:43	06:14 (E3)	04:45 21:41		04:26 22:10
26	08:25 16:32	09:13 (E12) 09:52 (E11)	07:18 17:41	08:02 (E10) 08:31 (E10)	06:05 18:40	17:46 (E13) 18:00 (E13)	05:44 20:45	06:11 (E3)	04:44 21:43		04:27 22:10
27	08:24 16:34	09:14 (E12) 09:52 (E11)	07:16 17:43	08:00 (E10) 08:32 (E10)	06:02 18:42	06:27 (E4) 17:58 (E13)	05:42 20:47	06:09 (E3)	04:42 21:45		04:27 22:10
28	08:22 16:36	09:14 (E12) 09:53 (E11)	07:13 17:45	07:58 (E10) 08:32 (E10)	05:59 18:45	06:24 (E4) 17:55 (E13)	05:39 20:49	06:07 (E3)	04:41 21:46		04:28 22:10
29	08:20 16:38	09:15 (E12) 09:53 (E11)			06:57 19:47	07:22 (E4) 07:32 (E4)	05:37 20:51	06:04 (E3)	04:39 21:48		04:28 22:10
30	08:18 16:41	09:15 (E12) 09:52 (E11)			06:54 19:49	07:19 (E4) 07:32 (E4)	05:35 20:53	06:02 (E3)	04:38 21:49		04:29 22:09
31	08:16 16:43	09:16 (E12) 16:08 (E15)			06:51 19:51	07:16 (E4) 07:32 (E4)			04:37 21:51		
Potential sun hours	235		266		366		426		508		529
Total, worst case	985		544		859		631		899		
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.	0.62		0.62		0.63		0.66		0.66		
Total reduction	0.08		0.12		0.25		0.32		0.36		
Total, real	79		67		219		202		327		

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:

25/06/2024 23:53/4.0.540

## 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 22:09	05:16 21:28	06:42 (E9) 07:20 (E9)	06:17 20:14		07:17 18:53	08:34 (E10) 09:11 (E10)	07:22 16:36	09:03 (E11) 15:49 (E15)	08:24 15:45	14:37 (E16) 14:55 (E16)
2	04:31 22:08	05:17 21:26	06:42 (E9) 07:21 (E9)	06:19 20:11		07:19 18:51	08:33 (E10) 09:11 (E10)	07:25 16:34	09:00 (E11) 15:50 (E15)	08:26 15:44	14:37 (E16) 14:56 (E16)
3	04:32 22:08	05:19 21:24	06:42 (E9) 07:22 (E9)	06:21 20:09		07:21 18:48	08:32 (E10) 09:11 (E10)	07:27 16:31	08:57 (E11) 15:50 (E15)	08:27 15:43	14:38 (E16) 14:56 (E16)
4	04:32 22:07	05:21 21:21	06:42 (E9) 07:22 (E9)	06:23 20:06		07:23 18:45	08:31 (E10) 09:11 (E10)	07:29 16:29	08:57 (E11) 15:51 (E15)	08:29 15:42	14:38 (E16) 14:57 (E16)
5	04:33 22:06	05:23 21:19	06:16 (E3) 07:22 (E9)	06:25 20:03	07:13 (E4) 07:21 (E4)	07:25 18:43	08:31 (E10) 09:11 (E10)	07:31 16:27	08:55 (E11) 15:51 (E15)	08:31 15:41	14:39 (E16) 14:58 (E16)
6	04:35 22:06	05:25 21:17	06:14 (E3) 07:22 (E9)	06:27 20:01	07:11 (E4) 07:23 (E4)	07:27 18:40	08:30 (E10) 09:11 (E10)	07:33 16:25	08:55 (E11) 15:50 (E15)	08:32 15:41	14:40 (E16) 14:58 (E16)
7	04:36 22:05	05:27 21:15	06:13 (E3) 07:23 (E9)	06:29 19:58	07:09 (E4) 07:24 (E4)	07:29 18:38	08:30 (E10) 09:10 (E10)	07:35 16:23	08:54 (E11) 15:48 (E15)	08:34 15:40	14:40 (E16) 14:58 (E16)
8	04:37 22:04	05:29 21:13	06:13 (E3) 07:23 (E9)	06:31 19:55	07:08 (E4) 07:25 (E4)	07:31 18:35	08:29 (E10) 09:10 (E10)	07:38 16:21	08:51 (E12) 15:45 (E15)	08:35 15:40	14:41 (E16) 14:58 (E16)
9	04:38 22:03	05:31 21:11	06:12 (E3) 07:23 (E9)	06:33 19:53	07:07 (E4) 07:25 (E4)	07:33 18:32	08:29 (E10) 09:09 (E10)	07:40 16:19	08:49 (E12) 15:43 (E15)	08:36 15:39	14:41 (E16) 14:56 (E16)
10	04:39 22:02	05:33 21:08	06:11 (E3) 07:22 (E9)	06:35 19:50	07:07 (E4) 07:25 (E4)	07:36 18:30	08:30 (E10) 09:09 (E10)	07:42 16:17	08:48 (E12) 15:41 (E15)	08:38 15:39	14:42 (E16) 14:56 (E16)
11	04:41 22:01	05:35 21:06	06:10 (E3) 07:22 (E9)	06:37 19:47	07:07 (E4) 07:25 (E4)	07:38 18:27	08:30 (E10) 09:08 (E10)	07:44 16:15	08:47 (E12) 15:39 (E15)	08:39 15:38	14:42 (E16) 14:56 (E16)
12	04:42 22:00	05:37 21:04	06:10 (E3) 07:22 (E9)	06:39 19:45	07:08 (E4) 07:24 (E4)	07:40 18:24	08:31 (E10) 09:07 (E10)	07:46 16:13	08:46 (E12) 09:24 (E11)	08:40 15:38	14:42 (E16) 14:55 (E16)
13	04:43 21:59	05:39 21:01	06:11 (E3) 07:22 (E9)	06:41 19:42	07:10 (E4) 07:24 (E4)	07:42 18:22	08:31 (E10) 09:06 (E10)	07:48 16:11	08:47 (E12) 09:25 (E11)	08:41 15:38	14:44 (E16) 14:55 (E16)
14	04:45 21:58	05:41 20:59	06:13 (E3) 07:22 (E9)	06:43 19:39	07:12 (E4) 07:22 (E4)	07:44 18:19	08:31 (E10) 09:05 (E10)	07:51 16:09	08:46 (E12) 09:25 (E11)	08:42 15:38	14:44 (E16) 14:55 (E16)
15	04:46 21:56	05:43 20:57	06:15 (E3) 07:21 (E9)	06:45 19:36	07:14 (E4) 18:44 (E13)	07:46 18:17	08:32 (E10) 09:03 (E10)	07:53 16:07	08:45 (E12) 09:24 (E11)	08:43 15:38	14:45 (E16) 14:55 (E16)
16	04:48 21:55	05:45 20:54	06:17 (E3) 07:21 (E9)	06:47 19:34	07:16 (E4) 18:47 (E13)	07:48 18:14	08:34 (E10) 09:02 (E10)	07:55 16:06	08:46 (E12) 09:25 (E11)	08:44 15:38	14:45 (E16) 14:54 (E16)
17	04:49 21:54	05:47 20:52	06:18 (E3) 07:19 (E9)	06:49 19:31	18:35 (E13) 18:49 (E13)	07:50 18:12	08:36 (E10) 09:00 (E10)	07:57 16:04	08:46 (E12) 09:25 (E11)	08:45 15:38	14:46 (E16) 14:55 (E16)
18	04:51 21:52	05:49 20:49	06:20 (E3) 07:18 (E9)	06:51 19:28	18:32 (E13) 18:48 (E13)	07:52 18:09	08:37 (E10) 08:57 (E10)	07:59 16:02	08:46 (E12) 09:24 (E11)	08:46 15:38	14:47 (E16) 14:55 (E16)
19	04:52 21:51	05:51 20:47	06:41 (E9) 07:18 (E9)	06:53 19:26	18:31 (E13) 18:49 (E13)	07:54 18:07	08:40 (E10) 08:54 (E10)	08:01 16:01	08:47 (E12) 09:25 (E11)	08:47 15:38	14:46 (E16) 14:54 (E16)
20	04:54 21:49	05:53 20:44	06:42 (E9) 07:16 (E9)	06:55 19:23	18:30 (E13) 18:49 (E13)	07:56 18:04	08:03 15:59	08:03 16:00	08:47 (E12) 09:24 (E11)	08:48 15:38	14:47 (E16) 14:55 (E16)
21	04:56 21:48	05:55 20:42	06:43 (E9) 07:15 (E9)	06:57 19:20	18:30 (E13) 18:48 (E13)	07:59 18:02	08:05 15:57	08:05 16:00	08:47 (E12) 14:45 (E16)	08:48 15:39	14:47 (E16) 14:55 (E16)
22	04:57 21:46	05:57 20:39	06:44 (E9) 07:14 (E9)	06:59 19:18	18:30 (E13) 18:47 (E13)	08:01 17:59	08:07 15:56	08:07 16:00	08:47 (E12) 14:48 (E16)	08:49 15:39	14:48 (E16) 14:56 (E16)
23	04:59 21:44	05:59 20:37	06:46 (E9) 07:11 (E9)	07:01 19:15	18:30 (E13) 18:44 (E13)	08:03 17:57	08:09 15:55	08:09 16:00	08:49 (E12) 14:50 (E16)	08:49 15:40	14:48 (E16) 14:56 (E16)
24	05:01 21:43	06:01 20:34	06:48 (E9) 07:13 (E9)	07:03 19:12	08:48 (E10) 18:42 (E13)	08:05 17:54	08:11 15:53	08:11 16:00	08:50 (E12) 14:51 (E16)	08:50 15:40	14:49 (E16) 14:57 (E16)
25	05:03 21:41	06:03 20:32	06:49 (E9) 07:14 (E9)	07:05 19:10	08:44 (E10) 18:39 (E13)	07:07 16:52	08:13 15:52	08:13 16:00	08:51 (E12) 14:52 (E16)	08:50 15:41	14:50 (E16) 14:58 (E16)
26	05:04 21:39	06:05 20:29	06:54 (E9) 07:16 (E9)	07:07 19:07	08:41 (E10) 18:36 (E13)	07:09 16:50	08:15 15:51	08:15 16:00	08:53 (E12) 14:53 (E16)	08:50 15:42	14:50 (E16) 14:58 (E16)
27	05:06 21:37	06:07 20:27	06:07 (E9) 07:17 (E9)	07:09 19:04	08:39 (E10) 09:07 (E10)	07:12 16:47	08:17 15:49	08:17 16:00	08:55 (E12) 14:53 (E16)	08:51 15:43	14:50 (E16) 14:59 (E16)
28	05:08 21:35	06:09 20:24	06:09 (E9) 07:17 (E9)	07:11 19:01	08:37 (E10) 09:08 (E10)	07:14 16:45	08:19 15:48	08:19 16:00	08:57 (E12) 14:54 (E16)	08:51 15:44	14:50 (E16) 15:00 (E16)
29	05:10 21:34	06:11 20:22	06:11 (E9) 07:18 (E9)	07:13 18:59	08:35 (E10) 09:09 (E10)	07:16 16:43	08:20 15:47	08:20 16:00	09:00 (E12) 14:55 (E16)	08:51 15:44	14:51 (E16) 15:01 (E16)
30	05:12 21:32	06:13 20:19	06:13 (E9) 07:19 (E9)	07:15 18:56	08:35 (E10) 09:10 (E10)	07:18 16:40	08:22 15:45 (E15)	08:22 15:46	09:02 (E12) 14:56 (E16)	08:51 15:45	14:51 (E16) 15:03 (E16)
31	05:14 21:30	06:15 20:16	06:15 (E9) 07:19 (E9)	07:16 18:56	09:10 (E10)	07:20 16:38	15:37 (E15) 15:47 (E15)	15:46 16:00	14:56 (E16) 15:47	08:51 15:47	14:51 (E16) 15:03 (E16)
Potential sun hours	529	469		385		324	247		216		
Total, worst case	298	1137		489		670	1173		377		
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	0.66		0.65		0.63	0.61		0.66		
Total reduction	0.32	0.32		0.27		0.16	0.05		0.05		
Total, real	94	363		132		106	58		17		

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:

25/06/2024 23:53/4.0.540

## 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

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	09:13 (E13) 17:48	07:11 19:53	05:33 20:55	04:36 21:53
2	08:51 15:49	08:13 16:47	09:14 (E13) 17:50	07:08 19:55	05:30 20:58	04:35 21:54
3	08:50 15:51	08:11 16:50	09:15 (E13) 17:52	07:06 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	09:16 (E13) 17:54	07:03 19:59	05:26 21:02	04:33 21:57
5	08:49 15:53	08:07 16:54	09:18 (E13) 17:56	07:01 20:01	05:23 21:04	04:32 21:58
6	08:49 15:55	08:05 16:56	09:18 (E13) 17:58	06:58 20:03	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	09:21 (E13) 18:01	06:55 20:06	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	09:25 (E13) 18:03	06:53 20:08	05:17 21:10	04:29 22:01
9	08:47 15:59	07:58 17:03	09:30 (E13) 18:05	06:50 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	09:33 (E13) 18:07	06:47 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	09:34 (E13) 18:09	06:45 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	09:33 (E13) 18:11	06:42 20:16	05:08 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	09:30 (E13) 18:13	06:40 20:18	05:06 21:20	04:26 22:06
14	08:42 16:08	07:47 17:14	09:37 (E13) 18:15	06:37 20:20	05:04 21:22	04:26 22:07
15	08:41 16:10	09:19 (E13) 09:26 (E13)	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24
16	08:40 16:12	09:16 (E13) 09:28 (E13)	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:26
17	08:39 16:14	09:16 (E13) 09:30 (E13)	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27
18	08:38 16:16	09:14 (E13) 09:31 (E13)	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29
19	08:36 16:18	09:13 (E13) 09:32 (E13)	07:36 17:26	06:24 18:26	06:02 20:31	04:55 21:31
20	08:35 16:20	09:14 (E13) 09:34 (E13)	07:33 17:28	06:21 18:28	05:59 20:33	04:53 21:33
21	08:33 16:22	09:13 (E13) 09:35 (E13)	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35
22	08:32 16:24	09:12 (E13) 09:36 (E13)	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:37
23	08:30 16:26	09:12 (E13) 09:36 (E13)	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38
24	08:29 16:28	09:13 (E13) 09:38 (E13)	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40
25	08:27 16:30	09:12 (E13) 09:38 (E13)	07:21 17:39	06:08 18:38	05:47 20:43	04:45 21:42
26	08:26 16:32	09:12 (E13) 09:39 (E13)	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43
27	08:24 16:34	09:12 (E13) 09:39 (E13)	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45
28	08:22 16:36	09:13 (E13) 09:39 (E13)	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:47
29	08:20 16:39	09:13 (E13) 09:39 (E13)		06:57 19:47	05:37 20:51	04:40 21:48
30	08:19 16:41	09:13 (E13) 09:40 (E13)		06:54 19:49	05:35 20:53	04:38 21:50
31	08:17 16:43	09:14 (E13) 09:40 (E13)		06:51 19:51		04:37 21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case	369	148		103		
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	0.12		0.32		
Total, real	28	17		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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	05:21	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	07:25	07:31	08:31
	22:07	21:20	20:03	18:43	16:27	15:42
6	04:35	05:25	06:27	07:27	07:33	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	19:55	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	18:32	16:19	15:39
10	04:39	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	07:38	07:44	08:39
	22:01	21:06	19:47	18:27	16:15	15:38
12	04:42	05:37	06:39	07:40	07:46	08:40
	22:00	21:04	19:45	18:25	16:13	15:38
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
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
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	18:14	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	07:52	07:59	08:47
	21:53	20:50	19:29	18:09	16:02	15:38
19	04:52	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
	21:49	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	04:57	05:57	06:59	08:01	08:07	08:49
	21:46	20:40	19:18	17:59	15:56	15:39
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	08:07	08:13	08:50
	21:41	20:32	19:10	16:52	15:52	15:41
26	05:05	06:05	07:07	08:09	08:15	08:51
	21:39	20:30	19:07	16:50	15:51	15:42
27	05:06	06:07	07:09	08:11	08:17	08:51
	21:38	20:27	19:04	16:47	15:49	15:43
28	05:08	06:09	07:11	08:13	08:19	08:51
	21:36	20:24	19:02	16:45	15:48	15:44
29	05:10	06:11	07:13	08:15	08:21	08:51
	21:34	20:22	18:59	16:43	15:47	15:45
30	05:12	06:13	07:15	08:17	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		106			522	
Sun reduction		0.50			0.08	
Oper. time red.		0.98			0.98	
Wind dir. red.		0.65			0.59	
Total reduction		0.32			0.05	
Total, real		34			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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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 21:43	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			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:

25/06/2024 23:53/4.0.540

## 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
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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:

25/06/2024 23:53/4.0.540

## 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
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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
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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
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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
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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:

25/06/2024 23:53/4.0.540

## 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
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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
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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
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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
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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
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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:

25/06/2024 23:53/4.0.540

## 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 (E14) 20:55	04:36 21:53	04:30 22:09	05:16 21:28	06:17 20:14	07:02 (E14) 15 07:17 (E14)	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	07:11 (E14) 20:58	04:35 21:54	04:31 22:09	05:18 21:26	06:19 20:11	07:00 (E14) 18 07:18 (E14)	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	07:09 (E14) 21:00	04:34 21:55	04:32 22:08	05:20 21:24	06:21 20:09	06:59 (E14) 19 07:18 (E14)	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	07:06 (E14) 21:02	04:33 21:57	04:33 22:07	05:22 21:22	06:23 20:06	06:59 (E14) 20 07:19 (E14)	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	07:03 (E14) 21:04	04:32 21:58	04:34 22:07	05:24 21:20	06:25 20:04	06:58 (E14) 21 07:19 (E14)	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	07:02 (E14) 21:06	04:31 21:59	04:35 22:06	05:26 21:17	06:27 20:01	06:58 (E14) 20 07:18 (E14)	07:28 18:40	07:34 16:25
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	07:01 (E14) 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 19:58	06:59 (E14) 19 07:18 (E14)	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	07:02 (E14) 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:56	07:00 (E14) 16 07:16 (E14)	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	07:01 (E14) 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:02 (E14) 13 07:15 (E14)	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	07:01 (E14) 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:35 19:50	07:04 (E14) 10 07:14 (E14)	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	07:03 (E14) 21:16	04:28 22:04	04:41 22:01	05:35 21:06	06:37 19:48	07:06 (E14) 6 07:12 (E14)	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	07:03 (E14) 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:12 (E14) 07:40	07:46 18:25	08:00 16:13
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	07:06 (E14) 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	08:02 15:38
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	07:13 (E14) 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	08:03 15:38
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	07:13 (E14) 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	08:04 15:38
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	07:13 (E14) 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	08:05 15:38
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	07:13 (E14) 21:28	04:26 22:08	04:50 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:06 15:38
18	08:38 16:16	07:38 17:23	06:26 18:24	06:04 20:28	07:13 (E14) 21:30	04:25 22:09	04:51 21:52	05:49 20:50	06:51 19:29	07:53 18:10	07:59 16:03	08:07 15:38
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	07:13 (E14) 21:32	04:25 22:09	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:07 15:39
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	07:13 (E14) 21:34	04:25 22:10	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	07:13 (E14) 21:36	04:26 22:10	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:08 15:39
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	07:13 (E14) 21:38	04:26 22:10	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:09 15:40
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	07:13 (E14) 21:40	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	07:13 (E14) 21:42	04:26 22:10	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	07:13 (E14) 21:44	04:27 22:10	05:03 21:41	06:03 20:32	07:05 19:10	08:05 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	07:13 (E14) 21:46	04:27 22:10	05:05 21:39	06:05 20:30	07:07 19:07	08:07 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	07:13 (E14) 21:48	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 17:45	06:00 18:45	05:40 20:49	07:13 (E14) 21:50	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:02	08:14 17:46	08:19 15:48	08:51 15:44
29	08:20 16:39	07:11 17:47	05:57 18:47	05:37 20:51	07:13 (E14) 21:52	04:29 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:16 17:46	08:21 15:47	08:51 15:45
30	08:19 16:41	07:10 17:49	05:54 18:49	05:35 20:53	07:13 (E14) 21:54	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:48	08:22 15:46	08:51 15:46
31	08:17 16:43	07:08 17:51	05:52 18:51	05:33 20:54	07:13 (E14) 21:56	04:30 22:10	05:14 21:30	06:15 20:17	07:16 18:57	08:18 17:49	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				195				20	177			
Sun reduction				0.50				0.50	0.43			
Oper. time red.				0.98				0.98	0.98			
Wind dir. red.				0.66				0.66	0.66			
Total reduction				0.32				0.32	0.28			
Total, real				63				6	49			

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:

25/06/2024 23:53/4.0.540

## 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		13:45 (E13)	08:15		14:00 (E13)	07:11		06:49				05:32		06:00 (E6)	04:36		
	15:48	50	14:35 (E14)	16:45	27	14:27 (E13)	17:47		19:53				20:55	5	06:05 (E6)	21:53		
2	08:50		13:46 (E13)	08:13		14:02 (E13)	07:08		06:46				05:30		05:58 (E6)	04:35		
	15:49	50	14:36 (E14)	16:47	24	14:26 (E13)	17:50		19:55				20:57	8	06:06 (E6)	21:54		
3	08:50		13:46 (E13)	08:11		14:04 (E13)	07:06		06:43				05:28		05:56 (E6)	04:34		
	15:51	49	14:35 (E14)	16:50	20	14:24 (E13)	17:52		19:57				20:59	11	06:07 (E6)	21:55		
4	08:50		13:45 (E13)	08:09		14:08 (E13)	07:03		06:41				05:26		05:54 (E6)	04:33		
	15:52	50	14:35 (E14)	16:52	14	14:22 (E13)	17:54		19:59				21:02	13	06:07 (E6)	21:57		
5	08:49		13:46 (E13)	08:07			07:00		06:38				05:23		05:52 (E6)	04:32		
	15:53	50	14:36 (E14)	16:54			17:56		20:01				21:04	15	06:07 (E6)	21:58		
6	08:49		13:46 (E13)	08:05			06:58		06:35				05:21		05:50 (E6)	04:31		
	15:55	49	14:35 (E14)	16:56			17:58		20:03				21:06	17	06:07 (E6)	21:59		
7	08:48		13:47 (E13)	08:03			06:55		06:33				05:19		05:50 (E6)	04:30		
	15:56	48	14:35 (E14)	16:59			18:00		20:05				21:08	17	06:07 (E6)	22:00		
8	08:47		13:47 (E13)	08:00			06:53		06:30				05:17		05:50 (E6)	04:29		
	15:58	47	14:34 (E14)	17:01			18:03		20:07				21:10	17	06:07 (E6)	22:01		
9	08:47		13:47 (E13)	07:58			06:50		06:27			06:53 (E8)	05:15		05:50 (E6)	04:28		
	15:59	46	14:33 (E14)	17:03			18:05		20:10		5	06:58 (E8)	21:12	17	06:07 (E6)	22:02		
10	08:46		13:47 (E13)	07:56			06:47		06:25			06:50 (E8)	05:13		05:51 (E6)	04:28		
	16:01	40	14:27 (E13)	17:05			18:07		20:12		10	07:00 (E8)	21:14	15	06:06 (E6)	22:03		
11	08:45		13:48 (E13)	07:54			06:45		06:22			06:48 (E8)	05:10		05:51 (E6)	04:27		
	16:03	40	14:28 (E13)	17:08			18:09		20:14		14	07:02 (E8)	21:16	14	06:05 (E6)	22:04		
12	08:44		13:47 (E13)	07:52			06:42		06:20			06:45 (E8)	05:08		05:52 (E6)	04:27		
	16:04	41	14:28 (E13)	17:10			18:11		20:16		17	07:02 (E8)	21:18	12	06:04 (E6)	22:05		
13	08:43		13:48 (E13)	07:49			06:39		06:17			06:43 (E8)	05:06		05:54 (E6)	04:26		
	16:06	41	14:29 (E13)	17:12			18:13		20:18		20	07:03 (E8)	21:20	8	06:02 (E6)	22:06		
14	08:42		13:48 (E13)	07:47			06:37		06:14			06:42 (E8)	05:04		05:58 (E6)	04:26		
	16:08	41	14:29 (E13)	17:14			18:15		20:20		21	07:03 (E8)	21:22	1	05:59 (E6)	22:07		
15	08:41		13:48 (E13)	07:45			06:34		06:12			06:42 (E8)	05:02			04:26		
	16:10	41	14:29 (E13)	17:17			18:17		20:22		21	07:03 (E8)	21:24			22:07		
16	08:40		13:49 (E13)	07:43			06:31		06:09			06:41 (E8)	05:01			04:25		
	16:12	41	14:30 (E13)	17:19			18:20		20:24		22	07:03 (E8)	21:25			22:08		
17	08:39		13:49 (E13)	07:40			06:29		06:07			06:41 (E8)	04:59			04:25		
	16:14	41	14:30 (E13)	17:21			18:22		20:26		22	07:03 (E8)	21:27			22:08		
18	08:37		13:49 (E13)	07:38			06:26		06:04			06:41 (E8)	04:57			04:25		
	16:16	42	14:31 (E13)	17:23			18:24		20:28		21	07:02 (E8)	21:29			22:09		
19	08:36		13:49 (E13)	07:35			06:23		06:02			06:42 (E8)	04:55			04:25		
	16:18	42	14:31 (E13)	17:25			18:26		20:30		19	07:01 (E8)	21:31			22:09		
20	08:35		13:51 (E13)	07:33			06:21		05:59			06:41 (E8)	04:53			04:25		
	16:20	41	14:32 (E13)	17:28			18:28		20:32		19	07:00 (E8)	21:33			22:10		
21	08:33		13:51 (E13)	07:31			06:18		05:57			06:43 (E8)	04:52			04:25		
	16:22	41	14:32 (E13)	17:30			18:30		20:35		16	06:59 (E8)	21:35			22:10		
22	08:32		13:51 (E13)	07:28			06:15		05:54			06:44 (E8)	04:50			04:25		
	16:24	40	14:31 (E13)	17:32			18:32		20:37		14	06:58 (E8)	21:36			22:10		
23	08:30		13:51 (E13)	07:26			06:13		05:52			06:46 (E8)	04:48			04:26		
	16:26	40	14:31 (E13)	17:34			18:34		20:39		8	06:54 (E8)	21:38			22:10		
24	08:29		13:52 (E13)	07:23			06:10		05:49				04:47			04:26		
	16:28	39	14:31 (E13)	17:37			18:36		20:41				21:40			22:10		
25	08:27		13:53 (E13)	07:21			06:07		05:47				04:45			04:26		
	16:30	39	14:32 (E13)	17:39			18:38		20:43				21:42			22:10		
26	08:25		13:54 (E13)	07:18			06:05		05:44				04:44			04:27		
	16:32	38	14:32 (E13)	17:41			18:40		20:45				21:43			22:10		
27	08:24		13:55 (E13)	07:16			06:02		05:42				04:42			04:27		
	16:34	36	14:31 (E13)	17:43			18:43		20:47				21:45			22:10		
28	08:22		13:56 (E13)	07:13			05:59		05:40				04:41			04:28		
	16:36	35	14:31 (E13)	17:45			18:45		20:49				21:47			22:10		
29	08:20		13:57 (E13)				06:57		05:37				04:39			04:28		
	16:39	33	14:30 (E13)				19:47		20:51				21:48			22:10		
30	08:18		13:58 (E13)				06:54		05:35			06:02 (E6)	04:38			04:29		
	16:41	32	14:30 (E13)				19:49		20:53		1	06:03 (E6)	21:50			22:09		
31	08:17		13:58 (E13)				06:51						04:37					
	16:43	30	14:28 (E13)				19:51						21:51					
Potential sun hours	235			266			366		426				508			529		
Total, worst case	1293			85					250				170					
Sun reduction	0.13			0.20					0.50				0.57					
Oper. time red.	0.98			0.98					0.98				0.98					
Wind dir. red.	0.66			0.66					0.66				0.67					
Total reduction	0.09			0.13					0.32				0.37					
Total, real	111			11					80				63					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	06:02 (E6) 20:14	06:47 (E8) 18:54	07:17 16:36	08:24 15:45
2	04:31 22:08	05:17 21:26	06:01 (E6) 20:11	06:49 (E8) 18:51	07:19 16:34	08:26 15:44
3	04:32 22:08	05:19 21:24	06:01 (E6) 20:09	06:51 (E8) 18:48	07:21 16:31	08:28 15:43
4	04:33 22:07	05:21 21:22	06:01 (E6) 20:06	06:56 (E8) 18:46	07:23 16:29	08:29 15:42
5	04:34 22:07	05:23 21:19	06:17 (E6) 20:03		07:25 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:16 (E6) 20:01		07:27 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:17 (E6) 19:58		07:29 16:23	08:34 15:40
8	04:37 22:04	05:29 21:13	06:02 (E6) 19:55		07:32 16:21	08:35 15:40
9	04:38 22:03	05:31 21:11	06:17 (E6) 19:53		07:34 16:19	08:37 15:39
10	04:39 22:02	05:33 21:08	06:05 (E6) 19:50		07:36 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:15 (E6) 19:47		07:38 16:15	08:39 15:38
12	04:42 22:00	05:37 21:04	06:09 (E6) 19:45		07:40 16:13	08:40 15:38
13	04:43 21:59	05:39 21:01	06:13 (E6) 19:42		07:42 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59			07:44 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57			07:46 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54			07:48 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52			07:50 16:04	08:45 15:38
18	04:51 21:52	05:49 20:49			07:52 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47			07:54 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45			07:57 16:03	08:48 15:38
21	04:56 21:48	05:55 20:42	06:51 (E8) 19:23		08:03 15:59	08:48 15:39
22	04:57 21:46	05:57 20:40	06:49 (E8) 19:20		08:05 15:58	08:48 15:39
23	04:59 21:45	05:59 20:37	07:02 (E8) 19:18		08:07 15:56	08:49 15:39
24	05:01 21:43	06:01 20:35	06:46 (E8) 19:15		08:09 15:55	08:49 15:40
25	05:03 21:41	06:03 20:32	06:45 (E8) 19:12		08:11 15:53	08:50 15:40
26	05:04 21:39	06:05 20:29	07:05 (E8) 19:10		08:13 15:52	08:50 15:41
27	05:06 21:37	06:07 20:27	06:43 (E8) 19:07		08:15 15:51	08:51 15:42
28	05:08 21:36	06:09 20:24	06:43 (E8) 19:09		08:17 15:49	08:51 15:43
29	05:10 21:34	06:11 20:22	06:43 (E8) 19:11		08:19 15:48	08:51 15:44
30	05:12 21:32	06:13 20:19	07:04 (E8) 18:59		08:21 15:47	08:51 15:45
31	05:14 21:30	06:15 20:17	06:43 (E8) 18:56		08:22 15:46	08:51 15:46
Potential sun hours	529	469	385	324	247	216
Total, worst case	15	378			867	1516
Sun reduction	0.49	0.50		0.43	0.08	0.07
Oper. time red.	0.98	0.98		0.98	0.98	0.98
Wind dir. red.	0.67	0.66		0.66	0.66	0.66
Total reduction	0.32	0.32		0.27	0.05	0.05
Total, real	5	122	8		46	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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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		14:08 (E13)	08:15		14:13 (E13)	07:11		06:49		05:32						04:36	
	15:48	38	14:46 (E14)	16:45	38	14:51 (E13)	17:47		19:53		20:55						21:52	
2	08:50		14:09 (E13)	08:13		14:14 (E13)	07:08		06:46		05:30						04:35	
	15:49	38	14:47 (E14)	16:47	36	14:50 (E13)	17:50		19:55		20:57						21:54	
3	08:50		14:08 (E13)	08:11		14:15 (E13)	07:06		06:43		05:28						04:34	
	15:51	38	14:46 (E14)	16:50	35	14:50 (E13)	17:52		19:57		20:59						21:55	
4	08:50		14:08 (E13)	08:09		14:17 (E13)	07:03		06:41		05:26		05:54 (E6)				04:33	
	15:52	38	14:46 (E14)	16:52	32	14:49 (E13)	17:54		19:59		21:02	4	05:58 (E6)				21:57	
5	08:49		14:09 (E13)	08:07		14:18 (E13)	07:00		06:38		05:23		05:52 (E6)				04:32	
	15:53	38	14:47 (E14)	16:54	31	14:49 (E13)	17:56		20:01		21:04	7	05:59 (E6)				21:58	
6	08:49		14:09 (E13)	08:05		14:19 (E13)	06:58		06:35		05:21		05:50 (E6)				04:31	
	15:55	38	14:47 (E14)	16:56	28	14:47 (E13)	17:58		20:03		21:06	10	06:00 (E6)				21:59	
7	08:48		14:08 (E13)	08:03		14:21 (E13)	06:55		06:33		05:19		05:48 (E6)				04:30	
	15:56	39	14:47 (E14)	16:59	25	14:46 (E13)	18:00		20:05		21:08	13	06:01 (E6)				22:00	
8	08:47		14:08 (E13)	08:00		14:24 (E13)	06:53		06:30		05:17		05:46 (E6)				04:29	
	15:58	39	14:47 (E14)	17:01	20	14:44 (E13)	18:03		20:07		21:10	15	06:01 (E6)				22:01	
9	08:47		14:08 (E13)	07:58		14:26 (E13)	06:50		06:27		05:15		05:44 (E6)				04:28	
	15:59	39	14:47 (E14)	17:03	14	14:40 (E13)	18:05		20:10		21:12	17	06:01 (E6)				22:02	
10	08:46		14:08 (E13)	07:56			06:47		06:25		05:13		05:43 (E6)				04:28	
	16:01	39	14:47 (E14)	17:05			18:07		20:12		21:14	18	06:01 (E6)				22:03	
11	08:45		14:08 (E13)	07:54			06:45		06:22		05:10		05:43 (E6)				04:27	
	16:03	39	14:47 (E14)	17:08			18:09	2	07:10 (E9)		20:14		21:16	18	06:01 (E6)		22:04	
12	08:44		14:08 (E13)	07:52			06:42		07:08 (E9)		06:20		06:45 (E8)		05:08		05:43 (E6)	04:27
	16:04	38	14:46 (E14)	17:10			18:11	6	07:14 (E9)		20:16	4	06:49 (E8)		21:18	17	06:00 (E6)	22:05
13	08:43		14:08 (E13)	07:49			06:39		07:05 (E9)		06:17		06:43 (E8)		05:06		05:43 (E6)	04:26
	16:06	37	14:45 (E14)	17:12			18:13	9	07:14 (E9)		20:18	10	06:53 (E8)		21:20	17	06:00 (E6)	22:06
14	08:42		14:08 (E13)	07:47			06:37		07:02 (E9)		06:14		06:40 (E8)		05:04		05:44 (E6)	04:26
	16:08	38	14:46 (E13)	17:14			18:15	12	07:14 (E9)		20:20	14	06:54 (E8)		21:22	16	06:00 (E6)	22:07
15	08:41		14:08 (E13)	07:45			06:34		06:59 (E9)		06:12		06:38 (E8)		05:02		05:45 (E6)	04:26
	16:10	39	14:47 (E13)	17:17			18:17	14	07:13 (E9)		20:22	17	06:55 (E8)		21:24	14	05:59 (E6)	22:07
16	08:40		14:08 (E13)	07:43			06:31		06:59 (E9)		06:09		06:35 (E8)		05:01		05:45 (E6)	04:25
	16:12	40	14:48 (E13)	17:19			18:20	14	07:13 (E9)		20:24	20	06:55 (E8)		21:25	13	05:58 (E6)	22:08
17	08:39		14:08 (E13)	07:40			06:29		06:59 (E9)		06:07		06:35 (E8)		04:59		05:47 (E6)	04:25
	16:14	40	14:48 (E13)	17:21			18:22	13	07:12 (E9)		20:26	21	06:56 (E8)		21:27	10	05:57 (E6)	22:08
18	08:37		14:09 (E13)	07:38			06:26		06:59 (E9)		06:04		06:34 (E8)		04:57		05:49 (E6)	04:25
	16:16	40	14:49 (E13)	17:23			18:24	11	07:10 (E9)		20:28	22	06:56 (E8)		21:29	6	05:55 (E6)	22:09
19	08:36		14:08 (E13)	07:35			06:23		07:02 (E9)		06:02		06:34 (E8)		04:55			04:25
	16:18	41	14:49 (E13)	17:25			18:26	7	07:09 (E9)		20:30	22	06:56 (E8)		21:31			22:09
20	08:35		14:09 (E13)	07:33			06:21				05:59		06:33 (E8)		04:53			04:25
	16:20	41	14:50 (E13)	17:28			18:28				20:32	22	06:55 (E8)		21:33			22:10
21	08:33		14:09 (E13)	07:31			06:18				05:57		06:33 (E8)		04:52			04:25
	16:22	41	14:50 (E13)	17:30			18:30				20:35	22	06:55 (E8)		21:35			22:10
22	08:32		14:09 (E13)	07:28			06:15				05:54		06:34 (E8)		04:50			04:25
	16:24	42	14:51 (E13)	17:32			18:32				20:37	21	06:55 (E8)		21:36			22:10
23	08:30		14:09 (E13)	07:26			06:13				05:52		06:34 (E8)		04:48			04:26
	16:26	42	14:51 (E13)	17:34			18:34				20:39	20	06:54 (E8)		21:38			22:10
24	08:29		14:09 (E13)	07:23			06:10				05:49		06:34 (E8)		04:47			04:26
	16:28	42	14:51 (E13)	17:37			18:36				20:41	19	06:53 (E8)		21:40			22:10
25	08:27		14:10 (E13)	07:21			06:07				05:47		06:36 (E8)		04:45			04:26
	16:30	42	14:52 (E13)	17:39			18:38				20:43	16	06:52 (E8)		21:42			22:10
26	08:25		14:10 (E13)	07:18			06:05				05:44		06:36 (E8)		04:44			04:27
	16:32	42	14:52 (E13)	17:41			18:40				20:45	14	06:50 (E8)		21:43			22:10
27	08:24		14:11 (E13)	07:16			06:02				05:42		06:38 (E8)		04:42			04:27
	16:34	41	14:52 (E13)	17:43			18:43				20:47	10	06:48 (E8)		21:45			22:10
28	08:22		14:11 (E13)	07:13			05:59				05:40				04:41			04:28
	16:36	41	14:52 (E13)	17:45			18:45				20:49				21:47			22:10
29	08:20		14:12 (E13)				06:57				05:37				04:39			04:28
	16:39	40	14:52 (E13)				19:47				20:51				21:48			22:10
30	08:18		14:13 (E13)				06:54				05:35				04:38			04:29
	16:41	39	14:52 (E13)				19:49				20:53				21:50			22:09
31	08:17		14:12 (E13)				06:51								04:37			
	16:43	39	14:51 (E13)				19:51								21:51			
Potential sun hours	235			266			366			426			508			529		
Total, worst case	1228			259			88			274			195					
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			0.65			0.67					
Total reduction	0.09			0.13			0.25			0.32			0.37					
Total, real	106			34			22			88			73					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:53 (E6) 06:11 (E6)	06:17 20:14	07:17 18:54	07:46 (E9) 07:53 (E9)
2	04:31 22:08	05:17 21:26	05:53 (E6) 06:11 (E6)	06:19 20:11	07:25 18:51	07:48 (E9) 07:52 (E9)
3	04:32 22:08	05:19 21:24	05:53 (E6) 06:11 (E6)	06:21 20:09	07:27 18:48	07:48 (E9) 07:52 (E9)
4	04:33 22:07	05:21 21:22	05:55 (E6) 06:11 (E6)	06:23 20:06	07:29 18:46	07:48 (E9) 07:52 (E9)
5	04:34 22:07	05:23 21:19	05:56 (E6) 06:10 (E6)	06:25 20:03	07:29 18:43	07:48 (E9) 07:52 (E9)
6	04:35 22:06	05:25 21:17	05:58 (E6) 06:10 (E6)	06:27 20:01	07:33 18:40	07:48 (E9) 07:52 (E9)
7	04:36 22:05	05:27 21:15	06:00 (E6) 06:09 (E6)	06:29 19:58	07:36 18:38	07:48 (E9) 07:52 (E9)
8	04:37 22:04	05:29 21:13	06:02 (E6) 06:08 (E6)	06:31 19:55	07:38 18:35	07:48 (E9) 07:52 (E9)
9	04:38 22:03	05:31 21:11	06:04 (E6) 06:07 (E6)	06:33 19:53	07:40 18:32	07:48 (E9) 07:52 (E9)
10	04:39 22:02	05:33 21:08	06:05 (E6) 06:08 (E6)	06:35 19:50	07:42 18:30	07:48 (E9) 07:52 (E9)
11	04:41 22:01	05:35 21:06	06:07 (E6) 06:10 (E6)	06:37 19:47	07:44 18:27	07:48 (E9) 07:52 (E9)
12	04:42 22:00	05:37 21:04	06:09 (E6) 06:12 (E6)	06:39 19:45	07:46 18:25	07:48 (E9) 07:52 (E9)
13	04:43 21:59	05:39 21:01	06:11 (E6) 06:14 (E6)	06:41 19:42	07:48 18:22	07:48 (E9) 07:52 (E9)
14	04:45 21:58	05:41 20:59	06:13 (E6) 06:16 (E6)	06:43 19:39	07:50 18:19	07:48 (E9) 07:52 (E9)
15	04:46 21:57	05:43 20:57	06:15 (E6) 06:18 (E6)	06:45 19:37	07:52 18:17	07:48 (E9) 07:52 (E9)
16	04:48 21:55	05:45 20:54	06:17 (E6) 06:20 (E6)	06:47 19:34	07:54 18:14	07:48 (E9) 07:52 (E9)
17	04:49 21:54	05:47 20:52	06:19 (E6) 06:22 (E6)	06:49 19:31	07:56 18:12	07:48 (E9) 07:52 (E9)
18	04:51 21:52	05:49 20:49	06:21 (E6) 06:24 (E6)	06:51 19:29	07:58 18:09	07:48 (E9) 07:52 (E9)
19	04:52 21:51	05:51 20:47	06:23 (E6) 06:26 (E6)	06:53 19:26	07:59 18:07	07:48 (E9) 07:52 (E9)
20	04:54 21:49	05:53 20:45	06:25 (E6) 06:28 (E6)	06:55 19:23	08:01 18:04	07:48 (E9) 07:52 (E9)
21	04:56 21:48	05:55 20:42	06:27 (E6) 06:30 (E6)	06:57 19:20	08:03 18:02	07:48 (E9) 07:52 (E9)
22	04:57 21:46	05:57 20:40	06:29 (E6) 06:32 (E6)	06:59 19:18	08:05 17:59	07:48 (E9) 07:52 (E9)
23	04:59 21:45	05:59 20:37	06:31 (E6) 06:34 (E6)	07:01 19:15	08:07 17:57	07:48 (E9) 07:52 (E9)
24	05:01 21:43	06:01 20:35	06:33 (E6) 06:36 (E6)	07:03 19:12	08:09 17:55	07:48 (E9) 07:52 (E9)
25	05:03 21:41	06:03 20:32	06:35 (E6) 06:38 (E6)	07:05 19:10	08:11 17:52	07:48 (E9) 07:52 (E9)
26	05:04 21:39	06:05 20:29	06:37 (E6) 06:40 (E6)	07:07 19:07	08:13 17:50	07:48 (E9) 07:52 (E9)
27	05:06 21:37	06:07 20:27	06:39 (E6) 06:42 (E6)	07:09 19:04	08:15 17:47	07:48 (E9) 07:52 (E9)
28	05:08 21:36	06:09 20:24	06:41 (E6) 06:44 (E6)	07:11 19:02	08:17 17:45	07:48 (E9) 07:52 (E9)
29	05:10 21:34	06:11 20:22	06:43 (E6) 06:46 (E6)	07:13 18:59	08:19 17:43	07:48 (E9) 07:52 (E9)
30	05:12 21:32	06:13 20:19	06:45 (E6) 06:48 (E6)	07:15 18:56	08:21 17:40	07:48 (E9) 07:52 (E9)
31	05:14 21:30	06:15 20:17	06:47 (E6) 06:50 (E6)	07:17 18:53	08:23 17:38	07:48 (E9) 07:52 (E9)
Potential sun hours	529	469	385	324	247	216
Total, worst case	83	396	79	11	1074	1138
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	0.63	0.63	0.66	0.66
Total reduction	0.32	0.32	0.26	0.16	0.05	0.05
Total, real	27	127	21	2	58	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:

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25/06/2024 23:53/4.0.540

## 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	09:59 (E14)	08:15	07:11	06:49	05:33
	15:48	8 10:07 (E14)	16:45	17:48	19:53	21:53
2	08:51	10:01 (E14)	08:13	07:08	06:46	05:30
	15:49	7 10:08 (E14)	16:48	17:50	19:55	20:58
3	08:50	10:02 (E14)	08:11	07:06	06:43	05:28
	15:51	4 10:06 (E14)	16:50	17:52	19:57	21:00
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	08:37 (E13)	07:01	06:38	05:23
	15:53	16:54	3 08:40 (E13)	17:56	20:01	21:04
6	08:49	08:05	08:34 (E13)	06:58	06:36	05:21
	15:55	16:56	7 08:41 (E13)	17:58	20:03	21:06
7	08:48	08:03	08:32 (E13)	06:55	06:33	05:19
	15:56	16:59	11 08:43 (E13)	18:01	20:06	21:08
8	08:48	08:01	08:30 (E13)	06:53	06:30	05:17
	15:58	17:01	14 08:44 (E13)	18:03	20:08	21:10
9	08:47	07:58	08:27 (E13)	06:50	06:28	05:15
	15:59	17:03	17 08:44 (E13)	18:05	20:10	21:12
10	08:46	07:56	08:26 (E13)	06:48	06:25	05:13
	16:01	17:05	18 08:44 (E13)	18:07	20:12	21:14
11	08:45	07:54	08:26 (E13)	06:45	06:22	05:11
	16:03	17:08	19 08:45 (E13)	18:09	20:14	21:16
12	08:44	07:52	08:26 (E13)	06:42	06:20	05:09
	16:05	17:10	18 08:44 (E13)	18:11	20:16	21:18
13	08:43	07:50	08:27 (E13)	06:40	06:17	05:07
	16:06	17:12	17 08:44 (E13)	18:13	20:18	21:20
14	08:42	07:47	08:27 (E13)	06:37	06:15	05:05
	16:08	17:14	16 08:43 (E13)	18:15	20:20	21:22
15	08:41	07:45	08:28 (E13)	06:34	06:12	05:03
	16:10	17:17	14 08:42 (E13)	18:18	20:22	21:24
16	08:40	07:43	08:29 (E13)	06:32	06:09	05:01
	16:12	17:19	11 08:40 (E13)	18:20	20:24	21:26
17	08:39	07:40	08:32 (E13)	06:29	06:07	04:59
	16:14	17:21	6 08:38 (E13)	18:22	20:26	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	06:21	05:59	04:53	04:25
	16:20	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	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	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	17:34	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	19	171				
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	2	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)
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25/06/2024 23:53/4.0.540

## 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 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36	07:56 (E13) 18 08:14 (E13)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	07:57 (E13) 16 08:13 (E13)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:00 (E13) 13 08:13 (E13)
4	04:33 22:07	05:21 21:22	06:23 20:06	07:23 18:46	07:29 16:29	08:02 (E13) 10 08:12 (E13)
5	04:34 22:07	05:23 21:20	06:25 20:04	07:25 18:43	07:31 16:27	08:05 (E13) 7 08:12 (E13)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:07 (E13) 3 08:10 (E13)
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	3 09:52 (E14) 09:55 (E14)
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	09:50 (E14) 8 09:57 (E14)
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	09:50 (E14) 9 09:59 (E14)
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	09:50 (E14) 10 10:00 (E14)
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	09:50 (E14) 11 10:01 (E14)
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	09:50 (E14) 11 10:01 (E14)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	09:50 (E14) 12 10:02 (E14)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	09:50 (E14) 13 10:03 (E14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:02	09:51 (E14) 12 10:03 (E14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	09:51 (E14) 13 10:04 (E14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	09:51 (E14) 13 10:04 (E14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	09:52 (E14) 13 10:05 (E14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	09:52 (E14) 13 10:05 (E14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	09:53 (E14) 13 10:06 (E14)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	09:53 (E14) 13 10:06 (E14)
25	05:03 21:41	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	09:54 (E14) 12 10:06 (E14)
26	05:05 21:39	06:05 20:30	07:07 19:07	07:10 16:50	08:15 15:51	09:54 (E14) 13 10:07 (E14)
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28	05:08 21:36	06:09 20:24	07:11 19:02	07:14 16:45	08:19 15:48	09:55 (E14) 12 10:07 (E14)
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30	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:41	08:23 15:46	09:57 (E14) 11 10:08 (E14)
31	05:14 21:30	06:15 20:17		07:20 16:38	07:56 (E13) 18 08:14 (E13)	09:58 (E14) 10 10:08 (E14)
Potential sun hours	529	469	385	324	247	216
Total, worst case				106	67	255
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				17	3	11

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)
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Project:

Mezares\_AB211223

Licensed user:

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Vilandes 3-6

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0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		12:40 (E16)	08:15		15:38 (E15)	07:11		15:43 (E15)	06:49		05:32			04:36		20:28 (E13)	
	15:48	42	13:22 (E16)	16:45	14	15:52 (E15)	17:47	6	15:49 (E15)	19:53		20:55			21:52	31	20:59 (E13)	
2	08:50		12:40 (E16)	08:13		15:36 (E15)	07:08			06:46		05:30			04:35		20:27 (E13)	
	15:49	42	13:22 (E16)	16:47	19	15:55 (E15)	17:50			19:55		20:57			21:54	33	21:00 (E13)	
3	08:50		12:41 (E16)	08:11		15:34 (E15)	07:06			06:43		05:28		05:56 (E9)	04:34		20:27 (E13)	
	15:51	42	13:23 (E16)	16:50	23	15:57 (E15)	17:52			19:57		20:59	3	05:59 (E9)	21:55	33	21:00 (E13)	
4	08:50		12:41 (E16)	08:09		15:33 (E15)	07:03			06:41		05:26		05:54 (E9)	04:33		20:27 (E13)	
	15:52	42	13:23 (E16)	16:52	26	15:59 (E15)	17:54			19:59		21:01	7	06:01 (E9)	21:56	33	21:00 (E13)	
5	08:49		12:42 (E16)	08:07		15:31 (E15)	07:00			06:38		05:23		05:52 (E9)	04:32		20:27 (E13)	
	15:53	41	13:23 (E16)	16:54	29	16:00 (E15)	17:56			20:01		21:04	9	06:01 (E9)	21:58	34	21:01 (E13)	
6	08:49		12:43 (E16)	08:05		15:30 (E15)	06:58			06:35		05:21		05:50 (E9)	04:31		20:27 (E13)	
	15:55	41	13:24 (E16)	16:56	32	16:02 (E15)	17:58			20:03		21:06	12	06:02 (E9)	21:59	35	21:02 (E13)	
7	08:48		12:43 (E16)	08:03		15:30 (E15)	06:55		07:21 (E12)	06:33		05:19		05:48 (E9)	04:30		20:27 (E13)	
	15:56	41	13:24 (E16)	16:59	33	16:03 (E15)	18:00	1	07:22 (E12)	20:05		21:08	14	06:02 (E9)	22:00	35	21:02 (E13)	
8	08:47		12:44 (E16)	08:00		15:29 (E15)	06:53		07:18 (E12)	06:30		05:17		05:46 (E9)	04:29		20:27 (E13)	
	15:58	41	13:25 (E16)	17:01	35	16:04 (E15)	18:03	5	07:23 (E12)	20:07		21:10	16	06:02 (E9)	22:01	36	21:03 (E13)	
9	08:47		12:45 (E16)	07:58		15:28 (E15)	06:50		07:16 (E12)	06:27		05:15		05:45 (E9)	04:29		20:27 (E13)	
	15:59	40	13:25 (E16)	17:03	36	16:04 (E15)	18:05	9	07:25 (E12)	20:10	4	06:57 (E10)	21:12	17	06:02 (E9)	22:02	35	21:02 (E13)
10	08:46		12:45 (E16)	07:56		15:28 (E15)	06:47		07:13 (E12)	06:25		06:50 (E10)	05:13		05:44 (E9)	04:28		20:27 (E13)
	16:01	40	13:25 (E16)	17:05	37	16:05 (E15)	18:07	20	07:38 (E14)	20:12	8	06:58 (E10)	21:14	18	06:02 (E9)	22:03	36	21:03 (E13)
11	08:45		12:46 (E16)	07:54		15:27 (E15)	06:45		07:10 (E12)	06:22		06:48 (E10)	05:10		05:44 (E9)	04:27		20:27 (E13)
	16:03	39	13:25 (E16)	17:08	38	16:05 (E15)	18:09	28	07:40 (E14)	20:14	12	07:00 (E10)	21:16	18	06:02 (E9)	22:04	36	21:03 (E13)
12	08:44		12:46 (E16)	07:52		15:27 (E15)	06:42		07:09 (E12)	06:20		06:45 (E10)	05:08		05:45 (E9)	04:27		20:27 (E13)
	16:04	39	13:25 (E16)	17:10	39	16:06 (E15)	18:11	34	07:42 (E14)	20:16	15	07:00 (E10)	21:18	16	06:01 (E9)	22:05	37	21:04 (E13)
13	08:43		12:47 (E16)	07:49		15:27 (E15)	06:39		07:09 (E12)	06:17		06:43 (E10)	05:06		05:45 (E9)	04:26		20:28 (E13)
	16:06	38	13:25 (E16)	17:12	40	16:07 (E15)	18:13	35	07:43 (E14)	20:18	17	07:00 (E10)	21:20	15	06:00 (E9)	22:06	36	21:04 (E13)
14	08:42		12:48 (E16)	07:47		15:26 (E15)	06:37		07:09 (E12)	06:14		06:41 (E10)	05:04		05:46 (E9)	04:26		20:28 (E13)
	16:08	37	13:25 (E16)	17:14	41	16:07 (E15)	18:15	36	07:44 (E14)	20:20	19	07:00 (E10)	21:21	15	06:01 (E9)	22:06	37	21:05 (E13)
15	08:41		12:48 (E16)	07:45		15:26 (E15)	06:34		07:10 (E12)	06:12		06:41 (E10)	05:03		05:47 (E9)	04:26		20:27 (E13)
	16:10	37	13:25 (E16)	17:17	41	16:07 (E15)	18:17	34	07:44 (E14)	20:22	19	07:00 (E10)	21:23	12	05:59 (E9)	22:07	37	21:04 (E13)
16	08:40		12:50 (E16)	07:42		15:26 (E15)	06:31		07:13 (E12)	06:09		06:41 (E10)	05:01		05:48 (E9)	04:25		20:28 (E13)
	16:12	35	13:25 (E16)	17:19	41	16:07 (E15)	18:20	30	07:45 (E14)	20:24	18	06:59 (E10)	21:25	10	05:58 (E9)	22:08	37	21:05 (E13)
17	08:39		12:50 (E16)	07:40		15:26 (E15)	06:29		06:54 (E11)	06:07		06:41 (E10)	04:59		05:50 (E9)	04:25		20:28 (E13)
	16:14	34	13:24 (E16)	17:21	41	16:07 (E15)	18:22	27	07:44 (E14)	20:26	18	06:59 (E10)	21:27	7	05:57 (E9)	22:08	37	21:05 (E13)
18	08:37		12:52 (E16)	07:38		15:26 (E15)	06:26		06:51 (E11)	06:04		06:41 (E10)	04:57		04:25			20:28 (E13)
	16:16	33	13:25 (E16)	17:23	40	16:06 (E15)	18:24	33	07:44 (E14)	20:28	17	06:58 (E10)	21:29		22:09	37	21:05 (E13)	
19	08:36		12:52 (E16)	07:35		15:27 (E15)	06:23		06:49 (E11)	06:02		06:42 (E10)	04:55		04:25			20:28 (E13)
	16:18	32	13:24 (E16)	17:25	39	16:06 (E15)	18:26	36	07:44 (E14)	20:30	15	06:57 (E10)	21:31		22:09	37	21:05 (E13)	
20	08:35		12:53 (E16)	07:33		15:27 (E15)	06:21		06:46 (E11)	05:59		06:43 (E10)	04:53		04:25			20:28 (E13)
	16:20	30	13:23 (E16)	17:28	38	16:05 (E15)	18:28	39	07:43 (E14)	20:32	12	06:55 (E10)	21:33		22:10	37	21:05 (E13)	
21	08:33		12:55 (E16)	07:31		15:28 (E15)	06:18		06:43 (E11)	05:57		06:45 (E10)	04:52		20:41 (E13)	04:25		20:29 (E13)
	16:22	28	13:23 (E16)	17:30	37	16:05 (E15)	18:30	41	07:42 (E14)	20:35	7	06:52 (E10)	21:35	1	20:42 (E13)	22:10	37	21:06 (E13)
22	08:32		12:57 (E16)	07:28		15:28 (E15)	06:15		06:42 (E11)	05:54		04:50			20:37 (E13)	04:25		20:29 (E13)
	16:24	25	13:22 (E16)	17:32	36	16:04 (E15)	18:32	40	07:41 (E14)	20:37		21:36	11	20:48 (E13)	22:10	37	21:06 (E13)	
23	08:30		12:58 (E16)	07:26		15:29 (E15)	06:13		06:42 (E11)	05:52		04:48			20:35 (E13)	04:26		20:29 (E13)
	16:26	22	13:20 (E16)	17:34	35	16:04 (E15)	18:34	37	07:39 (E14)	20:39		21:38	16	20:51 (E13)	22:10	37	21:06 (E13)	
24	08:29		13:00 (E16)	07:23		15:30 (E15)	06:10		06:41 (E11)	05:49		04:47			20:33 (E13)	04:26		20:29 (E13)
	16:28	19	13:19 (E16)	17:37	32	16:02 (E15)	18:36	34	07:37 (E14)	20:41		21:40	19	20:52 (E13)	22:10	37	21:06 (E13)	
25	08:27		13:03 (E16)	07:21		15:31 (E15)	06:07		06:41 (E11)	05:47		04:45			20:32 (E13)	04:26		20:30 (E13)
	16:30	13	13:16 (E16)	17:39	30	16:01 (E15)	18:38	26	07:33 (E14)	20:43		21:42	22	20:54 (E13)	22:10	37	21:07 (E13)	
26	08:25			07:18		15:33 (E15)	06:05		06:42 (E11)	05:44		04:44			20:31 (E13)	04:27		20:30 (E13)
	16:32			17:41	27	16:00 (E15)	18:40	17	06:59 (E11)	20:45		21:43	24	20:55 (E13)	22:10	37	21:07 (E13)	
27	08:24			07:16		15:35 (E15)	06:02		06:43 (E11)	05:42		04:42			20:30 (E13)	04:27		20:30 (E13)
	16:34			17:43	22	15:57 (E15)	18:43	14	06:57 (E11)	20:47		21:45	25	20:55 (E13)	22:10	37	21:07 (E13)	
28	08:22			07:13		15:38 (E15)	05:59		06:44 (E11)	05:40		04:41			20:29 (E13)	04:28		20:30 (E13)
	16:36			17:45	17	15:55 (E15)	18:45	10	06:54 (E11)	20:49		21:46	27	20:56 (E13)	22:10	37	21:07 (E13)	
29	08:20						06:57			05:37		04:40			20:29 (E13)	04:29		20:31 (E13)
	16:39						19:47			20:51		21:48	28	20:57 (E13)	22:10	36	21:07 (E13)	
30	08:18						06:54			05:35		04:38			20:29 (E13)	04:29		20:31 (E13)
	16:41						19:49			20:53		21:49	29	20:58 (E13)	22:09	37	21:08 (E13)	
31	08:16						06:51					04:37			20:28 (E13)			
	16:43						19:51					21:51	31	20:59 (E13)				
Potential sun hours	235		266		366		426		508		528							
Total, worst case	873		918		592		181		422		1078							
Sun reduction	0.13		0.20		0.41		0.50		0.57		0.56							
Oper. time red.																		

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		20:31 (E13)	05:16		05:55 (E9)	06:17		06:47 (E10)	07:17		07:48 (E12)	07:22		14:57 (E15)	08:24		12:28 (E16)
	22:09	36	21:07 (E13)	21:28	17	06:12 (E9)	20:14	11	06:58 (E10)	18:54	35	18:22 (E14)	16:36	38	15:35 (E15)	15:45	40	13:08 (E16)
2	04:31		20:32 (E13)	05:18		05:55 (E9)	06:19		06:49 (E10)	07:19		07:48 (E12)	07:25		14:58 (E15)	08:26		12:27 (E16)
	22:08	36	21:08 (E13)	21:26	17	06:12 (E9)	20:11	8	06:57 (E10)	18:51	31	18:20 (E14)	16:34	36	15:34 (E15)	15:44	40	13:07 (E16)
3	04:32		20:32 (E13)	05:19		05:55 (E9)	06:21		06:51 (E10)	07:21		07:50 (E12)	07:27		14:59 (E15)	08:27		12:28 (E16)
	22:08	36	21:08 (E13)	21:24	17	06:12 (E9)	20:09	4	06:55 (E10)	18:48	24	18:17 (E14)	16:32	35	15:34 (E15)	15:43	40	13:08 (E16)
4	04:33		20:32 (E13)	05:21		05:55 (E9)	06:23			07:23		07:52 (E12)	07:29		15:39 (E15)	08:29		12:28 (E16)
	22:07	36	21:08 (E13)	21:21	18	06:13 (E9)	20:06			18:46	10	08:02 (E12)	16:29	33	15:32 (E15)	15:42	41	13:09 (E16)
5	04:34		20:33 (E13)	05:23		05:56 (E9)	06:25			07:25		07:54 (E12)	07:31		15:00 (E15)	08:31		12:29 (E16)
	22:07	35	21:08 (E13)	21:19	16	06:12 (E9)	20:03			18:43	7	08:01 (E12)	16:27	31	15:31 (E15)	15:42	40	13:09 (E16)
6	04:35		20:33 (E13)	05:25		05:58 (E9)	06:27			07:27		07:56 (E12)	07:33		15:02 (E15)	08:32		12:29 (E16)
	22:06	35	21:08 (E13)	21:17	13	06:11 (E9)	20:01			18:40	3	07:59 (E12)	16:25	29	15:31 (E15)	15:41	41	13:10 (E16)
7	04:36		20:34 (E13)	05:27		06:00 (E9)	06:29			07:29			07:35		15:03 (E15)	08:34		12:29 (E16)
	22:05	34	21:08 (E13)	21:15	11	06:11 (E9)	19:58			18:38			16:23	26	15:29 (E15)	15:40	41	13:10 (E16)
8	04:37		20:34 (E13)	05:29		06:02 (E9)	06:31			07:31			07:38		15:05 (E15)	08:35		12:30 (E16)
	22:04	34	21:08 (E13)	21:13	8	06:10 (E9)	19:55			18:35			16:21	23	15:28 (E15)	15:40	41	13:11 (E16)
9	04:38		20:34 (E13)	05:31		06:04 (E9)	06:33			07:34			07:40		15:07 (E15)	08:36		12:29 (E16)
	22:03	34	21:08 (E13)	21:11	6	06:10 (E9)	19:53			18:32			16:19	18	15:25 (E15)	15:39	42	13:11 (E16)
10	04:39		20:35 (E13)	05:33		06:05 (E9)	06:35			07:36			07:42		15:09 (E15)	08:38		12:30 (E16)
	22:02	32	21:07 (E13)	21:08	2	06:07 (E9)	19:50			18:30			16:17	13	15:22 (E15)	15:39	42	13:12 (E16)
11	04:41		20:35 (E13)	05:35			06:37			07:38			07:44			08:39		12:30 (E16)
	22:01	32	21:07 (E13)	21:06			19:47			18:27			16:15			15:38	42	13:12 (E16)
12	04:42		20:36 (E13)	05:37			06:39			07:40			07:46			08:40		12:30 (E16)
	22:00	31	21:07 (E13)	21:04			19:45			18:25			16:13			15:38	42	13:12 (E16)
13	04:43		20:37 (E13)	05:39			06:41			07:42		16:13 (E15)	07:48			08:41		12:32 (E16)
	21:59	30	21:07 (E13)	21:01			19:42			18:22	12	16:25 (E15)	16:11			15:38	42	13:14 (E16)
14	04:45		20:37 (E13)	05:41			06:43			07:44			07:51			08:42		12:32 (E16)
	21:58	29	21:06 (E13)	20:59			19:39			18:19	19	16:28 (E15)	16:09			15:38	42	13:14 (E16)
15	04:46		20:38 (E13)	05:43			06:45		07:35 (E11)	07:46			16:07 (E15)	16:09		08:44		12:32 (E16)
	21:56	27	21:05 (E13)	20:57			19:37	9	07:44 (E11)	18:17	24	16:31 (E15)	16:08			15:38	42	13:14 (E16)
16	04:48		20:39 (E13)	05:45			06:47		07:33 (E11)	07:48			16:04 (E15)	16:08		08:44		12:33 (E16)
	21:55	26	21:05 (E13)	20:54			19:34	13	07:46 (E11)	18:14	28	16:32 (E15)	16:06			15:38	42	13:15 (E16)
17	04:49		20:40 (E13)	05:47			06:49		07:31 (E11)	07:50			16:02 (E15)	16:07		08:45		12:33 (E16)
	21:54	24	21:04 (E13)	20:52			19:31	16	07:47 (E11)	18:12	31	16:33 (E15)	16:04	13	12:50 (E16)	15:38	42	13:15 (E16)
18	04:51		20:41 (E13)	05:49			06:51		07:30 (E11)	07:52			16:01 (E15)	16:07		12:34 (E16)		12:34 (E16)
	21:52	23	21:04 (E13)	20:49			19:28	24	18:21 (E14)	18:09	33	16:34 (E15)	16:02	19	12:53 (E16)	15:38	42	13:16 (E16)
19	04:52		20:42 (E13)	05:51			06:53		07:29 (E11)	07:54			15:59 (E15)	16:01		12:33 (E16)		12:34 (E16)
	21:51	20	21:02 (E13)	20:47			19:26	33	18:24 (E14)	18:07	35	16:34 (E15)	16:01	22	12:55 (E16)	15:38	42	13:16 (E16)
20	04:54		20:44 (E13)	05:53			06:55		07:27 (E11)	07:57			15:59 (E15)	16:03		12:32 (E16)		12:34 (E16)
	21:49	17	21:01 (E13)	20:44			19:23	37	18:24 (E14)	18:04	37	16:36 (E15)	15:59	25	12:57 (E16)	15:39	43	13:17 (E16)
21	04:56		20:45 (E13)	05:55			06:57		07:27 (E11)	07:59			15:58 (E15)	16:05		12:30 (E16)		12:34 (E16)
	21:48	14	20:59 (E13)	20:42			19:20	39	18:25 (E14)	18:02	38	16:36 (E15)	15:58	28	12:58 (E16)	15:39	42	13:16 (E16)
22	04:57		20:49 (E13)	05:57		06:50 (E10)	06:59		07:27 (E11)	08:01			15:57 (E15)	16:07		12:30 (E16)		12:35 (E16)
	21:46	8	20:57 (E13)		7	06:57 (E10)	19:18	41	18:26 (E14)	17:59	39	16:36 (E15)	15:56	30	13:00 (E16)	15:39	42	13:17 (E16)
23	04:59			05:59		06:47 (E10)	07:01		07:29 (E11)	08:03			15:57 (E15)	16:09		12:29 (E16)		12:35 (E16)
	21:44			20:37	12	06:59 (E10)	19:15	39	18:26 (E14)	17:57	40	16:37 (E15)	15:55	32	13:01 (E16)	15:40	42	13:17 (E16)
24	05:01			06:01		06:46 (E10)	07:03		07:31 (E11)	08:05			15:56 (E15)	16:11		12:29 (E16)		12:37 (E16)
	21:43			20:34	15	07:01 (E10)	19:12	36	18:26 (E14)	17:55	41	16:37 (E15)	15:53	33	13:02 (E16)	15:41	42	13:19 (E16)
25	05:03			06:03		06:45 (E10)	07:05		07:33 (E11)	07:07			14:56 (E15)	16:13		12:28 (E16)		12:37 (E16)
	21:41			20:32	16	07:01 (E10)	19:10	34	18:26 (E14)	16:52	40	15:36 (E15)	15:52	34	13:02 (E16)	15:41	42	13:19 (E16)
26	05:04		06:02 (E9)	06:05		06:43 (E10)	07:07		07:35 (E11)	07:09			14:56 (E15)	16:15		12:28 (E16)		12:37 (E16)
	21:39	3		20:29	18	07:01 (E10)	19:07	29	18:26 (E14)	16:50	41	15:37 (E15)	15:51	35	13:03 (E16)	15:42	42	13:19 (E16)
27	05:06		06:00 (E9)	06:07		06:42 (E10)	07:09		18:01 (E14)	07:12			14:56 (E15)	16:17		12:27 (E16)		12:38 (E16)
	21:37	8	06:08 (E9)	20:27	19	07:01 (E10)	19:04	24	18:25 (E14)	16:47	41	15:37 (E15)	15:49	37	13:04 (E16)	15:43	42	13:20 (E16)
28	05:08		05:57 (E9)	06:09		06:42 (E10)	07:11		07:52 (E12)	07:14			14:55 (E15)	16:19		12:28 (E16)		12:38 (E16)
	21:36	12	06:09 (E9)	20:24	19	07:01 (E10)	19:02	32	18:25 (E14)	16:45	41	15:36 (E15)	15:48	38	13:06 (E16)	15:44	42	13:20 (E16)
29	05:10		05:57 (E9)	06:11		06:42 (E10)	07:13		07:50 (E12)	07:16			14:56 (E15)	16:20		12:28 (E16)		12:39 (E16)
	21:34	13	06:10 (E9)	20:22	19	07:01 (E10)	18:59	36	18:25 (E14)	16:43	40	15:36 (E15)	15:47	38	13:06 (E16)	15:45	42	13:21 (E16)
30	05:12		05:56 (E9)	06:13		06:43 (E10)	07:15		07:49 (E12)	07:18			14:56 (E15)	16:22		12:28 (E16)		12:39 (E16)
	21:32	15	06:11 (E9)	20:19	17	07:00 (E10)	18:56	36	18:24 (E14)	16:40	40	15:36 (E15)	15:46	39	13:07 (E16)	15:46	42	13:21 (E16)
31	05:14		05:56 (E9)	06:15		06:45 (E10)				07:20			14:56 (E15)			08:51		12:39 (E16)
	21:30	16	06:12 (E9)	20:16	15	07:00 (E10)				16:38	39	15:35 (E15)				15:47	42	13:21 (E16)
Potential sun hours		529		469			385			324			247			216		
Total, worst case		696		282			501			769			705			1291		
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.		0.62		0.66			0.65			0.66			0.65			0.64		
Total reduction		0.30		0.32			0.27	</										

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Muiž nieki (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	10:17 (E15)	08:15	09:01 (E13)	07:11	06:49	05:33	04:36
	15:48	2 10:19 (E15)	16:45	26 09:27 (E13)	17:48	19:53	20:55	21:53
2	08:50		08:13	09:00 (E13)	07:08	06:46	05:30	04:35
	15:49		16:47	29 09:29 (E13)	17:50	19:55	20:57	21:54
3	08:50		08:11	09:00 (E13)	07:06	06:43	05:28	04:34
	15:51		16:50	30 09:30 (E13)	17:52	19:57	21:00	21:55
4	08:50		08:09	08:59 (E13)	07:03	06:41	05:26	04:33
	15:52		16:52	32 09:31 (E13)	17:54	19:59	21:02	21:57
5	08:49		08:07	08:59 (E13)	07:01	06:38	05:23	04:32
	15:53		16:54	33 09:32 (E13)	17:56	20:01	21:04	21:58
6	08:49		08:05	08:58 (E13)	06:58	06:35	05:21	04:31
	15:55		16:56	34 09:32 (E13)	17:58	20:03	21:06	21:59
7	08:48		08:03	08:58 (E13)	06:55	06:33	05:19	04:30
	15:56		16:59	35 09:33 (E13)	18:01	20:05	21:08	22:00
8	08:48		08:01	08:58 (E13)	06:53	06:30	05:17	04:29
	15:58		17:01	36 09:34 (E13)	18:03	20:08	21:10	22:01
9	08:47		07:58	08:57 (E13)	06:50	06:28	05:15	04:29
	15:59		17:03	37 09:34 (E13)	18:05	20:10	21:12	22:02
10	08:46		07:56	08:57 (E13)	06:47	06:25	05:13	04:28
	16:01		17:05	37 09:34 (E13)	18:07	20:12	21:14	22:03
11	08:45		07:54	08:57 (E13)	06:45	06:22	05:11	04:27
	16:03		17:08	38 09:35 (E13)	18:09	20:14	21:16	22:04
12	08:44		07:52	08:57 (E13)	06:42	06:20	05:08	04:27
	16:05		17:10	37 09:34 (E13)	18:11	20:16	21:18	22:05
13	08:43		07:50	08:57 (E13)	06:40	06:17	05:06	04:26
	16:06		17:12	38 09:35 (E13)	18:13	20:18	21:20	22:06
14	08:42		07:47	08:57 (E13)	06:37	06:15	05:04	04:26
	16:08		17:14	37 09:34 (E13)	18:15	20:20	21:22	22:07
15	08:41		07:45	08:57 (E13)	06:34	06:12	05:03	04:26
	16:10		17:17	37 09:34 (E13)	18:18	20:22	21:24	22:07
16	08:40		07:43	08:57 (E13)	06:32	06:09	05:01	04:25
	16:12		17:19	36 09:33 (E13)	18:20	20:24	21:25	22:08
17	08:39		07:40	08:58 (E13)	06:29	06:07	04:59	04:25
	16:14		17:21	35 09:33 (E13)	18:22	20:26	21:27	22:08
18	08:37		07:38	08:58 (E13)	06:26	06:04	04:57	04:25
	16:16		17:23	34 09:32 (E13)	18:24	20:28	21:29	22:09
19	08:36		07:36	09:00 (E13)	06:24	06:02	04:55	04:25
	16:18		17:26	31 09:31 (E13)	18:26	20:30	21:31	22:09
20	08:35		07:33	09:00 (E13)	06:21	05:59	04:53	04:25
	16:20		17:28	30 09:30 (E13)	18:28	20:33	21:33	22:10
21	08:33		07:31	09:02 (E13)	06:18	05:57	04:52	04:25
	16:22		17:30	27 09:29 (E13)	18:30	20:35	21:35	22:10
22	08:32		07:28	09:03 (E13)	06:16	05:54	04:50	04:25
	16:24		17:32	23 09:26 (E13)	18:32	20:37	21:37	22:10
23	08:30		07:26	09:06 (E13)	06:13	05:52	04:48	04:26
	16:26		17:34	18 09:24 (E13)	18:34	20:39	21:38	22:10
24	08:29		07:23	09:09 (E13)	06:10	05:49	04:47	04:26
	16:28		17:37	11 09:20 (E13)	18:36	20:41	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	21:42	22:10
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	09:10 (E13)	07:13		05:59	05:40	04:41	04:28
	16:36	9 09:19 (E13)	17:45		18:45	20:49	21:47	22:10
29	08:20	09:07 (E13)			06:57	05:37	04:40	04:29
	16:39	15 09:22 (E13)			19:47	20:51	21:48	22:10
30	08:18	09:05 (E13)			06:54	05:35	04:38	04:29
	16:41	20 09:25 (E13)			19:49	20:53	21:50	22:09
31	08:17	09:03 (E13)			06:51		04:37	
	16:43	24 09:27 (E13)			19:51		21:51	
Potential sun hours	235		266		366	426	508	529
Total, worst case		70		761			160	
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		0.12			0.37	
Total, real		5		88			60	

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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Muiž nieki (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	05:16	05:54 (E7)	06:17	07:17			07:23	08:26 (E13)	08:24	
	22:09	21:28	16 06:10 (E7)	20:14	18:54			16:36	38 09:04 (E13)	15:45	
2	04:31	05:18	05:54 (E7)	06:19	07:19			07:25	08:26 (E13)	08:26	
	22:09	21:26	16 06:10 (E7)	20:11	18:51			16:34	37 09:03 (E13)	15:44	
3	04:32	05:20	05:54 (E7)	06:21	07:21			07:27	08:27 (E13)	08:28	
	22:08	21:24	17 06:11 (E7)	20:09	18:48			16:32	37 09:04 (E13)	15:43	
4	04:33	05:21	05:55 (E7)	06:23	07:23			07:29	08:27 (E13)	08:29	
	22:07	21:22	16 06:11 (E7)	20:06	18:46			16:29	36 09:03 (E13)	15:42	
5	04:34	05:23	05:56 (E7)	06:25	07:25			07:31	08:27 (E13)	08:31	
	22:07	21:20	14 06:10 (E7)	20:03	18:43			16:27	35 09:02 (E13)	15:42	
6	04:35	05:25	05:58 (E7)	06:27	07:27			07:33	08:29 (E13)	08:32	
	22:06	21:17	12 06:10 (E7)	20:01	18:40			16:25	33 09:02 (E13)	15:41	
7	04:36	05:27	06:00 (E7)	06:29	07:30			07:36	08:29 (E13)	08:34	
	22:05	21:15	10 06:10 (E7)	19:58	18:38			16:23	32 09:01 (E13)	15:40	
8	04:37	05:29	06:02 (E7)	06:31	07:32			07:38	08:31 (E13)	08:35	
	22:04	21:13	7 06:09 (E7)	19:55	18:35			16:21	30 09:01 (E13)	15:40	
9	04:38	05:31	06:04 (E7)	06:33	07:34			07:40	08:31 (E13)	08:37	
	22:03	21:11	4 06:08 (E7)	19:53	18:32			16:19	28 08:59 (E13)	15:39	
10	04:39	05:33	06:06 (E7)	06:35	07:36			07:42	08:33 (E13)	08:38	
	22:02	21:08	1 06:07 (E7)	19:50	18:30			16:17	26 08:59 (E13)	15:39	
11	04:41	05:35		06:37	07:38			07:44	08:34 (E13)	08:39	10:07 (E15)
	22:01	21:06		19:47	18:27			16:15	23 08:57 (E13)	15:38	2 10:09 (E15)
12	04:42	05:37		06:39	07:40			07:46	08:36 (E13)	08:40	10:07 (E15)
	22:00	21:04		19:45	18:25			16:13	19 08:55 (E13)	15:38	5 10:12 (E15)
13	04:43	05:39		06:41	07:42			07:49	08:39 (E13)	08:42	10:06 (E15)
	21:59	21:02		19:42	18:22			16:11	15 08:54 (E13)	15:38	7 10:13 (E15)
14	04:45	05:41		06:43	07:44			07:51	08:42 (E13)	08:43	10:06 (E15)
	21:58	20:59		19:39	18:20			16:09	8 08:50 (E13)	15:38	8 10:14 (E15)
15	04:46	05:43		06:45	07:46			07:53		08:44	10:05 (E15)
	21:57	20:57		19:37	18:17			16:08		15:38	10 10:15 (E15)
16	04:48	05:45		06:47	07:48			07:55		08:45	10:06 (E15)
	21:55	20:54		19:34	18:14			16:06		15:38	10 10:16 (E15)
17	04:49	05:47		06:49	07:50			07:57		08:46	10:06 (E15)
	21:54	20:52		19:31	18:12			16:04		15:38	11 10:17 (E15)
18	04:51	05:49		06:51	07:52		09:38 (E13)	07:59		08:46	10:06 (E15)
	21:52	20:50		19:29	18:09	15	09:53 (E13)	16:02		15:38	11 10:17 (E15)
19	04:52	05:51		06:53	07:55		09:36 (E13)	08:01		08:47	10:06 (E15)
	21:51	20:47		19:26	18:07	20	09:56 (E13)	16:01		15:38	11 10:17 (E15)
20	04:54	05:53		06:55	07:57		09:34 (E13)	08:03		08:48	10:06 (E15)
	21:49	20:45		19:23	18:04	24	09:58 (E13)	15:59		15:39	12 10:18 (E15)
21	04:56	05:55		06:57	07:59		09:32 (E13)	08:05		08:48	10:07 (E15)
	21:48	20:42		19:20	18:02	27	09:59 (E13)	15:58		15:39	12 10:19 (E15)
22	04:57	05:57		06:59	08:01		09:30 (E13)	08:07		08:49	10:07 (E15)
	21:46	20:40		19:18	17:59	30	10:00 (E13)	15:56		15:39	12 10:19 (E15)
23	04:59	05:59		07:01	08:03		09:30 (E13)	08:09		08:50	10:08 (E15)
	21:45	20:37		19:15	17:57	32	10:02 (E13)	15:55		15:40	12 10:20 (E15)
24	05:01	06:01		07:03	08:05		09:29 (E13)	08:11		08:50	10:09 (E15)
	21:43	20:35		19:12	17:55	33	10:02 (E13)	15:53		15:41	11 10:20 (E15)
25	05:03	06:03		07:05	07:07		08:27 (E13)	08:13		08:50	10:09 (E15)
	21:41	20:32		19:10	16:52	35	09:02 (E13)	15:52		15:41	11 10:20 (E15)
26	05:05	06:05		07:07	07:10		08:28 (E13)	08:15		08:51	10:10 (E15)
	21:39	20:30		19:07	16:50	36	09:04 (E13)	15:51		15:42	11 10:21 (E15)
27	05:06	06:02 (E7)	06:07	07:09	07:12		08:27 (E13)	08:17		08:51	10:10 (E15)
	21:38	2 06:04 (E7)	20:27	19:04	16:47	37	09:04 (E13)	15:49		15:43	11 10:21 (E15)
28	05:08	05:59 (E7)	06:09	07:11	07:14		08:26 (E13)	08:19		08:51	10:11 (E15)
	21:36	8 06:07 (E7)	20:24	19:02	16:45	37	09:03 (E13)	15:48		15:44	10 10:21 (E15)
29	05:10	05:57 (E7)	06:11	07:13	07:16		08:27 (E13)	08:21		08:51	10:12 (E15)
	21:34	11 06:08 (E7)	20:22	18:59	16:43	37	09:04 (E13)	15:47		15:45	9 10:21 (E15)
30	05:12	05:56 (E7)	06:13	07:15	07:18		08:26 (E13)	08:22		08:51	10:13 (E15)
	21:32	13 06:09 (E7)	20:19	18:56	16:41	38	09:04 (E13)	15:46		15:46	8 10:21 (E15)
31	05:14	05:56 (E7)	06:15		07:20		08:27 (E13)			08:51	10:15 (E15)
	21:30	14 06:10 (E7)	20:17		16:38	37	09:04 (E13)			15:47	6 10:21 (E15)
Potential sun hours	529		469		385		324		247		216
Total, worst case	48		113				438		397		200
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		0.33				0.15		0.05		0.04
Total, real	15		37				65		19		8

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)

Mezares\_AB211223

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Anna / anna@environment.lv  
Calculated:  
25/06/2024 23:53/4.0.540

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) []

Sunshine probability  $S$  (Average daily sunshine hours)  $[\frac{h}{d}]$

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

### Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	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	15:32 (E1)	07:10	06:48	05:32	04:35	04:29	05:15	06:17	07:17	07:22	08:24									
	15:48		16:45	19 15:51 (E1)	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	15:33 (E1)	07:08	06:46	05:30	04:34	04:30	05:17	06:19	07:19	07:24	08:26									
	15:49		16:47	18 15:51 (E1)	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	15:34 (E1)	07:05	06:43	05:27	04:33	04:31	05:19	06:21	07:21	07:27	08:27									
	15:50		16:49	16 15:50 (E1)	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	15:36 (E1)	07:03	06:40	05:25	04:32	04:32	05:21	06:23	07:23	07:29	08:29									
	15:51		16:51	13 15:49 (E1)	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	15:38 (E1)	07:00	06:38	05:23	04:31	04:33	05:23	06:25	07:25	07:31	08:30									
	15:53		16:54	9 15:47 (E1)	17:56	20:01	21:03	21:58	22:06	21:19	20:03	18:42	16:27	15:41									
6	08:49		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	10 15:18 (E1)	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	15:06 (E1)	08:33								
	15:56		16:58		18:00	20:05	21:07	22:00	22:05	21:15	19:58	18:37	16:22	13 15:19 (E1)	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	15:04 (E1)	08:35								
	15:57		17:00		18:02	20:07	21:09	22:01	22:04	21:13	19:55	18:35	16:20	16 15:20 (E1)	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	15:04 (E1)	08:36								
	15:59		17:03		18:04	20:09	21:11	22:02	22:03	21:10	19:52	18:32	16:18	18 15:22 (E1)	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	15:03 (E1)	08:38								
	16:00		17:05		18:06	20:11	21:13	22:03	22:02	21:08	19:50	18:29	16:16	19 15:22 (E1)	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	15:03 (E1)	08:39								
	16:02		17:07		18:09	20:13	21:15	22:04	22:01	21:06	19:47	18:27	16:14	20 15:23 (E1)	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	15:02 (E1)	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 15:23 (E1)	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	15:02 (E1)	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 15:23 (E1)	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	15:03 (E1)	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 15:24 (E1)	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	15:03 (E1)	08:43								
	16:09		17:16		18:17	20:22	21:23	22:07	21:56	20:56	19:36	18:16	16:07	21 15:24 (E1)	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	15:04 (E1)	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 15:24 (E1)	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	15:04 (E1)	08:45								
	16:13		17:21		18:21	20:26	21:27	22:08	21:54	20:52	19:31	18:11	16:03	20 15:24 (E1)	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	15:04 (E1)	08:46								
	16:15	2 15:35 (E1)	17:23		18:23	20:28	21:29	22:09	21:52	20:49	19:28	18:09	16:02	19 15:23 (E1)	15:37								
19	08:36		15:33 (E1)	07:35		06:23	06:01	04:54	04:24	04:52	05:51	06:53	07:54	08:01	15:05 (E1)	08:47							
	16:17	5 15:38 (E1)	17:25		18:25	20:30	21:31	22:09	21:51	20:47	19:25	18:06	16:00	18 15:23 (E1)	15:38								
20	08:34		15:31 (E1)	07:33		06:20	05:59	04:53	04:25	04:53	05:53	06:55	07:56	08:03	15:06 (E1)	08:48							
	16:19	9 15:40 (E1)	17:27		18:28	20:32	21:33	22:09	21:49	20:44	19:23	18:04	15:59	15 15:21 (E1)	15:38								
21	08:33		15:32 (E1)	07:30		06:18	05:56	04:51	04:25	04:55	05:55	06:57	07:58	08:05	15:07 (E1)	08:48							
	16:21	11 15:43 (E1)	17:29		18:30	20:34	21:34	22:10	21:48	20:42	19:20	18:01	15:57	12 15:19 (E1)	15:38								
22	08:32		15:31 (E1)	07:28		06:15	05:54	04:49	04:25	04:57	05:57	06:59	08:01	08:07	15:08 (E1)	08:49							
	16:23	15 15:46 (E1)	17:32		18:32	20:36	21:36	22:10	21:46	20:39	19:17	17:59	15:56	9 15:17 (E1)	15:39								
23	08:30		15:30 (E1)	07:25		06:12	05:51	04:48	04:25	04:59	05:59	07:01	08:03	08:09	15:10 (E1)	08:49							
	16:25	18 15:48 (E1)	17:34		18:34	20:38	21:38	22:10	21:44	20:37	19:15	17:56	15:54	6 15:16 (E1)	15:39								
24	08:28		15:30 (E1)	07:23		06:10	05:49	04:46	04:25	05:00	06:01	07:03	08:05	08:11	15:12 (E1)	08:50							
	16:27	19 15:49 (E1)	17:36		18:36	20:41	21:40	22:10	21:43	20:34	19:12	17:54	15:53	2 15:14 (E1)	15:40								
25	08:27		15:30 (E1)	07:20		06:07	05:46	04:45	04:26	05:02	06:03	07:05	07:07	08:13	15:11	08:50							
	16:29	20 15:50 (E1)	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		15:30 (E1)	07:18		06:04	05:44	04:43	04:26	05:04	06:05	07:07	07:09	08:15	15:11	08:50							
	16:32	20 15:50 (E1)	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		15:30 (E1)	07:15		06:02	05:41	04:42	04:27	05:06	06:07	07:09	07:11	08:17	15:11	08:51							
	16:34	21 15:51 (E1)	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		15:30 (E1)	07:13		05:59	05:39	04:40	04:27	05:08	06:09	07:11	07:13	08:19	15:11	08:51							
	16:36	21 15:51 (E1)	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		15:30 (E1)			06:56	05:37	04:39	04:28	05:09	06:11	07:13	07:16	08:20	15:11	08:51							
	16:38	21 15:51 (E1)			19:46	20:51	21:48	22:09	21:33	20:21	18:58	16:42	15:46		15:44								
30	08:18		15:31 (E1)			06:54	05:34	04:38	04:29	05:11	06:13	07:15	07:18	08:22	15:11	08:51							
	16:40	20 15:51 (E1)			19:48	20:53	21:49	22:09	21:32	20:19	18:56	16:40	15:45		15:45								
31	08:16		15:31 (E1)			06:51	04:36		05:13	06:15		07:20			08:51								
	16:42	20 15:51 (E1)			19:50		21:51		21:30	20:16		16:38			15:46								
Potential sun hours	235		266		366		426		508		529		469		385		324		247		301		216
Total, worst case		222																				0.08	
Sun reduction		0.13																				0.08	
Oper. time red.		0.98																				0.65	
Wind dir. red.		0.65																				0.05	
Total reduction		0.09																				0.05	
Total, real		19																				16	

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:

25/06/2024 23:53/4.0.540

## 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		08:15		07:11		07:48 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	11	07:59 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:50 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	6	07:56 (E13)	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	
	15:53		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		16:56		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	2	09:24 (E14)	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 (E14)	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 (E14)	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 (E14)	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 (E14)	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	12	09:27 (E14)	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	14	09:28 (E14)	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	16	09:28 (E14)	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	16	09:28 (E14)	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	16	09:29 (E14)	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	16	09:29 (E14)	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	09:28 (E14)	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	14	09:29 (E14)	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	12	09:28 (E14)	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	10	09:27 (E14)	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	7	09:26 (E14)	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	15	08:01 (E13)	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	14	08:01 (E13)	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		177		88		17						
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		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 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	2	09:04 (E14) 09:06 (E14)
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	08:23 (E13) 08:31 (E13)		07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	12	08:20 (E13) 08:32 (E13)		07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	14	08:20 (E13) 08:34 (E13)		07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	15	08:19 (E13) 08:34 (E13)		07:53 16:08
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15	16	08:18 (E13) 08:34 (E13)	7	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	14	08:20 (E13) 08:34 (E13)	10	08:50 (E14) 09:00 (E14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	11	08:22 (E13) 08:33 (E13)	12	08:50 (E14) 09:02 (E14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	8	08:25 (E13) 08:33 (E13)	14	08:49 (E14) 09:03 (E14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	4	08:27 (E13) 08:31 (E13)	16	08:49 (E14) 09:03 (E14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02		08:05 15:58	16	08:49 (E14) 09:05 (E14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56	16	08:49 (E14) 09:05 (E14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	16	08:49 (E14) 09:05 (E14)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	16	08:49 (E14) 09:05 (E14)
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	14	08:51 (E14) 09:05 (E14)
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 16:50		08:15 15:51	12	08:54 (E14) 09:06 (E14)
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:50	10	08:56 (E14) 09:06 (E14)
28	05:08 21:36	06:09 20:25	07:11 19:02	08:14 16:45		08:19 15:48	8	08:58 (E14) 09:06 (E14)
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	6	09:00 (E14) 09:06 (E14)
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41		08:23 15:46	4	09:02 (E14) 09:06 (E14)
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				102		175		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				16		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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 15:49	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 21:31	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		08:50 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:

25/06/2024 23:53/4.0.540

## 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 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	17	07:54 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:35 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	18	07:53 (E13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:35 (E13)	06:44	05:28		04:34	
	15:51		16:50		17:52	19	07:54 (E13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:35 (E13)	06:41	05:26		04:33	
	15:52		16:52		17:54	18	07:53 (E13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:35 (E13)	06:38	05:24		04:32	
	15:53		16:54		17:56	16	07:51 (E13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:37 (E13)	06:36	05:21		04:31	
	15:55		16:56		17:58	14	07:51 (E13)	20:03	21:06		21:59	
7	08:48		08:03		06:55		07:38 (E13)	06:33	05:19		04:30	
	15:56	2	09:28 (E14)	16:59	18:01	10	07:48 (E13)	20:06	21:08		22:00	
8	08:48		08:01		06:53			06:30	05:17		04:29	
	15:58	4	09:29 (E14)	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	6	09:30 (E14)	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	8	09:31 (E14)	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	10	09:32 (E14)	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	12	09:33 (E14)	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	14	09:33 (E14)	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	16	09:34 (E14)	17:14	18:15			20:20	21:22		22:07	
15	08:41		07:45		06:34			06:12	05:03		04:26	
	16:10	18	09:35 (E14)	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	19	09:35 (E14)	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	20	09:36 (E14)	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	20	09:36 (E14)	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	20	09:36 (E14)	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	09:36 (E14)	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	09:36 (E14)	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	09:36 (E14)	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	09:35 (E14)	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	15	09:36 (E14)	17:37	18:36			20:41	21:40		22:10	
25	08:27		07:21		06:08			05:47	04:45		04:26	
	16:30	13	09:35 (E14)	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	11	09:34 (E14)	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	6	09:32 (E14)	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	14	07:54 (E13)	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		284		35		112						
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		22		4		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	10	09:04 (E14) 09:14 (E14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	8	09:14 (E14) 09:08 (E14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:29	6	09:14 (E14) 09:09 (E14)
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43		07:31 16:27	4	09:13 (E14) 09:11 (E14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	08:16 (E13) 08:23 (E13)	07:34 16:25	2	09:13 (E14) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:13 (E13) 08:25 (E13)	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	08:12 (E13) 08:27 (E13)	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	08:11 (E13) 08:28 (E13)	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	08:10 (E13) 08:28 (E13)	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	08:09 (E13) 08:28 (E13)	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	08:09 (E13) 08:27 (E13)	07:47 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 (E13) 08:27 (E13)	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	08:14 (E13) 08:27 (E13)	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	08:16 (E13) 08:25 (E13)	07:53 16:08	08:58 (E14) 09:05 (E14)	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	08:18 (E13) 08:24 (E13)	07:55 16:06	08:56 (E14) 09:07 (E14)	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	08:20 (E13) 08:21 (E13)	07:57 16:04	08:55 (E14) 09:08 (E14)	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	08:21 (E13) 16:02	16:04 15:59	08:55 (E14) 09:10 (E14)	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	15:58 16:01	08:54 (E14) 09:10 (E14)	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	16:03 15:59	08:53 (E14) 09:11 (E14)	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	16:05 15:58	08:54 (E14) 09:12 (E14)	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	16:07 15:56	08:54 (E14) 09:12 (E14)	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	16:09 15:55	08:53 (E14) 09:13 (E14)	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	16:11 15:53	08:53 (E14) 09:13 (E14)	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	16:13 15:52	08:54 (E14) 09:13 (E14)	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	16:15 15:51	08:55 (E14) 09:14 (E14)	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	16:17 15:49	08:56 (E14) 09:14 (E14)	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	16:21 15:48	08:58 (E14) 09:14 (E14)	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	16:23 15:47	09:00 (E14) 09:14 (E14)	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	16:25 15:46	09:02 (E14) 09:14 (E14)	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				151		254		30
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				24		12		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		07:39 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	17	07:56 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:39 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	16	07:55 (E13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:40 (E13)	06:44	05:28		04:34	
	15:51		16:50		17:52	15	07:55 (E13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:41 (E13)	06:41	05:26		04:33	
	15:52		16:52		17:54	12	07:53 (E13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:43 (E13)	06:38	05:24		04:32	
	15:53		16:54		17:56	8	07:51 (E13)	20:01	21:04		21:58	
6	08:49		08:05		06:58			06:36	05:21		04:31	
	15:55		16:56		17:58			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	2	09:24 (E14)	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 (E14)	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 (E14)	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	9	09:27 (E14)	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	11	09:28 (E14)	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 (E14)	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 (E14)	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 (E14)	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 (E14)	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 (E14)	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	17	09:30 (E14)	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	17	09:30 (E14)	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	09:30 (E14)	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	15	09:30 (E14)	17:37	18:36	4	07:54 (E13)	20:41	21:40		22:11	
25	08:27		07:21		06:08			05:47	04:45		04:26	
	16:30	14	09:30 (E14)	17:39	18:39	8	07:48 (E13)	20:43	21:42		22:11	
26	08:26		07:18		06:05			05:44	04:44		04:27	
	16:32	12	09:29 (E14)	17:41	18:41	11	07:56 (E13)	20:45	21:43		22:10	
27	08:24		07:16		06:02			05:42	04:42		04:27	
	16:34	8	09:27 (E14)	17:43	18:43	14	07:56 (E13)	20:47	21:45		22:10	
28	08:22		07:13		06:00			05:40	04:41		04:28	
	16:37	3	09:25 (E14)	17:45	18:45	17	07:57 (E13)	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		216		54		68						
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		17		7		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	2	09:04 (E14) 09:06 (E14)
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	5	08:20 (E13) 08:25 (E13)		07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	10	08:17 (E13) 08:27 (E13)		07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	13	08:15 (E13) 08:28 (E13)		07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	15	08:14 (E13) 08:29 (E13)		07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	16	08:13 (E13) 08:29 (E13)		07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	17	08:12 (E13) 08:29 (E13)		07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	15	08:14 (E13) 08:29 (E13)	4	08:53 (E14) 08:57 (E14)
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	13	08:16 (E13) 08:29 (E13)	9	08:51 (E14) 09:00 (E14)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	10	08:18 (E13) 08:28 (E13)	12	08:50 (E14) 09:02 (E14)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	6	08:20 (E13) 08:26 (E13)	14	08:49 (E14) 09:03 (E14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	2	08:22 (E13) 08:24 (E13)	15	08:49 (E14) 09:04 (E14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07		08:01 16:01	17	08:48 (E14) 09:05 (E14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04		08:03 15:59	17	08:48 (E14) 09:05 (E14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02		08:05 15:58	17	08:49 (E14) 09:06 (E14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56	18	08:48 (E14) 09:06 (E14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	18	08:50 (E14) 09:06 (E14)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	17	08:49 (E14) 09:06 (E14)
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	15	08:51 (E14) 09:06 (E14)
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50		08:15 15:51	13	08:54 (E14) 09:07 (E14)
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:50	11	08:56 (E14) 09:07 (E14)
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45		08:19 15:48	9	08:58 (E14) 09:07 (E14)
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	7	09:00 (E14) 09:07 (E14)
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41		08:23 15:46	4	09:02 (E14) 09:06 (E14)
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				122		217		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				19		10		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		08:15		07:11		07:37 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	15	07:52 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:35 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	17	07:52 (E13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:36 (E13)	06:44	05:28		04:34	
	15:51		16:50		17:52	16	07:52 (E13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:36 (E13)	06:41	05:26		04:33	
	15:52		16:52		17:54	15	07:51 (E13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:37 (E13)	06:38	05:24		04:32	
	15:53		16:54		17:56	13	07:50 (E13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:38 (E13)	06:36	05:21		04:31	
	15:55		16:56		17:58	10	07:48 (E13)	20:03	21:06		21:59	
7	08:48		08:03		06:55		07:42 (E13)	06:33	05:19		04:30	
	15:56		16:59		18:01	2	07:44 (E13)	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	09:19 (E14)	07:50		06:40			06:17	05:07		04:26	
	16:06	2	09:21 (E14)	17:12	18:13			20:18	21:20		22:06	
14	08:42		09:18 (E14)	07:47	06:37			06:15	05:05		04:26	
	16:08	5	09:23 (E14)	17:14	18:16			20:20	21:22		22:07	
15	08:41		09:17 (E14)	07:45	06:34			06:12	05:03		04:26	
	16:10	7	09:24 (E14)	17:17	18:18			20:22	21:24		22:07	
16	08:40		09:15 (E14)	07:43	06:32			06:09	05:01		04:26	
	16:12	9	09:24 (E14)	17:19	18:20			20:24	21:26		22:08	
17	08:39		09:14 (E14)	07:40	06:29			06:07	04:59		04:25	
	16:14	12	09:26 (E14)	17:21	18:22			20:26	21:27		22:09	
18	08:38		09:12 (E14)	07:38	06:26			06:04	04:57		04:25	
	16:16	14	09:26 (E14)	17:23	18:24			20:28	21:29		22:09	
19	08:36		09:10 (E14)	07:36	06:24			06:02	04:55		04:25	
	16:18	16	09:26 (E14)	17:26	18:26			20:31	21:31		22:09	
20	08:35		09:09 (E14)	07:33	06:21			05:59	04:53		04:25	
	16:20	18	09:27 (E14)	17:28	18:28			20:33	21:33		22:10	
21	08:33		09:09 (E14)	07:31	06:18			05:57	04:52		04:25	
	16:22	18	09:27 (E14)	17:30	18:30			20:35	21:35		22:10	
22	08:32		09:09 (E14)	07:28	06:16			05:54	04:50		04:26	
	16:24	18	09:27 (E14)	17:32	18:32			20:37	21:37		22:10	
23	08:30		09:10 (E14)	07:26	06:13			05:52	04:48		04:26	
	16:26	17	09:27 (E14)	17:34	18:34			20:39	21:38		22:10	
24	08:29		09:11 (E14)	07:23	06:10			05:49	04:47		04:26	
	16:28	17	09:28 (E14)	17:37	18:36			20:41	21:40		22:11	
25	08:27		09:12 (E14)	07:21	06:08			05:47	04:45		04:26	
	16:30	16	09:28 (E14)	17:39	2	07:50 (E13)	18:39	20:43	21:42		22:11	
26	08:26		09:12 (E14)	07:18	06:05			05:44	04:44		04:27	
	16:32	15	09:27 (E14)	17:41	6	07:51 (E13)	18:41	20:45	21:43		22:10	
27	08:24		09:13 (E14)	07:16	06:02			05:42	04:42		04:27	
	16:34	13	09:26 (E14)	17:43	10	07:52 (E13)	18:43	20:47	21:45		22:10	
28	08:22		09:15 (E14)	07:13	06:00			05:40	04:41		04:28	
	16:37	10	09:25 (E14)	17:45	13	07:53 (E13)	18:45	20:49	21:47		22:10	
29	08:20		09:17 (E14)		06:57			05:37	04:40		04:29	
	16:39	6	09:23 (E14)		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		213		31		88						
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		4		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 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	7	08:15 (E13) 08:22 (E13)		08:34 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	12	08:13 (E13) 08:25 (E13)		08:35 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	14	08:12 (E13) 08:26 (E13)		08:37 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	16	08:10 (E13) 08:26 (E13)		08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	17	08:09 (E13) 08:26 (E13)		08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	17	08:09 (E13) 08:26 (E13)		08:41 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	14	08:11 (E13) 08:25 (E13)	6	08:49 (E14) 08:55 (E14)
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	11	08:14 (E13) 08:25 (E13)	10	08:47 (E14) 08:57 (E14)
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	8	08:16 (E13) 08:24 (E13)	13	08:46 (E14) 08:59 (E14)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	5	08:18 (E13) 08:23 (E13)	15	08:45 (E14) 09:00 (E14)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12		07:57 16:04	16	08:45 (E14) 09:01 (E14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09		07:59 16:03	17	08:45 (E14) 09:02 (E14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07		08:01 16:01	17	08:45 (E14) 09:02 (E14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04		08:03 15:59	18	08:44 (E14) 09:02 (E14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02		08:05 15:58	18	08:45 (E14) 09:03 (E14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56	18	08:45 (E14) 09:03 (E14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	16	08:47 (E14) 09:03 (E14)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	14	08:49 (E14) 09:03 (E14)
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	12	08:51 (E14) 09:03 (E14)
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50		08:15 15:51	9	08:54 (E14) 09:03 (E14)
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:50	7	08:56 (E14) 09:03 (E14)
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45		08:19 15:48	5	08:58 (E14) 09:03 (E14)
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	2	09:00 (E14) 09:02 (E14)
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				121		213		
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		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		08:15		07:11		07:37 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	13	07:50 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:34 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	16	07:50 (E13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:33 (E13)	06:44	05:28		04:34	
	15:51		16:50		17:52	17	07:50 (E13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:33 (E13)	06:41	05:26		04:33	
	15:52		16:52		17:54	16	07:49 (E13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:34 (E13)	06:38	05:24		04:32	
	15:53		16:54		17:56	15	07:49 (E13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:35 (E13)	06:36	05:21		04:31	
	15:55		16:56		17:58	12	07:47 (E13)	20:03	21:06		21:59	
7	08:48		08:03		06:55		07:36 (E13)	06:33	05:19		04:30	
	15:56		16:59		18:01	9	07:45 (E13)	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	2	09:19 (E14)	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	5	09:20 (E14)	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	7	09:21 (E14)	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	9	09:21 (E14)	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	12	09:22 (E14)	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	14	09:23 (E14)	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	16	09:23 (E14)	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	09:24 (E14)	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	18	09:24 (E14)	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	18	09:25 (E14)	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	16	09:24 (E14)	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	16	09:24 (E14)	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	15	09:24 (E14)	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	13	09:23 (E14)	17:45	18:45			20:49	21:47		22:10	
29	08:20		07:11		06:57			05:37	04:40		04:29	
	16:39	11	09:22 (E14)		19:47			20:51	21:48		22:10	
30	08:19		07:13		06:54			05:35	04:38		04:29	
	16:41	8	09:21 (E14)		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		198		19		98						
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		2		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)
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Project:

Mezares\_AB211223

Licensed user:

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Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		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 (E13)	07:34	08:32
	22:06	21:17	20:01	18:40	5 08:19 (E13)	16:25	15:41
7	04:36	05:27	06:29	07:30	08:11 (E13)	07:36	08:34
	22:05	21:15	19:58	18:38	10 08:21 (E13)	16:23	15:40
8	04:37	05:29	06:31	07:32	08:10 (E13)	07:38	08:35
	22:04	21:13	19:56	18:35	14 08:24 (E13)	16:21	15:40
9	04:38	05:31	06:33	07:34	08:09 (E13)	07:40	08:37
	22:03	21:11	19:53	18:33	15 08:24 (E13)	16:19	15:39
10	04:39	05:33	06:35	07:36	08:08 (E13)	07:42	08:38
	22:02	21:09	19:50	18:30	16 08:24 (E13)	16:17	15:39
11	04:41	05:35	06:37	07:38	08:07 (E13)	07:44	08:39
	22:01	21:06	19:48	18:27	17 08:24 (E13)	16:15	15:39
12	04:42	05:37	06:39	07:40	08:09 (E13)	07:47	08:41
	22:00	21:04	19:45	18:25	14 08:23 (E13)	16:13	8 08:52 (E14) 15:38
13	04:43	05:39	06:41	07:42	08:11 (E13)	07:49	08:43 (E14) 08:42
	21:59	21:02	19:42	18:22	12 08:23 (E13)	16:11	11 08:54 (E14) 15:38
14	04:45	05:41	06:43	07:44	08:14 (E13)	07:51	08:42 (E14) 08:43
	21:58	20:59	19:39	18:20	9 08:23 (E13)	16:09	13 08:55 (E14) 15:38
15	04:46	05:43	06:45	07:46	08:16 (E13)	07:53	08:42 (E14) 08:44
	21:57	20:57	19:37	18:17	5 08:21 (E13)	16:08	15 08:57 (E14) 15:38
16	04:48	05:45	06:47	07:48	08:18 (E13)	07:55	08:41 (E14) 08:45
	21:55	20:54	19:34	18:15	1 08:19 (E13)	16:06	16 08:57 (E14) 15:38
17	04:49	05:47	06:49	07:50		07:57	08:40 (E14) 08:46
	21:54	20:52	19:31	18:12		16:04	17 08:57 (E14) 15:38
18	04:51	05:49	06:51	07:53		07:59	08:41 (E14) 08:46
	21:53	20:50	19:29	18:09		16:03	18 08:59 (E14) 15:38
19	04:53	05:51	06:53	07:55		08:01	08:41 (E14) 08:47
	21:51	20:47	19:26	18:07		16:01	18 08:59 (E14) 15:38
20	04:54	05:53	06:55	07:57		08:03	08:41 (E14) 08:48
	21:50	20:45	19:23	18:04		15:59	18 08:59 (E14) 15:39
21	04:56	05:55	06:57	07:59		08:05	08:43 (E14) 08:49
	21:48	20:42	19:21	18:02		15:58	16 08:59 (E14) 15:39
22	04:58	05:57	06:59	08:01		08:07	08:45 (E14) 08:49
	21:46	20:40	19:18	18:00		15:56	14 08:59 (E14) 15:40
23	04:59	05:59	07:01	08:03		08:09	08:47 (E14) 08:50
	21:45	20:37	19:15	17:57		15:55	12 08:59 (E14) 15:40
24	05:01	06:01	07:03	08:05		08:11	08:49 (E14) 08:50
	21:43	20:35	19:12	17:55		15:53	10 08:59 (E14) 15:41
25	05:03	06:03	07:05	07:07		08:13	08:51 (E14) 08:50
	21:41	20:32	19:10	16:52		15:52	7 08:58 (E14) 15:41
26	05:05	06:05	07:07	07:10		08:15	08:54 (E14) 08:51
	21:39	20:30	19:07	16:50		15:51	5 08:59 (E14) 15:42
27	05:06	06:07	07:09	07:12		08:17	08:56 (E14) 08:51
	21:38	20:27	19:04	16:48		15:50	2 08:58 (E14) 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				118		200	
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		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		08:15		07:11		07:37 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	14	07:51 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:34 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	17	07:51 (E13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:34 (E13)	06:44	05:28		04:34	
	15:51		16:50		17:52	17	07:51 (E13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:34 (E13)	06:41	05:26		04:33	
	15:52		16:52		17:54	16	07:50 (E13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:35 (E13)	06:38	05:24		04:32	
	15:53		16:54		17:56	15	07:50 (E13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:36 (E13)	06:36	05:21		04:31	
	15:55		16:56		17:58	12	07:48 (E13)	20:03	21:06		21:59	
7	08:48		08:03		06:55		07:38 (E13)	06:33	05:19		04:30	
	15:56		16:59		18:01	8	07:46 (E13)	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	09:19 (E14)	07:50		06:40			06:17	05:07		04:26	
	16:06	2	09:21 (E14)	17:12	18:13			20:18	21:20		22:06	
14	08:42		09:18 (E14)	07:47	06:37			06:15	05:05		04:26	
	16:08	5	09:23 (E14)	17:14	18:16			20:20	21:22		22:07	
15	08:41		09:17 (E14)	07:45	06:34			06:12	05:03		04:26	
	16:10	7	09:24 (E14)	17:17	18:18			20:22	21:24		22:07	
16	08:40		09:15 (E14)	07:43	06:32			06:09	05:01		04:26	
	16:12	9	09:24 (E14)	17:19	18:20			20:24	21:26		22:08	
17	08:39		09:14 (E14)	07:40	06:29			06:07	04:59		04:25	
	16:14	12	09:26 (E14)	17:21	18:22			20:26	21:27		22:09	
18	08:38		09:12 (E14)	07:38	06:26			06:04	04:57		04:25	
	16:16	14	09:26 (E14)	17:23	18:24			20:28	21:29		22:09	
19	08:36		09:10 (E14)	07:36	06:24			06:02	04:55		04:25	
	16:18	16	09:26 (E14)	17:26	18:26			20:31	21:31		22:09	
20	08:35		09:09 (E14)	07:33	06:21			05:59	04:53		04:25	
	16:20	18	09:27 (E14)	17:28	18:28			20:33	21:33		22:10	
21	08:33		09:09 (E14)	07:31	06:18			05:57	04:52		04:25	
	16:22	18	09:27 (E14)	17:30	18:30			20:35	21:35		22:10	
22	08:32		09:09 (E14)	07:28	06:16			05:54	04:50		04:26	
	16:24	18	09:27 (E14)	17:32	18:32			20:37	21:37		22:10	
23	08:30		09:09 (E14)	07:26	06:13			05:52	04:48		04:26	
	16:26	18	09:27 (E14)	17:34	18:34			20:39	21:38		22:10	
24	08:29		09:11 (E14)	07:23	06:10			05:49	04:47		04:26	
	16:28	17	09:28 (E14)	17:37	18:36			20:41	21:40		22:11	
25	08:27		09:11 (E14)	07:21	06:08			05:47	04:45		04:26	
	16:30	17	09:28 (E14)	17:39	18:39			20:43	21:42		22:11	
26	08:26		09:12 (E14)	07:18	06:05	07:45 (E13)		05:44	04:44		04:27	
	16:32	15	09:27 (E14)	17:41	18:41	4	07:49 (E13)	20:45	21:43		22:10	
27	08:24		09:13 (E14)	07:16	06:02	07:42 (E13)		05:42	04:42		04:27	
	16:34	14	09:27 (E14)	17:43	18:43	8	07:50 (E13)	20:47	21:45		22:10	
28	08:22		09:15 (E14)	07:13	06:00	07:40 (E13)		05:40	04:41		04:28	
	16:37	11	09:26 (E14)	17:45	18:45	11	07:51 (E13)	20:49	21:47		22:10	
29	08:20		09:17 (E14)		06:57			05:37	04:40		04:29	
	16:39	7	09:24 (E14)		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		218		23		99						
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		3		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:16 (E13)	07:34	08:32
	22:06	21:17	20:01	18:40	4 08:20 (E13)	16:25	15:41
7	04:36	05:27	06:29	07:30	08:12 (E13)	07:36	08:34
	22:05	21:15	19:58	18:38	11 08:23 (E13)	16:23	15:40
8	04:37	05:29	06:31	07:32	08:11 (E13)	07:38	08:35
	22:04	21:13	19:56	18:35	14 08:25 (E13)	16:21	15:40
9	04:38	05:31	06:33	07:34	08:10 (E13)	07:40	08:37
	22:03	21:11	19:53	18:33	15 08:25 (E13)	16:19	15:39
10	04:39	05:33	06:35	07:36	08:09 (E13)	07:42	08:38
	22:02	21:09	19:50	18:30	16 08:25 (E13)	16:17	15:39
11	04:41	05:35	06:37	07:38	08:08 (E13)	07:44	08:39
	22:01	21:06	19:48	18:27	17 08:25 (E13)	16:15	15:39
12	04:42	05:37	06:39	07:40	08:09 (E13)	07:47	08:41
	22:00	21:04	19:45	18:25	16 08:25 (E13)	16:13	15:38
13	04:43	05:39	06:41	07:42	08:11 (E13)	07:49	08:42
	21:59	21:02	19:42	18:22	13 08:24 (E13)	16:11	8 08:56 (E14) 15:38
14	04:45	05:41	06:43	07:44	08:14 (E13)	07:51	08:46 (E14) 08:43
	21:58	20:59	19:39	18:20	10 08:24 (E13)	16:09	12 08:58 (E14) 15:38
15	04:46	05:43	06:45	07:46	08:16 (E13)	07:53	08:46 (E14) 08:44
	21:57	20:57	19:37	18:17	7 08:23 (E13)	16:08	14 09:00 (E14) 15:38
16	04:48	05:45	06:47	07:48	08:18 (E13)	07:55	08:45 (E14) 08:45
	21:55	20:54	19:34	18:15	3 08:21 (E13)	16:06	15 09:00 (E14) 15:38
17	04:49	05:47	06:49	07:50		07:57	08:44 (E14) 08:46
	21:54	20:52	19:31	18:12		16:04	17 09:01 (E14) 15:38
18	04:51	05:49	06:51	07:53		07:59	08:45 (E14) 08:46
	21:53	20:50	19:29	18:09		16:03	17 09:02 (E14) 15:38
19	04:53	05:51	06:53	07:55		08:01	08:44 (E14) 08:47
	21:51	20:47	19:26	18:07		16:01	18 09:02 (E14) 15:38
20	04:54	05:53	06:55	07:57		08:03	08:44 (E14) 08:48
	21:50	20:45	19:23	18:04		15:59	18 09:02 (E14) 15:39
21	04:56	05:55	06:57	07:59		08:05	08:45 (E14) 08:49
	21:48	20:42	19:21	18:02		15:58	18 09:03 (E14) 15:39
22	04:58	05:57	06:59	08:01		08:07	08:45 (E14) 08:49
	21:46	20:40	19:18	18:00		15:56	18 09:03 (E14) 15:40
23	04:59	05:59	07:01	08:03		08:09	08:47 (E14) 08:50
	21:45	20:37	19:15	17:57		15:55	16 09:03 (E14) 15:40
24	05:01	06:01	07:03	08:05		08:11	08:49 (E14) 08:50
	21:43	20:35	19:12	17:55		15:53	14 09:03 (E14) 15:41
25	05:03	06:03	07:05	07:07		08:13	08:51 (E14) 08:50
	21:41	20:32	19:10	16:52		15:52	12 09:03 (E14) 15:41
26	05:05	06:05	07:07	07:10		08:15	08:54 (E14) 08:51
	21:39	20:30	19:07	16:50		15:51	9 09:03 (E14) 15:42
27	05:06	06:07	07:09	07:12		08:17	08:56 (E14) 08:51
	21:38	20:27	19:04	16:48		15:50	7 09:03 (E14) 15:43
28	05:08	06:09	07:11	07:14		08:19	08:58 (E14) 08:51
	21:36	20:24	19:02	16:45		15:48	5 09:03 (E14) 15:44
29	05:10	06:11	07:13	07:16		08:21	09:00 (E14) 08:51
	21:34	20:22	18:59	16:43		15:47	2 09:02 (E14) 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				126		220	
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		11	

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)
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Project:

Mezares\_AB211223

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Vilandes 3-6

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Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		08:15		07:11	07:37 (E13)	06:49	05:33	04:36
	15:48		16:45		17:48	9 07:46 (E13)	19:53	20:56	21:53
2	08:51		08:13		07:08	07:34 (E13)	06:46	05:30	04:35
	15:49		16:48		17:50	12 07:46 (E13)	19:55	20:58	21:54
3	08:50		08:11		07:06	07:32 (E13)	06:44	05:28	04:34
	15:51		16:50		17:52	15 07:47 (E13)	19:57	21:00	21:55
4	08:50		08:09		07:03	07:29 (E13)	06:41	05:26	04:33
	15:52		16:52		17:54	18 07:47 (E13)	19:59	21:02	21:57
5	08:49		08:07		07:01	07:28 (E13)	06:38	05:24	04:32
	15:53		16:54		17:56	19 07:47 (E13)	20:01	21:04	21:58
6	08:49		08:05		06:58	07:29 (E13)	06:36	05:21	04:31
	15:55		16:56		17:58	18 07:47 (E13)	20:03	21:06	21:59
7	08:48		08:03		06:55	07:29 (E13)	06:33	05:19	04:30
	15:56		16:59		18:01	17 07:46 (E13)	20:06	21:08	22:00
8	08:48		08:01		06:53	07:29 (E13)	06:30	05:17	04:29
	15:58		17:01		18:03	15 07:44 (E13)	20:08	21:10	22:01
9	08:47		07:58		06:50	07:31 (E13)	06:28	05:15	04:29
	16:00		17:03		18:05	12 07:43 (E13)	20:10	21:12	22:02
10	08:46		07:56		06:48	07:33 (E13)	06:25	05:13	04:28
	16:01		17:05		18:07	7 07:40 (E13)	20:12	21:14	22:03
11	08:45	09:22 (E14)	07:54		06:45		06:22	05:11	04:27
	16:03	3 09:25 (E14)	17:08		18:09		20:14	21:16	22:04
12	08:44	09:21 (E14)	07:52		06:42		06:20	05:09	04:27
	16:05	5 09:26 (E14)	17:10		18:11		20:16	21:18	22:05
13	08:43	09:19 (E14)	07:50		06:40		06:17	05:07	04:26
	16:06	7 09:26 (E14)	17:12		18:13		20:18	21:20	22:06
14	08:42	09:18 (E14)	07:47		06:37		06:15	05:05	04:26
	16:08	10 09:28 (E14)	17:14		18:15		20:20	21:22	22:07
15	08:41	09:17 (E14)	07:45		06:34		06:12	05:03	04:26
	16:10	12 09:29 (E14)	17:17		18:18		20:22	21:24	22:07
16	08:40	09:15 (E14)	07:43		06:32		06:09	05:01	04:26
	16:12	14 09:29 (E14)	17:19		18:20		20:24	21:26	22:08
17	08:39	09:14 (E14)	07:40		06:29		06:07	04:59	04:25
	16:14	16 09:30 (E14)	17:21		18:22		20:26	21:27	22:09
18	08:38	09:12 (E14)	07:38		06:26		06:04	04:57	04:25
	16:16	18 09:30 (E14)	17:23		18:24		20:28	21:29	22:09
19	08:36	09:11 (E14)	07:36		06:24		06:02	04:55	04:25
	16:18	20 09:31 (E14)	17:26		18:26		20:31	21:31	22:09
20	08:35	09:12 (E14)	07:33		06:21		05:59	04:53	04:25
	16:20	20 09:32 (E14)	17:28		18:28		20:33	21:33	22:10
21	08:33	09:12 (E14)	07:31		06:18		05:57	04:52	04:25
	16:22	20 09:32 (E14)	17:30		18:30		20:35	21:35	22:10
22	08:32	09:12 (E14)	07:28		06:16		05:54	04:50	04:26
	16:24	20 09:32 (E14)	17:32		18:32		20:37	21:37	22:10
23	08:30	09:12 (E14)	07:26		06:13		05:52	04:48	04:26
	16:26	20 09:32 (E14)	17:34		18:34		20:39	21:38	22:10
24	08:29	09:14 (E14)	07:23		06:10		05:49	04:47	04:26
	16:28	18 09:32 (E14)	17:37		18:36		20:41	21:40	22:10
25	08:27	09:14 (E14)	07:21		06:08		05:47	04:45	04:26
	16:30	18 09:32 (E14)	17:39		18:39		20:43	21:42	22:10
26	08:26	09:15 (E14)	07:18		06:05		05:44	04:44	04:27
	16:32	17 09:32 (E14)	17:41		18:41		20:45	21:43	22:10
27	08:24	09:16 (E14)	07:16		06:02		05:42	04:42	04:27
	16:34	15 09:31 (E14)	17:43		18:43		20:47	21:45	22:10
28	08:22	09:18 (E14)	07:13	07:40 (E13)	06:00		05:40	04:41	04:28
	16:37	12 09:30 (E14)	17:45	5 07:45 (E13)	18:45		20:49	21:47	22:10
29	08:20	09:19 (E14)			06:57		05:37	04:40	04:29
	16:39	10 09:29 (E14)			19:47		20:51	21:48	22:10
30	08:19	09:24 (E14)			06:54		05:35	04:38	04:29
	16:41	1 09:25 (E14)			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		276		5		142			
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		21		1		36			

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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	08:13 (E13) 3 08:16 (E13)	07:27 16:32
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	08:09 (E13) 11 08:20 (E13)	07:29 16:29
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	08:07 (E13) 14 08:21 (E13)	07:31 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	08:05 (E13) 17 08:22 (E13)	07:34 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	08:04 (E13) 18 08:22 (E13)	07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	08:04 (E13) 19 08:23 (E13)	07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	08:04 (E13) 18 08:22 (E13)	07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	08:05 (E13) 17 08:22 (E13)	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	08:07 (E13) 14 08:21 (E13)	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:09 (E13) 11 08:20 (E13)	07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:11 (E13) 7 08:18 (E13)	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:14 (E13) 3 08:17 (E13)	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	08:49 (E14) 15 09:04 (E14)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:48 (E14) 17 09:05 (E14)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:47 (E14) 18 09:05 (E14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:48 (E14) 18 09:06 (E14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 (E14) 20 09:07 (E14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:47 (E14) 20 09:07 (E14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 (E14) 20 09:08 (E14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:48 (E14) 20 09:08 (E14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:48 (E14) 20 09:08 (E14)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:49 (E14) 19 09:08 (E14)
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52	08:51 (E14) 16 09:07 (E14)
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50	08:15 15:51	08:54 (E14) 14 09:08 (E14)
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17 15:49	08:56 (E14) 12 09:08 (E14)
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45	08:19 15:48	08:58 (E14) 10 09:08 (E14)
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:21 15:47	09:00 (E14) 8 09:08 (E14)
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41	08:23 15:46	09:02 (E14) 5 09:07 (E14)
31	05:14 21:30	06:15 20:17	07:20 16:38	08:24 15:47	15:46	08:51 216
Potential sun hours	529	469	385	324	247	216
Total, worst case				152	277	3
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				24	13	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Nomales - 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	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:55	06:19 (E14) 06:23 (E14)	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	08:50 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	06:19 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 20:04	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 15:57	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	05:29 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 15:40
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 17:23	06:26 18:24	06:04 20:28	04:57 21:29		04:25 22:09	04:51 21:52	05:49 20:50	06:51 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	06:26 (E14)	04:25 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	06:23 (E14)	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	06:21 (E14)	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	06:19 (E14)	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	06:16 (E14)	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	06:14 (E14)	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	06:15 (E14)	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	06:14 (E14)	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	06:15 (E14)	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	06:16 (E14)	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	04:39 21:50	06:17 (E14)	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	05:33 20:53	04:37 21:51	06:27 (E14)		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					4				142				
Sun reduction				0.50	0.57				0.50				
Oper. time red.				0.98	0.98				0.98				
Wind dir. red.				0.65	0.65				0.65				
Total reduction				0.32	0.36				0.32				
Total, real				43	1				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:

25/06/2024 23:53/4.0.540

## 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	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	08:50 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:

25/06/2024 23:53/4.0.540

## 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	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	08:50 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:

25/06/2024 23:53/4.0.540

## 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
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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
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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
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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:

25/06/2024 23:53/4.0.540

## 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
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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:

25/06/2024 23:53/4.0.540

## 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
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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:

25/06/2024 23:53/4.0.540

## 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
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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:

25/06/2024 23:53/4.0.540

## 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
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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			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:

25/06/2024 23:53/4.0.540

## 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 16:36
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
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
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
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
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
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
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
9	08:47 16:00	07:58 17:03	08:27 (E14)	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
10	08:46 16:01	07:56 17:06	08:25 (E14)	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
11	08:45 16:03	07:54 17:08	08:30 (E14)	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
12	08:44 16:05	07:52 17:10	08:31 (E14)	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
13	08:43 16:06	07:50 17:12	08:18 (E14)	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
14	08:42 16:08	07:47 17:14	08:32 (E14)	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
15	08:41 16:10	07:45 17:17	08:15 (E14)	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
16	08:40 16:12	07:43 17:19	08:32 (E14)	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
17	08:39 16:14	07:40 17:21	08:16 (E14)	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
18	08:38 16:16	07:38 17:23	08:31 (E14)	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
19	08:36 16:18	07:36 17:26	08:30 (E14)	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
20	08:35 16:20	07:33 17:28	08:27 (E14)	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
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
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
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	04:59 21:45	05:59 20:37	07:01 19:15	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 22:11	05:01 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53
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	08:08 17:52	08:13 15:51
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
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
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
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 17:41	08:21 15:47
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
31	08:17 16:43			06:52 19:51		04:37 21:51		05:14 21:30	06:15 20:17	07:21 18:58	08:19 17:41	08:24 15:47
Potential sun hours	235	266		366	426	508	529	529	469	385	324	247
Total, worst case			123								117	
Sun reduction			0.20								0.26	
Oper. time red.			0.98								0.98	
Wind dir. red.			0.62								0.62	
Total reduction			0.12								0.16	
Total, real			15								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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	14:35 (E15) 14:52 (E15)	08:15 16:45		07:11 17:47	16:35 (E13) 16:52 (E13)	06:49 19:53	05:32 20:55		04:36 21:52	05:35 (E8) 05:55 (E8)
2	08:50 15:49	14:35 (E15) 14:52 (E15)	08:13 16:47		07:08 17:50	16:36 (E13) 16:49 (E13)	06:46 19:55	05:30 20:57		04:35 21:54	05:33 (E8) 05:56 (E8)
3	08:50 15:51	14:36 (E15) 14:53 (E15)	08:11 16:50		07:06 17:52	16:40 (E13) 16:47 (E13)	06:43 19:57	05:28 20:59		04:34 21:55	05:32 (E8) 05:57 (E8)
4	08:49 15:52	14:37 (E15) 14:53 (E15)	08:09 16:52		07:03 17:54		06:41 19:59	05:26 21:01		04:33 21:56	05:31 (E8) 05:58 (E8)
5	08:49 15:53	14:38 (E15) 14:54 (E15)	08:07 16:54		07:00 17:56		06:38 20:01	05:23 21:04		04:32 21:58	05:32 (E8) 06:00 (E8)
6	08:49 15:55	14:39 (E15) 14:54 (E15)	08:05 16:56	7	08:34 (E10) 08:41 (E10)	06:58 17:58	06:35 20:03	05:21 21:06		04:31 21:59	05:31 (E8) 06:00 (E8)
7	08:48 15:56	14:39 (E15) 14:53 (E15)	08:03 16:58	12	08:32 (E10) 08:44 (E10)	06:55 18:00	06:33 20:05	05:19 21:08		04:30 22:00	05:30 (E8) 06:01 (E8)
8	08:47 15:58	14:40 (E15) 14:53 (E15)	08:00 17:01	16	08:30 (E10) 08:46 (E10)	06:53 18:03	06:30 20:07	05:17 21:10		04:29 22:01	05:30 (E8) 06:02 (E8)
9	08:47 15:59	14:41 (E15) 14:53 (E15)	07:58 17:03	18	08:28 (E10) 08:46 (E10)	06:50 18:05	06:27 20:10	05:15 21:12		04:28 22:02	05:29 (E8) 06:02 (E8)
10	08:46 16:01	14:43 (E15) 14:53 (E15)	07:56 17:05	20	08:27 (E10) 08:47 (E10)	06:47 18:07	06:25 20:12	05:12 21:14		04:28 22:03	05:30 (E8) 06:03 (E8)
11	08:45 16:03	14:44 (E15) 14:52 (E15)	07:54 17:07	21	08:26 (E10) 08:47 (E10)	06:45 18:09	06:22 20:14	05:10 21:16		04:27 22:04	05:29 (E8) 06:03 (E8)
12	08:44 16:04	09:20 (E11) 14:50 (E15)	07:52 17:10	22	08:26 (E10) 08:48 (E10)	06:42 18:11	06:20 20:16	05:08 21:18		04:27 22:05	05:29 (E8) 06:04 (E8)
13	08:43 16:06	09:19 (E11) 09:24 (E11)	07:49 17:12	23	08:26 (E10) 08:49 (E10)	06:39 18:13	06:17 20:18	05:06 21:20		04:26 22:06	05:29 (E8) 06:05 (E8)
14	08:42 16:08	09:18 (E11) 09:26 (E11)	07:47 17:14	24	08:26 (E10) 08:48 (E10)	06:37 18:15	06:14 20:20	05:04 21:22		04:26 22:07	05:29 (E8) 06:05 (E8)
15	08:41 16:10	09:16 (E11) 09:26 (E11)	07:45 17:16	25	08:26 (E10) 08:49 (E10)	06:34 18:17	06:12 20:22	05:02 21:23		04:26 22:07	05:29 (E8) 06:05 (E8)
16	08:40 16:12	09:15 (E11) 09:28 (E11)	07:42 17:19	26	08:26 (E10) 08:47 (E10)	06:31 18:19	06:09 20:24	05:00 21:25		04:25 22:08	05:29 (E8) 06:06 (E8)
17	08:39 16:14	09:13 (E11) 09:28 (E11)	07:40 17:21	27	08:27 (E10) 08:47 (E10)	06:29 18:22	06:07 20:26	04:59 21:27		04:25 22:08	05:29 (E8) 06:06 (E8)
18	08:37 16:16	09:12 (E11) 09:29 (E11)	07:38 17:23	28	08:27 (E10) 08:49 (E10)	06:26 18:24	06:04 20:28	04:57 21:29		04:25 22:09	05:29 (E8) 06:06 (E8)
19	08:36 16:18	09:11 (E11) 09:30 (E11)	07:35 17:25	29	08:29 (E10) 08:50 (E10)	06:23 18:26	06:02 20:30	04:55 21:31		04:25 22:09	05:29 (E8) 06:07 (E8)
20	08:35 16:20	09:12 (E11) 09:31 (E11)	07:33 17:28	30	08:30 (E10) 08:51 (E10)	06:21 18:28	05:59 20:32	04:53 21:33		04:25 22:10	05:29 (E8) 06:07 (E8)
21	08:33 16:22	09:12 (E11) 09:31 (E11)	07:31 17:30	31	08:32 (E10) 08:53 (E10)	06:18 18:30	05:57 20:35	04:52 21:35		04:25 22:10	05:29 (E8) 06:07 (E8)
22	08:32 16:24	09:12 (E11) 09:31 (E11)	07:28 17:32	22	16:33 (E13) 16:55 (E13)	06:15 18:32	05:54 20:37	04:50 21:36		04:25 22:10	05:30 (E8) 06:08 (E8)
23	08:30 16:26	09:12 (E11) 09:31 (E11)	07:26 17:34	23	16:33 (E13) 16:56 (E13)	06:13 18:34	05:52 20:39	04:48 21:38		04:26 22:10	05:30 (E8) 06:08 (E8)
24	08:29 16:28	09:12 (E11) 09:31 (E11)	07:23 17:36	24	16:32 (E13) 16:56 (E13)	06:10 18:36	05:49 20:41	04:47 21:40		04:26 22:10	05:30 (E8) 06:07 (E8)
25	08:27 16:30	09:13 (E11) 09:32 (E11)	07:21 17:39	25	16:32 (E13) 16:55 (E13)	06:07 18:38	05:47 20:43	04:45 21:42		04:26 22:10	05:31 (E8) 06:08 (E8)
26	08:25 16:32	09:14 (E11) 09:32 (E11)	07:18 17:41	26	16:33 (E13) 16:55 (E13)	06:05 18:40	05:44 20:45	04:44 21:43		04:27 22:10	05:31 (E8) 06:08 (E8)
27	08:24 16:34	09:15 (E11) 09:32 (E11)	07:16 17:43	27	16:33 (E13) 16:54 (E13)	06:02 18:42	05:42 20:47	04:42 21:45		04:27 22:10	05:32 (E8) 06:08 (E8)
28	08:22 16:36	09:16 (E11) 09:31 (E11)	07:13 17:45	28	16:34 (E13) 16:53 (E13)	05:59 18:45	05:39 20:49	04:41 21:46		04:28 22:10	05:32 (E8) 06:08 (E8)
29	08:20 16:38	09:17 (E11) 09:30 (E11)		29	06:57 19:47		05:37 20:51	04:39 21:48		04:28 22:10	05:32 (E8) 06:08 (E8)
30	08:18 16:41	09:19 (E11) 09:29 (E11)		30	06:54 19:49		05:35 20:53	04:38 21:50	6	05:47 (E8) 05:38 (E8)	05:33 (E8) 06:08 (E8)
31	08:16 16:43	09:21 (E11) 09:25 (E11)		31	06:51 19:51		05:37 21:51	04:37 21:51	13	05:51 (E8) 05:36 (E8)	06:08 (E8) 06:08 (E8)
Potential sun hours		235	266	366	426	508	529	1013			
Total, worst case		439	536	350		36		0.56			
Sun reduction		0.13	0.20	0.41		0.57		0.98			
Oper. time red.		0.98	0.98	0.98		0.98		0.67			
Wind dir. red.		0.62	0.64	0.63		0.67		0.37			
Total reduction		0.08	0.13	0.25		0.37					
Total, real		35	68	88		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:33 (E8)	05:16	06:17	07:17	07:53 (E9)	07:22	07:57 (E10)	08:24	14:27 (E15)	
	22:09	35 06:08 (E8)	21:28	20:14	18:53	24 08:17 (E9)	16:36	20 08:17 (E10)	15:45	7 14:34 (E15)	
2	04:31	05:34 (E8)	05:17	06:19	07:19	07:53 (E9)	07:25	07:57 (E10)	08:26	14:25 (E15)	
	22:08	34 06:08 (E8)	21:26	20:11	18:51	23 08:16 (E9)	16:34	19 08:16 (E10)	15:44	10 14:35 (E15)	
3	04:32	05:35 (E8)	05:19	06:21	07:21	07:53 (E9)	07:27	08:00 (E10)	08:27	14:25 (E15)	
	22:08	33 06:08 (E8)	21:24	20:09	18:48	21 08:14 (E9)	16:31	15 08:15 (E10)	15:43	11 14:36 (E15)	
4	04:32	05:35 (E8)	05:21	06:23	07:23	07:54 (E9)	07:29	08:02 (E10)	08:29	14:24 (E15)	
	22:07	33 06:08 (E8)	21:22	20:06	18:45	19 08:13 (E9)	16:29	11 08:13 (E10)	15:42	13 14:37 (E15)	
5	04:33	05:36 (E8)	05:23	06:25	07:25	07:55 (E9)	07:31	08:04 (E10)	08:31	14:25 (E15)	
	22:07	31 06:07 (E8)	21:19	20:03	18:43	16 08:11 (E9)	16:27	6 08:10 (E10)	15:41	14 14:39 (E15)	
6	04:35	05:37 (E8)	05:25	06:27	07:27	07:58 (E9)	07:33		08:32	14:25 (E15)	
	22:06	30 06:07 (E8)	21:17	20:01	18:40	9 08:07 (E9)	16:25		15:41	15 14:40 (E15)	
7	04:36	05:38 (E8)	05:27	06:29	07:29		07:35		08:34	14:24 (E15)	
	22:05	28 06:06 (E8)	21:15	19:58	18:38		16:23		15:40	16 14:40 (E15)	
8	04:37	05:39 (E8)	05:29	06:31	07:31		07:38		08:35	14:25 (E15)	
	22:04	27 06:06 (E8)	21:13	19:55	18:35		16:21		15:40	16 14:41 (E15)	
9	04:38	05:39 (E8)	05:31	06:33	07:34		07:40		08:36	14:25 (E15)	
	22:03	26 06:05 (E8)	21:11	19:53	18:32		16:19		15:39	16 14:41 (E15)	
10	04:39	05:40 (E8)	05:33	06:35	07:36		07:42		08:38	14:25 (E15)	
	22:02	24 06:04 (E8)	21:08	19:50	18:30		16:17		15:39	17 14:42 (E15)	
11	04:41	05:41 (E8)	05:35	06:37	07:38	17:12 (E13)	07:44	08:52 (E11)	08:39	14:25 (E15)	
	22:01	22 06:03 (E8)	21:06	19:47	18:27	10 17:22 (E13)	16:15	5 08:57 (E11)	15:38	17 14:42 (E15)	
12	04:42	05:43 (E8)	05:37	06:39	07:40	17:09 (E13)	07:46	08:50 (E11)	08:40	14:25 (E15)	
	22:00	18 06:01 (E8)	21:04	19:45	18:25	15 17:24 (E13)	16:13	10 09:00 (E11)	15:38	18 14:43 (E15)	
13	04:43	05:45 (E8)	05:39	06:41	07:42	17:07 (E13)	07:48	08:49 (E11)	08:41	14:26 (E15)	
	21:59	16 06:01 (E8)	21:01	19:42	18:22	18 17:25 (E13)	16:11	13 09:02 (E11)	15:38	18 14:44 (E15)	
14	04:45	05:48 (E8)	05:41	06:43	07:44	17:06 (E13)	07:51	08:48 (E11)	08:43	14:27 (E15)	
	21:58	10 05:58 (E8)	20:59	19:39	18:19	20 17:26 (E13)	16:09	15 09:03 (E11)	15:38	17 14:44 (E15)	
15	04:46		05:43	06:45	07:46	17:05 (E13)	07:53	08:47 (E11)	08:44	14:27 (E15)	
	21:56		20:57	19:37	18:17	21 17:26 (E13)	16:07	17 09:04 (E11)	15:38	18 14:45 (E15)	
16	04:48		05:45	06:47	07:48	17:05 (E13)	07:55	08:47 (E11)	08:45	14:27 (E15)	
	21:55		20:54	19:34	18:14	22 17:27 (E13)	16:06	18 09:05 (E11)	15:38	18 14:45 (E15)	
17	04:49		05:47	06:49	07:50	17:04 (E13)	07:57	08:46 (E11)	08:45	14:28 (E15)	
	21:54		20:52	19:31	18:12	23 17:27 (E13)	16:04	19 09:05 (E11)	15:38	18 14:46 (E15)	
18	04:51		05:49	06:51	07:52	17:03 (E13)	07:59	08:46 (E11)	08:46	14:29 (E15)	
	21:52		20:49	19:28	18:09	24 17:27 (E13)	16:02	19 09:05 (E11)	15:38	17 14:46 (E15)	
19	04:52		05:51	06:53	07:54	17:03 (E13)	08:01	08:47 (E11)	08:47	14:28 (E15)	
	21:51		20:47	19:26	18:07	23 17:26 (E13)	16:01	19 09:06 (E11)	15:38	18 14:46 (E15)	
20	04:54		05:53	06:55	07:57	09:06 (E10)	08:03	08:47 (E11)	08:48	14:29 (E15)	
	21:49		20:44	19:23	18:04	25 17:26 (E13)	15:59	19 09:06 (E11)	15:38	18 14:47 (E15)	
21	04:56		05:55	06:57	07:59	09:02 (E10)	08:05	08:47 (E11)	08:48	14:30 (E15)	
	21:48		20:42	19:20	18:02	33 17:26 (E13)	15:57	19 09:06 (E11)	15:39	18 14:48 (E15)	
22	04:57		05:57	06:59	08:01	08:59 (E10)	08:07	08:48 (E11)	08:49	14:30 (E15)	
	21:46		20:40	19:18	15 08:14 (E9)	17:59	36 17:24 (E13)	15:56	19 09:07 (E11)	15:39	18 14:48 (E15)
23	04:59		05:59	07:01	08:03	08:59 (E10)	08:09	08:48 (E11)	08:49	14:30 (E15)	
	21:44		20:37	19:15	19 08:16 (E9)	17:57	36 17:24 (E13)	15:55	19 09:07 (E11)	15:40	18 14:48 (E15)
24	05:01		06:01	07:03	08:05	08:57 (E10)	08:11	08:49 (E11)	08:50	14:31 (E15)	
	21:43		20:34	19:12	21 08:17 (E9)	17:54	35 17:22 (E13)	15:53	17 09:06 (E11)	15:40	18 14:49 (E15)
25	05:03		06:03	07:05	07:55 (E9)	07:07	07:56 (E10)	08:13	08:51 (E11)	08:50	14:31 (E15)
	21:41		20:32	19:10	22 08:17 (E9)	16:52	32 16:19 (E13)	15:52	15 09:06 (E11)	15:41	18 14:49 (E15)
26	05:04		06:05	07:07	07:54 (E9)	07:09	07:56 (E10)	08:15	08:53 (E11)	08:50	14:32 (E15)
	21:39		20:29	19:07	23 08:17 (E9)	16:50	25 16:16 (E13)	15:51	13 09:06 (E11)	15:42	18 14:50 (E15)
27	05:06		06:07	07:09	07:53 (E9)	07:12	07:56 (E10)	08:17	08:55 (E11)	08:51	14:32 (E15)
	21:37		20:27	19:04	24 08:17 (E9)	16:47	22 08:18 (E10)	15:49	10 09:05 (E11)	15:43	18 14:50 (E15)
28	05:08		06:09	07:11	07:52 (E9)	07:14	07:55 (E10)	08:19	08:58 (E11)	08:51	14:33 (E15)
	21:36		20:24	19:02	25 08:17 (E9)	16:45	23 08:18 (E10)	15:48	8 09:06 (E11)	15:44	17 14:50 (E15)
29	05:10		06:11	07:13	07:53 (E9)	07:16	07:56 (E10)	08:21	09:00 (E11)	08:51	14:33 (E15)
	21:34		20:22	18:59	25 08:18 (E9)	16:43	22 08:18 (E10)	15:47	5 09:05 (E11)	15:44	18 14:51 (E15)
30	05:12		06:13	07:15	07:53 (E9)	07:18	07:56 (E10)	08:22	09:02 (E11)	08:51	14:34 (E15)
	21:32		20:19	18:56	24 08:17 (E9)	16:40	22 08:18 (E10)	15:46	7 14:32 (E15)	15:45	18 14:52 (E15)
31	05:14		06:15			07:20	07:56 (E10)		08:51		14:34 (E15)
	21:30		20:16			16:38	21 08:17 (E10)		15:47	17 14:51 (E15)	
Potential sun hours	529		469	385		324		247		216	
Total, worst case		367		207		620		357		508	
Sun reduction		0.49		0.43		0.26		0.08		0.07	
Oper. time red.		0.98		0.98		0.98		0.98		0.98	
Wind dir. red.		0.67		0.62		0.64		0.60		0.66	
Total reduction		0.32		0.26		0.16		0.05		0.05	
Total, real		119		54		101		17		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:

25/06/2024 23:53/4.0.540

## 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		14:34 (E15)	08:15			07:11		16:34 (E13)	06:49		05:32				04:36		05:34 (E8)
	15:48	16	14:50 (E15)	16:45			17:47	15	16:49 (E13)	19:53		20:55				21:52	28	06:02 (E8)
2	08:50		14:34 (E15)	08:13			07:08		16:36 (E13)	06:46		05:30				04:35		05:33 (E8)
	15:49	16	14:50 (E15)	16:47			17:50	11	16:47 (E13)	19:55		20:57				21:54	30	06:03 (E8)
3	08:50		14:35 (E15)	08:11			07:06			06:43		05:28				04:34		05:32 (E8)
	15:51	16	14:51 (E15)	16:50			17:52			19:57		20:59				21:55	32	06:04 (E8)
4	08:50		14:35 (E15)	08:09			07:03			06:41		05:26				04:33		05:32 (E8)
	15:52	16	14:51 (E15)	16:52			17:54			19:59		21:01				21:56	32	06:04 (E8)
5	08:49		14:37 (E15)	08:07			07:00			06:38		05:23				04:32		05:32 (E8)
	15:53	15	14:52 (E15)	16:54			17:56			20:01		21:04				21:58	34	06:06 (E8)
6	08:49		14:38 (E15)	08:05		08:34 (E10)	06:58			06:35		05:21				04:31		05:31 (E8)
	15:55	14	14:52 (E15)	16:56	7	08:41 (E10)	17:58			20:03		21:06				21:59	35	06:06 (E8)
7	08:48		14:38 (E15)	08:03		08:32 (E10)	06:55		07:23 (E9)	06:33		05:19				04:30		05:31 (E8)
	15:56	13	14:51 (E15)	16:58	11	08:43 (E10)	18:00	8	07:31 (E9)	20:05		21:08				22:00	35	06:06 (E8)
8	08:47		14:39 (E15)	08:00		08:30 (E10)	06:53		07:19 (E9)	06:30		05:17				04:29		05:31 (E8)
	15:58	12	14:51 (E15)	17:01	15	08:45 (E10)	18:03	14	07:33 (E9)	20:07		21:10				22:01	37	06:08 (E8)
9	08:47		14:40 (E15)	07:58		08:27 (E10)	06:50		07:18 (E9)	06:27		05:15				04:28		05:30 (E8)
	15:59	11	14:51 (E15)	17:03	19	08:46 (E10)	18:05	18	07:36 (E9)	20:10		21:12				22:02	38	06:08 (E8)
10	08:46		14:42 (E15)	07:56		08:27 (E10)	06:47		07:16 (E9)	06:25		05:12				04:28		05:31 (E8)
	16:01	8	14:50 (E15)	17:05	20	08:47 (E10)	18:07	20	07:36 (E9)	20:12		21:14				22:03	38	06:09 (E8)
11	08:45		14:44 (E15)	07:54		08:26 (E10)	06:45		07:14 (E9)	06:22		05:10				04:27		05:30 (E8)
	16:03	5	14:49 (E15)	17:07	21	08:47 (E10)	18:09	23	07:37 (E9)	20:14		21:16				22:04	39	06:09 (E8)
12	08:44		09:20 (E11)	07:52		08:26 (E10)	06:42		07:13 (E9)	06:20		05:08				04:27		05:30 (E8)
	16:04	2	09:22 (E11)	17:10	22	08:48 (E10)	18:11	24	07:37 (E9)	20:16		21:18				22:05	39	06:09 (E8)
13	08:43		09:19 (E11)	07:49		08:26 (E10)	06:39		07:13 (E9)	06:17		05:06				04:26		05:31 (E8)
	16:06	4	09:23 (E11)	17:12	23	08:49 (E10)	18:13	25	07:38 (E9)	20:18		21:20				22:06	39	06:10 (E8)
14	08:42		09:18 (E11)	07:47		08:25 (E10)	06:37		07:12 (E9)	06:14		05:04				04:26		05:30 (E8)
	16:08	7	09:25 (E11)	17:14	23	08:48 (E10)	18:15	25	07:37 (E9)	20:20		21:22				22:07	40	06:10 (E8)
15	08:41		09:16 (E11)	07:45		08:26 (E10)	06:34		07:12 (E9)	06:12		05:02				04:26		05:30 (E8)
	16:10	10	09:26 (E11)	17:16	22	08:48 (E10)	18:17	25	07:37 (E9)	20:22		21:23				22:07	40	06:10 (E8)
16	08:40		09:15 (E11)	07:42		08:26 (E10)	06:31		07:12 (E9)	06:09		05:00				04:25		05:30 (E8)
	16:12	12	09:27 (E11)	17:19	31	16:47 (E13)	18:19	25	07:37 (E9)	20:24		21:25				22:08	41	06:11 (E8)
17	08:39		09:13 (E11)	07:40		08:27 (E10)	06:29		07:12 (E9)	06:07		04:59				04:25		05:31 (E8)
	16:14	14	09:27 (E11)	17:21	35	16:50 (E13)	18:22	24	07:36 (E9)	20:26		21:27				22:08	40	06:11 (E8)
18	08:37		09:12 (E11)	07:38		08:27 (E10)	06:26		07:12 (E9)	06:04		04:57				04:25		05:31 (E8)
	16:16	17	09:29 (E11)	17:23	36	16:51 (E13)	18:24	23	07:35 (E9)	20:28		21:29				22:09	40	06:11 (E8)
19	08:36		09:11 (E11)	07:35		08:29 (E10)	06:23		07:14 (E9)	06:02		04:55				04:25		05:31 (E8)
	16:18	18	09:29 (E11)	17:25	36	16:53 (E13)	18:26	20	07:34 (E9)	20:30		21:31				22:09	41	06:12 (E8)
20	08:35		09:11 (E11)	07:33		08:30 (E10)	06:21		07:14 (E9)	05:59		04:53				04:25		05:31 (E8)
	16:20	19	09:30 (E11)	17:28	34	16:53 (E13)	18:28	18	07:32 (E9)	20:32		21:33				22:10	41	06:12 (E8)
21	08:33		09:11 (E11)	07:31		08:32 (E10)	06:18		07:16 (E9)	05:57		04:52				04:25		05:31 (E8)
	16:22	19	09:30 (E11)	17:30	31	16:54 (E13)	18:30	14	07:30 (E9)	20:35		21:35				22:10	41	06:12 (E8)
22	08:32		09:11 (E11)	07:28		16:31 (E13)	06:15		07:18 (E9)	05:54		04:50				04:25		05:32 (E8)
	16:24	20	09:31 (E11)	17:32	23	16:54 (E13)	18:32	8	07:26 (E9)	20:37		21:36				22:10	41	06:13 (E8)
23	08:30		09:11 (E11)	07:26		16:31 (E13)	06:13			05:52		04:48				04:26		05:32 (E8)
	16:26	20	09:31 (E11)	17:34	24	16:55 (E13)	18:34			20:39		21:38				22:10	41	06:13 (E8)
24	08:29		09:11 (E11)	07:23		16:31 (E13)	06:10			05:49		04:47				04:26		05:32 (E8)
	16:28	20	09:31 (E11)	17:36	23	16:54 (E13)	18:36			20:41		21:40				22:10	40	06:12 (E8)
25	08:27		09:13 (E11)	07:21		16:30 (E13)	06:07			05:47		04:45				04:26		05:33 (E8)
	16:30	19	09:32 (E11)	17:39	23	16:53 (E13)	18:38			20:43		21:42				22:10	40	06:13 (E8)
26	08:25		09:13 (E11)	07:18		16:31 (E13)	06:05			05:44		04:44		05:43 (E8)		04:27		05:32 (E8)
	16:32	18	09:31 (E11)	17:41	22	16:53 (E13)	18:40			20:45		21:43	8	05:51 (E8)		22:10	41	06:13 (E8)
27	08:24		09:14 (E11)	07:16		16:32 (E13)	06:02			05:42		04:42		05:40 (E8)		04:27		05:33 (E8)
	16:34	17	09:31 (E11)	17:43	20	16:52 (E13)	18:42			20:47		21:45	14	05:54 (E8)		22:10	40	06:13 (E8)
28	08:22		09:15 (E11)	07:13		16:33 (E13)	05:59			05:39		04:41		05:38 (E8)		04:28		05:33 (E8)
	16:36	15	09:30 (E11)	17:45	18	16:51 (E13)	18:45			20:49		21:46	19	05:57 (E8)		22:10	40	06:13 (E8)
29	08:20		09:16 (E11)				06:57			05:37		04:39		05:37 (E8)		04:28		05:34 (E8)
	16:38	14	09:30 (E11)				19:47			20:51		21:48	21	05:58 (E8)		22:10	39	06:13 (E8)
30	08:18		09:18 (E11)				06:54			05:35		04:38		05:36 (E8)		04:29		05:35 (E8)
	16:41	10	09:28 (E11)				19:49			20:53		21:50	24	06:00 (E8)		22:09	39	06:14 (E8)
31	08:16		09:20 (E11)				06:51					04:37		05:35 (E8)				
	16:43	5	09:25 (E11)				19:51					21:51	26	06:01 (E8)				
Potential sun hours	235			266			366			426		508				529		
Total, worst case		422		539			340					112				1141		
Sun reduction		0.13		0.20			0.41					0.57				0.56		
Oper. time red.		0.98		0.98			0.98					0.98				0.98		
Wind dir. red.		0.62		0.64			0.62					0.67				0.67		
Total reduction		0.08		0.13			0.25					0.37				0.37		
Total, real		34		68			85					42				419		

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:

25/06/2024 23:53/4.0.540

## 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	05:34 (E8)	05:16	06:17	07:17	07:53 (E9)	07:22	07:57 (E10)	08:24	14:27 (E15)		
	22:09	39 06:13 (E8)	21:28	20:14	18:53	24 08:17 (E9)	16:36	19 08:16 (E10)	15:45	4 14:31 (E15)		
2	04:31	05:35 (E8)	05:17	06:19	07:19	07:53 (E9)	07:25	07:57 (E10)	08:26	14:24 (E15)		
	22:08	38 06:13 (E8)	21:26	20:11	18:51	23 08:16 (E9)	16:34	18 08:15 (E10)	15:44	8 14:32 (E15)		
3	04:32	05:36 (E8)	05:19	06:21	07:21	07:53 (E9)	07:27	08:00 (E10)	08:27	14:24 (E15)		
	22:08	37 06:13 (E8)	21:24	20:09	18:48	22 08:15 (E9)	16:31	15 08:15 (E10)	15:43	10 14:34 (E15)		
4	04:32	05:36 (E8)	05:21	06:23	07:23	07:54 (E9)	07:29	08:02 (E10)	08:29	14:23 (E15)		
	22:07	37 06:13 (E8)	21:22	20:06	18:45	19 08:13 (E9)	16:29	11 08:13 (E10)	15:42	12 14:35 (E15)		
5	04:33	05:37 (E8)	05:23	06:25	07:25	07:55 (E9)	07:31	08:04 (E10)	08:31	14:23 (E15)		
	22:07	36 06:13 (E8)	21:19	20:03	18:43	16 08:11 (E9)	16:27	6 08:10 (E10)	15:41	14 14:37 (E15)		
6	04:35	05:38 (E8)	05:25	06:27	07:27	07:57 (E9)	07:33		08:32	14:24 (E15)		
	22:06	35 06:13 (E8)	21:17	20:01	18:40	12 08:09 (E9)	16:25		15:41	14 14:38 (E15)		
7	04:36	05:38 (E8)	05:27	06:29	07:29		07:35		08:34	14:23 (E15)		
	22:05	34 06:12 (E8)	21:15	19:58	18:38		16:23		15:40	15 14:38 (E15)		
8	04:37	05:39 (E8)	05:29	06:31	07:31		07:38		08:35	14:24 (E15)		
	22:04	33 06:12 (E8)	21:13	19:55	18:35		16:21		15:40	15 14:39 (E15)		
9	04:38	05:40 (E8)	05:31	06:33	07:34		07:40		08:36	14:23 (E15)		
	22:03	31 06:11 (E8)	21:11	19:53	18:32		16:19		15:39	16 14:39 (E15)		
10	04:39	05:40 (E8)	05:33	06:35	07:36		07:42		08:38	14:24 (E15)		
	22:02	31 06:11 (E8)	21:08	19:50	18:30		16:17		15:39	16 14:40 (E15)		
11	04:41	05:41 (E8)	05:35	06:37	07:38	17:12 (E13)	07:44	08:52 (E11)	08:39	14:24 (E15)		
	22:01	29 06:10 (E8)	21:06	19:47	18:27	7 17:19 (E13)	16:15	5 08:57 (E11)	15:38	17 14:41 (E15)		
12	04:42	05:42 (E8)	05:37	06:39	07:40	17:09 (E13)	07:46	08:49 (E11)	08:40	14:24 (E15)		
	22:00	27 06:09 (E8)	21:04	19:45	18:25	13 17:22 (E13)	16:13	10 08:59 (E11)	15:38	17 14:41 (E15)		
13	04:43	05:44 (E8)	05:39	06:41	07:42	17:06 (E13)	07:48	08:48 (E11)	08:41	14:25 (E15)		
	21:59	25 06:09 (E8)	21:01	19:42	18:22	17 17:23 (E13)	16:11	14 09:02 (E11)	15:38	17 14:42 (E15)		
14	04:45	05:45 (E8)	05:41	06:43	07:44	17:05 (E13)	07:51	08:47 (E11)	08:43	14:25 (E15)		
	21:58	23 06:08 (E8)	20:59	19:39	18:19	19 17:24 (E13)	16:09	15 09:02 (E11)	15:38	17 14:42 (E15)		
15	04:46	05:46 (E8)	05:43	06:45	07:46	17:04 (E13)	07:53	08:46 (E11)	08:44	14:26 (E15)		
	21:56	20 06:06 (E8)	20:57	19:37	18:17	21 17:25 (E13)	16:07	17 09:03 (E11)	15:38	17 14:43 (E15)		
16	04:48	05:48 (E8)	05:45	06:47	07:48	17:03 (E13)	07:55	08:46 (E11)	08:45	14:26 (E15)		
	21:55	17 06:05 (E8)	20:54	19:34	18:14	22 17:25 (E13)	16:06	18 09:04 (E11)	15:38	17 14:43 (E15)		
17	04:49	05:50 (E8)	05:47	06:49	07:50	17:02 (E13)	07:57	08:46 (E11)	08:45	14:26 (E15)		
	21:54	12 06:02 (E8)	20:52	19:31	18:12	23 17:25 (E13)	16:04	18 09:04 (E11)	15:38	18 14:44 (E15)		
18	04:51		05:49	06:51	07:52	17:02 (E13)	07:59	08:45 (E11)	08:46	14:27 (E15)		
	21:52		20:49	19:28	18:09	23 17:25 (E13)	16:02	20 09:05 (E11)	15:38	18 14:45 (E15)		
19	04:52		05:51	06:53	07:54	17:01 (E13)	08:01	08:46 (E11)	08:47	14:27 (E15)		
	21:51		20:47	19:26	18:07	24 17:25 (E13)	16:01	20 09:06 (E11)	15:38	17 14:44 (E15)		
20	04:54		05:53	06:55	07:57	17:02 (E13)	08:03	08:46 (E11)	08:48	14:28 (E15)		
	21:49		20:45	19:23	18:04	23 17:25 (E13)	15:59	20 09:06 (E11)	15:38	17 14:45 (E15)		
21	04:56		05:55	06:57	07:59	09:02 (E10)	08:05	08:46 (E11)	08:48	14:28 (E15)		
	21:48		20:42	19:20	18:02	32 17:24 (E13)	15:57	19 09:05 (E11)	15:39	18 14:46 (E15)		
22	04:57		05:57	06:59	08:01 (E9)	08:01	08:59 (E10)	08:07	08:47 (E11)	08:49	14:28 (E15)	
	21:46		20:40	19:18	12 08:13 (E9)	17:59	36 17:23 (E13)	15:56	19 09:06 (E11)	15:39	18 14:46 (E15)	
23	04:59		05:59	07:01	07:58 (E9)	08:03	08:58 (E10)	08:09	08:48 (E11)	08:49	14:29 (E15)	
	21:44		20:37	19:15	17 08:15 (E9)	17:57	38 17:23 (E13)	15:55	18 09:06 (E11)	15:40	17 14:46 (E15)	
24	05:01		06:01	07:03	07:57 (E9)	08:05	08:57 (E10)	08:11	08:49 (E11)	08:50	14:30 (E15)	
	21:43		20:34	19:12	19 08:16 (E9)	17:54	37 17:21 (E13)	15:53	17 09:06 (E11)	15:40	17 14:47 (E15)	
25	05:03		06:03	07:05	07:55 (E9)	07:07	07:56 (E10)	08:13	08:51 (E11)	08:50	14:30 (E15)	
	21:41		20:32	19:10	22 08:17 (E9)	16:52	35 16:19 (E13)	15:52	14 09:05 (E11)	15:41	18 14:48 (E15)	
26	05:04		06:05	07:07	07:54 (E9)	07:09	07:56 (E10)	08:15	08:53 (E11)	08:50	14:30 (E15)	
	21:39		20:29	19:07	23 08:17 (E9)	16:50	31 16:17 (E13)	15:51	12 09:05 (E11)	15:42	18 14:48 (E15)	
27	05:06		06:07	07:09	07:53 (E9)	07:12	07:55 (E10)	08:17	08:55 (E11)	08:51	14:31 (E15)	
	21:37		20:27	19:04	25 08:18 (E9)	16:47	23 08:18 (E10)	15:49	10 09:05 (E11)	15:43	17 14:48 (E15)	
28	05:08		06:09	07:11	07:53 (E9)	07:14	07:55 (E10)	08:19	08:58 (E11)	08:51	14:31 (E15)	
	21:36		20:24	19:02	25 08:18 (E9)	16:45	22 08:17 (E10)	15:48	7 09:05 (E11)	15:44	18 14:49 (E15)	
29	05:10		06:11	07:13	07:53 (E9)	07:16	07:56 (E10)	08:21	09:00 (E11)	08:51	14:32 (E15)	
	21:34		20:22	18:59	25 08:18 (E9)	16:43	22 08:18 (E10)	15:47	5 09:05 (E11)	15:44	17 14:49 (E15)	
30	05:12		06:13	07:15	07:53 (E9)	07:18	07:55 (E10)	08:22	09:02 (E11)	08:51	14:33 (E15)	
	21:32		20:19	18:56	25 08:18 (E9)	16:40	22 08:17 (E10)	15:46	2 09:04 (E11)	15:45	17 14:50 (E15)	
31	05:14		06:15		07:20	07:55 (E10)			08:51	14:33 (E15)		
	21:30		20:16		16:38	21 08:16 (E10)			15:47	17 14:50 (E15)		
Potential sun hours	529		469	385	324		247		216			
Total, worst case		504		198		627		349		488		
Sun reduction		0.49		0.43		0.26		0.08		0.07		
Oper. time red.		0.98		0.98		0.98		0.98		0.98		
Wind dir. red.		0.67		0.62		0.64		0.60		0.66		
Total reduction		0.32		0.26		0.16		0.05		0.05		
Total, real		163		51		102		17		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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:

25/06/2024 23:53/4.0.540

## 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	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	05:44 20:45	04:44 21:43	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			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:

25/06/2024 23:53/4.0.540

## 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	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			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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Polakas 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (14)

Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

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

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	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	08:55 (E13) 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	08:24 15:45
2	08:51 15:49	08:13 16:47	08:56 (E13) 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	08:57 (E13) 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	09:01 (E13) 17:54	07:03 19:59	06:41 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	09:03 (E13) 17:54	07:01 19:59	06:38 21:02	04:32 21:57	04:34 22:08	05:23 21:22	06:25 20:06	07:26 18:43	07:31 16:27	08:31 15:42
6	08:49 15:55	08:05 16:56	08:58 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	08:53 17:59	06:33 20:06	05:19 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	08:53 17:59	06:30 20:08	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 20:01	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:58 17:03	08:53 17:59	06:30 20:10	05:15 21:12	04:29 22:02	04:38 22:04	05:31 21:11	06:33 20:01	07:34 18:33	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	08:53 17:59	06:25 20:12	05:13 21:14	04:28 22:03	04:39 22:03	05:33 21:09	06:35 20:01	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	08:53 17:59	06:22 20:14	05:11 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 15:39
12	08:44 16:05	07:52 17:10	08:53 17:59	06:20 20:16	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 20:01	07:40 18:25	07:47 16:13	08:41 15:38
13	08:43 16:06	07:50 17:12	08:53 17:59	06:17 20:18	05:07 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	08:53 17:59	06:15 20:20	05:05 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	08:53 17:59	06:12 20:22	05:03 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	08:53 17:59	06:09 20:24	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:55	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	08:53 17:59	06:07 20:26	04:59 21:28	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	08:53 17:59	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 20:01	07:53 18:09	07:59 16:02	08:47 15:38
19	08:36 16:18	07:36 17:26	08:53 17:59	06:02 20:31	04:55 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	08:53 17:59	06:21 20:33	04:53 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	08:53 17:59	06:18 20:35	04:52 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	08:53 17:59	06:16 20:37	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 20:01	08:01 18:00	08:07 15:56	08:49 15:39
23	08:30 16:26	07:26 17:34	08:53 17:59	06:13 20:39	04:48 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	08:50 15:40
24	08:29 16:28	07:23 17:37	08:53 17:59	06:10 20:41	04:47 21:40	04:26 22:11	05:01 21:43	06:01 20:35	07:03 20:01	08:05 17:55	08:11 15:53	08:50 15:41
25	08:27 16:30	07:21 17:39	08:53 17:59	06:08 20:43	04:45 21:42	04:26 22:11	05:03 21:41	06:03 20:32	07:05 20:01	08:07 17:52	08:13 15:52	08:50 15:41
26	08:26 16:32	07:18 17:41	08:53 17:59	06:05 20:45	04:44 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	08:51 15:42
27	08:24 16:34	07:16 17:43	08:53 17:59	06:02 20:47	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 20:01	08:11 17:48	08:17 15:49	08:51 15:43
28	08:22 16:36	07:13 17:45	08:53 17:59	06:00 20:49	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 20:01	08:13 17:46	08:19 15:48	08:51 15:44
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31	08:17 16:43	07:07 17:54	08:53 17:59	05:51 20:51	04:37 21:51	04:29 22:10	05:14 21:30	06:15 20:17	07:16 20:01	08:18 17:38	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	99	36									138	
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	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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	08:37 (E14)	07:01	06:38	05:24
	15:54	16:54	1 08:38 (E14)	17:56	20:01	21:04
6	08:49	08:05	08:34 (E14)	06:58	06:36	05:21
	15:55	16:57	4 08:38 (E14)	17:58	20:04	21:06
7	08:48	08:03	08:32 (E14)	06:55	06:33	05:19
	15:56	16:59	8 08:40 (E14)	18:01	20:06	21:08
8	08:48	08:01	08:30 (E14)	06:53	06:30	05:17
	15:58	17:01	11 08:41 (E14)	18:03	20:08	21:10
9	08:47	07:58	08:27 (E14)	06:50	06:28	05:15
	16:00	17:03	14 08:41 (E14)	18:05	20:10	21:12
10	08:46	07:56	08:25 (E14)	06:48	06:25	05:13
	16:01	17:06	16 08:41 (E14)	18:07	20:12	21:14
11	08:45	07:54	08:24 (E14)	06:45	06:22	05:11
	16:03	17:08	18 08:42 (E14)	18:09	20:14	21:16
12	08:44	07:52	08:23 (E14)	06:42	06:20	05:09
	16:05	17:10	18 08:41 (E14)	18:11	20:16	21:18
13	08:43	07:50	08:24 (E14)	06:40	06:17	05:07
	16:06	17:12	17 08:41 (E14)	18:13	20:18	21:20
14	08:42	07:47	08:24 (E14)	06:37	07:02 (E13)	06:15
	16:08	17:14	16 08:40 (E14)	18:16	3 07:05 (E13)	20:20
15	08:41	07:45	08:26 (E14)	06:34	07:00 (E13)	06:12
	16:10	17:17	13 08:39 (E14)	18:18	7 07:07 (E13)	20:22
16	08:40	07:43	08:28 (E14)	06:32	06:57 (E13)	06:09
	16:12	17:19	10 08:38 (E14)	18:20	10 07:07 (E13)	20:24
17	08:39	07:40	08:31 (E14)	06:29	06:54 (E13)	06:07
	16:14	17:21	3 08:34 (E14)	18:22	12 07:06 (E13)	20:26
18	08:38	07:38		06:26	06:52 (E13)	06:04
	16:16	17:23		18:24	15 07:07 (E13)	20:28
19	08:36	07:36		06:24	06:51 (E13)	06:02
	16:18	17:26		18:26	15 07:06 (E13)	20:31
20	08:35	07:33		06:21	06:51 (E13)	05:59
	16:20	17:28		18:28	13 07:04 (E13)	20:33
21	08:33	07:31		06:18	06:52 (E13)	05:57
	16:22	17:30		18:30	10 07:02 (E13)	20:35
22	08:32	07:28		06:16	06:55 (E13)	05:54
	16:24	17:32		18:32	5 07:00 (E13)	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		04:37
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		149	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		18	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:23	07:55 (E14) 08:24
	22:09	21:28	20:14	18:54	16:36	16 08:11 (E14) 15:45
2	04:31	05:18	06:19	07:19	07:25	07:57 (E14) 08:26
	22:09	21:26	20:11	18:51	16:34	13 08:10 (E14) 15:44
3	04:32	05:20	06:21	07:21	07:27	08:00 (E14) 08:28
	22:08	21:24	20:09	18:48	16:32	10 08:10 (E14) 15:43
4	04:33	05:22	06:23	07:23	07:29	08:02 (E14) 08:29
	22:07	21:22	20:06	18:46	16:30	7 08:09 (E14) 15:43
5	04:34	05:24	06:25	07:26	07:31	08:05 (E14) 08:31
	22:07	21:20	20:04	18:43	16:27	4 08:09 (E14) 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	07:57	08:03	08:48
	21:50	20:45	19:23	18:05	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	07:38 (E13) 08:01	08:07	08:49
	21:46	20:40	19:18	9 07:47 (E13) 18:00	15:56	15:40
23	04:59	05:59	07:01	07:36 (E13) 08:03	08:09	08:50
	21:45	20:37	19:15	12 07:48 (E13) 17:57	15:55	15:40
24	05:01	06:01	07:03	07:35 (E13) 08:05	08:11	08:50
	21:43	20:35	19:13	14 07:49 (E13) 17:55	15:53	15:41
25	05:03	06:03	07:05	07:34 (E13) 07:07	07:59 (E14) 08:13	08:50
	21:41	20:32	19:10	15 07:49 (E13) 16:52	6 08:05 (E14) 15:52	15:41
26	05:05	06:05	07:07	07:36 (E13) 07:10	07:57 (E14) 08:15	08:51
	21:39	20:30	19:07	13 07:49 (E13) 16:50	11 08:08 (E14) 15:51	15:42
27	05:06	06:07	07:09	07:38 (E13) 07:12	07:55 (E14) 08:17	08:51
	21:38	20:27	19:04	11 07:49 (E13) 16:48	14 08:09 (E14) 15:50	15:43
28	05:08	06:09	07:11	07:40 (E13) 07:14	07:54 (E14) 08:19	08:51
	21:36	20:24	19:02	8 07:48 (E13) 16:45	15 08:09 (E14) 15:48	15:44
29	05:10	06:11	07:13	07:42 (E13) 07:16	07:54 (E14) 08:21	08:51
	21:34	20:22	18:59	4 07:46 (E13) 16:43	17 08:11 (E14) 15:47	15:45
30	05:12	06:13	07:15	07:44 (E13) 07:18	07:53 (E14) 08:23	08:51
	21:32	20:19	18:56	1 07:45 (E13) 16:41	18 08:11 (E14) 15:46	15:46
31	05:14	06:15		07:20	07:53 (E14)	08:51
	21:30	20:17		16:38	18 08:11 (E14)	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			87	99	50	
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	15	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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
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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
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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
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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:

25/06/2024 23:53/4.0.540

## 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
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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
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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
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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:

25/06/2024 23:53/4.0.540

## 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
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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
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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	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 21:32	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:

25/06/2024 23:53/4.0.540

## 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		08:15		07:11		07:37 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	12	07:49 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:34 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	14	07:48 (E13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:33 (E13)	06:44	05:28		04:34	
	15:51		16:50		17:52	16	07:49 (E13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:32 (E13)	06:41	05:26		04:33	
	15:52		16:52		17:54	16	07:48 (E13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:34 (E13)	06:38	05:24		04:32	
	15:53		16:54		17:56	14	07:48 (E13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:34 (E13)	06:36	05:21		04:31	
	15:55		16:56		17:58	12	07:46 (E13)	20:04	21:06		21:59	
7	08:48		08:03		06:55		07:35 (E13)	06:33	05:19		04:30	
	15:56		16:59		18:01	9	07:44 (E13)	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 (E14)	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 (E14)	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	8	09:18 (E14)	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 (E14)	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	13	09:20 (E14)	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	15	09:20 (E14)	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 (E14)	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 (E14)	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 (E14)	17:39	18:39			20:43	21:42		22:11	
26	08:26		07:18		06:05		07:45 (E13)	05:44	04:44		04:27	
	16:32	16	09:21 (E14)	17:41	18:41	1	07:46 (E13)	20:45	21:43		22:10	
27	08:24		07:16		06:02		07:42 (E13)	05:42	04:42		04:27	
	16:34	16	09:21 (E14)	17:43	18:43	5	07:47 (E13)	20:47	21:45		22:10	
28	08:22		07:13		06:00		07:40 (E13)	05:40	04:41		04:28	
	16:37	15	09:21 (E14)	17:45	18:45	9	07:49 (E13)	20:49	21:47		22:10	
29	08:20		07:07		06:57			05:37	04:40		04:29	
	16:39	13	09:20 (E14)		19:47			20:51	21:48		22:10	
30	08:19		07:08		06:54			05:35	04:38		04:29	
	16:41	11	09:19 (E14)		19:49			20:53	21:50		22:10	
31	08:17		07:11		06:52				04:37			
	16:43	7	09:18 (E14)		19:51				21:51			
Potential sun hours	235		266		366			426	508		529	
Total, worst case		182		15		93						
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		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 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	08:13 (E13)	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	08:10 (E13)	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	08:09 (E13)	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	08:08 (E13)	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	08:07 (E13)	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	08:07 (E13)	07:44 16:15	08:41 (E14)	08:39 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	08:09 (E13)	07:47 16:13	08:39 (E14)	08:41 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	08:11 (E13)	07:49 16:11	08:39 (E14)	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:14 (E13)	07:51 16:09	08:38 (E14)	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	08:16 (E13)	07:53 16:08	08:38 (E14)	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	08:20 (E13)	07:55 16:06	08:37 (E14)	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	08:37 (E14)	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	08:38 (E14)	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	08:38 (E14)	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	08:40 (E14)	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	08:43 (E14)	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	08:45 (E14)	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	08:47 (E14)	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	08:49 (E14)	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	08:51 (E14)	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	08:54 (E14)	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				111		185		
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		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	06:49	07:14 (E14)	05:33
	15:48	16:45	17:48	19:53	07:25 (E14)	06:00 (E13)
2	08:50	08:13	07:08	06:46	07:11 (E14)	05:30
	15:50	16:48	17:50	19:55	07:26 (E14)	06:04 (E13)
3	08:50	08:11	07:06	06:44	07:09 (E14)	05:28
	15:51	16:50	17:52	19:57	07:27 (E14)	06:05 (E13)
4	08:50	08:09	07:03	06:41	07:06 (E14)	05:26
	15:52	16:52	17:54	19:59	07:27 (E14)	06:05 (E13)
5	08:49	08:07	07:01	06:38	07:04 (E14)	05:24
	15:54	16:54	17:56	20:01	07:27 (E14)	06:05 (E13)
6	08:49	08:05	06:58	06:36	07:04 (E14)	05:21
	15:55	16:57	17:58	20:03	07:28 (E14)	06:05 (E13)
7	08:48	08:03	06:55	06:33	07:04 (E14)	05:19
	15:57	16:59	18:01	20:06	07:27 (E14)	06:05 (E13)
8	08:48	08:01	06:53	06:30	07:04 (E14)	05:17
	15:58	17:01	18:03	20:08	07:27 (E14)	06:04 (E13)
9	08:47	07:58	06:50	06:28	07:04 (E14)	05:15
	16:00	17:03	18:05	20:10	07:26 (E14)	06:03 (E13)
10	08:46	07:56	06:48	06:25	07:03 (E14)	05:13
	16:01	17:06	18:07	20:12	07:25 (E14)	06:03 (E13)
11	08:45	07:54	06:45	06:22	07:04 (E14)	05:11
	16:03	17:08	18:09	20:14	07:25 (E14)	06:01 (E13)
12	08:44	07:52	06:42	06:20	07:05 (E14)	05:09
	16:05	17:10	18:11	20:16	07:23 (E14)	05:52 (E13)
13	08:43	07:50	06:40	06:17	07:06 (E14)	05:07
	16:06	17:12	18:13	20:18	07:22 (E14)	06:00 (E13)
14	08:42	07:47	06:37	06:15	07:08 (E14)	05:05
	16:08	17:15	18:16	20:20	07:19 (E14)	06:03 (E13)
15	08:41	07:45	06:34	06:12	07:13 (E14)	05:03
	16:10	17:17	18:18	20:22	07:14 (E14)	06:03 (E13)
16	08:40	07:43	06:32	06:09		05:01
	16:12	17:19	18:20	20:24		06:03 (E13)
17	08:39	07:40	06:29	06:07		04:59
	16:14	17:21	18:22	20:26		06:04 (E13)
18	08:38	07:38	06:26	06:04		04:57
	16:16	17:23	18:24	20:28		06:05 (E13)
19	08:36	07:36	06:24	06:02		04:55
	16:18	17:26	18:26	20:31		06:06 (E13)
20	08:35	07:33	06:21	06:00		04:54
	16:20	17:28	18:28	20:33		06:07 (E13)
21	08:33	07:31	06:18	05:57		04:52
	16:22	17:30	18:30	20:35		06:08 (E13)
22	08:32	07:28	06:16	05:54		04:50
	16:24	17:32	18:32	20:37		06:09 (E13)
23	08:30	07:26	06:13	05:52		04:49
	16:26	17:35	18:34	20:39		06:10 (E13)
24	08:29	07:23	06:10	05:49		04:47
	16:28	17:37	18:36	20:41		06:11 (E13)
25	08:27	07:21	06:08	05:47		04:45
	16:30	17:39	18:39	20:43		06:12 (E13)
26	08:26	07:18	06:05	05:45		04:44
	16:32	17:41	18:41	20:45		06:13 (E13)
27	08:24	07:16	06:02	05:42		04:42
	16:34	17:43	18:43	20:47		06:14 (E13)
28	08:22	07:13	06:00	05:40		04:41
	16:37	17:45	18:45	20:49		06:15 (E13)
29	08:20		06:57	05:37		04:40
	16:39		19:47	20:51		06:16 (E13)
30	08:19		06:54	05:35		04:38
	16:41		19:49	20:53		06:17 (E13)
31	08:17		06:52	05:33		04:37
	16:43		19:51	07:17 (E14)		06:18 (E13)
				07:23 (E14)		06:19 (E13)
Potential sun hours	235	266	366	426	508	528
Total, worst case			96	269	132	
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			25	87	49	

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:03 (E13)	06:17	07:03 (E14)	07:17
	22:09	21:28	8 06:11 (E13)	20:14	21 07:24 (E14)	18:54
2	04:31	05:18	06:01 (E13)	06:19	07:02 (E14)	07:19
	22:09	21:26	11 06:12 (E13)	20:11	22 07:24 (E14)	18:51
3	04:32	05:20	06:00 (E13)	06:21	07:02 (E14)	07:21
	22:08	21:24	13 06:13 (E13)	20:09	22 07:24 (E14)	18:48
4	04:33	05:22	05:59 (E13)	06:23	07:01 (E14)	07:23
	22:07	21:22	15 06:14 (E13)	20:06	23 07:24 (E14)	18:46
5	04:34	05:24	05:59 (E13)	06:25	07:01 (E14)	07:26
	22:07	21:20	16 06:15 (E13)	20:04	23 07:24 (E14)	18:43
6	04:35	05:26	05:58 (E13)	06:27	07:01 (E14)	07:28
	22:06	21:17	16 06:14 (E13)	20:01	23 07:24 (E14)	18:40
7	04:36	05:27	06:00 (E13)	06:29	07:00 (E14)	07:30
	22:05	21:15	14 06:14 (E13)	19:58	22 07:22 (E14)	18:38
8	04:37	05:29	06:02 (E13)	06:31	07:00 (E14)	07:32
	22:04	21:13	12 06:14 (E13)	19:56	22 07:22 (E14)	18:35
9	04:38	05:31	06:04 (E13)	06:33	07:02 (E14)	07:34
	22:03	21:11	10 06:14 (E13)	19:53	18 07:20 (E14)	18:33
10	04:40	05:33	06:06 (E13)	06:35	07:04 (E14)	07:36
	22:02	21:08	8 06:14 (E13)	19:50	15 07:19 (E14)	18:30
11	04:41	05:35	06:08 (E13)	06:37	07:06 (E14)	07:38
	22:01	21:06	5 06:13 (E13)	19:48	11 07:17 (E14)	18:27
12	04:42	05:37	06:09 (E13)	06:39	07:08 (E14)	07:40
	22:00	21:04	2 06:11 (E13)	19:45	7 07:15 (E14)	18:25
13	04:44	05:39		06:41		07:42
	21:59	21:02		19:42		18:22
14	04:45	05:41		06:43		07:44
	21:58	20:59		19:39		18:20
15	04:46	05:43		06:45		07:46
	21:57	20:57		19:37		18:17
16	04:48	05:45		06:47		07:48
	21:55	20:54		19:34		18:15
17	04:50	05:47		06:49	07:31 (E15)	07:50
	21:54	20:52		19:31	6 07:37 (E15)	18:12
18	04:51	05:49		06:51	07:28 (E15)	07:53
	21:52	20:50		19:29	11 07:39 (E15)	18:10
19	04:53	05:51		06:53	07:27 (E15)	07:55
	21:51	20:47		19:26	13 07:40 (E15)	18:07
20	04:54	05:53		06:55	07:25 (E15)	07:57
	21:49	20:45		19:23	15 07:40 (E15)	18:05
21	04:56	05:55		06:57	07:26 (E15)	07:59
	21:48	20:42		19:21	14 07:40 (E15)	18:02
22	04:58	05:57		06:59	07:28 (E15)	08:01
	21:46	20:40		19:18	12 07:40 (E15)	18:00
23	04:59	05:59		07:01	07:30 (E15)	08:03
	21:45	20:37		19:15	10 07:40 (E15)	17:57
24	05:01	06:01		07:03	07:32 (E15)	08:05
	21:43	20:35		19:12	7 07:39 (E15)	17:55
25	05:03	06:03		07:05	07:34 (E15)	08:07
	21:41	20:32		19:10	3 07:37 (E15)	16:52
26	05:05	06:05		07:07		07:10
	21:39	20:30		19:07		16:50
27	05:06	06:07		07:09		07:12
	21:38	20:27		19:04		16:48
28	05:08	06:09	07:13 (E14)	07:11		07:14
	21:36	20:24	3 07:16 (E14)	19:02		16:45
29	05:10	06:11	07:08 (E14)	07:13		07:16
	21:34	20:22	12 07:20 (E14)	18:59		16:43
30	05:12	06:13	07:06 (E14)	07:15		07:18
	21:32	20:19	16 07:22 (E14)	18:56		16:41
31	05:14	06:15	07:04 (E14)			07:20
	21:30	20:17	19 07:23 (E14)			16:38
Potential sun hours	529	469	385	324	247	216
Total, worst case	4	180	320			
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	1	58	88			

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:

25/06/2024 23:53/4.0.540

## 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		14:02 (E13)	08:15		14:17 (E13)	07:11		06:49		05:32		06:00 (E6)	04:36				
	15:48	39	14:41 (E14)	16:45	22	14:39 (E13)	17:47		19:53		20:55	8	06:08 (E6)	21:53				
2	08:50		14:02 (E13)	08:13		14:19 (E13)	07:08		06:46		05:30		05:58 (E6)	04:35				
	15:49	40	14:42 (E14)	16:47	19	14:38 (E13)	17:50		19:55		20:57	11	06:09 (E6)	21:54				
3	08:50		14:02 (E13)	08:11		14:22 (E13)	07:06		06:43		05:28		05:56 (E6)	04:34				
	15:51	40	14:42 (E14)	16:50	13	14:35 (E13)	17:52		19:57		20:59	13	06:09 (E6)	21:55				
4	08:50		14:02 (E13)	08:09			07:03		06:41		05:26		05:54 (E6)	04:33				
	15:52	40	14:42 (E14)	16:52			17:54		19:59		21:02	16	06:10 (E6)	21:57				
5	08:49		14:03 (E13)	08:07			07:00		06:38		05:23		05:52 (E6)	04:32				
	15:53	39	14:42 (E14)	16:54			17:56		20:01		21:04	18	06:10 (E6)	21:58				
6	08:49		14:03 (E13)	08:05			06:58		06:35		05:21		05:51 (E6)	04:31				
	15:55	39	14:42 (E14)	16:56			17:58		20:03		21:06	19	06:10 (E6)	21:59				
7	08:48		14:03 (E13)	08:03			06:55		06:33		05:19		05:51 (E6)	04:30				
	15:56	39	14:42 (E14)	16:59			18:00		20:05	4	07:02 (E8)	21:08	19	06:10 (E6)	22:00			
8	08:47		14:03 (E13)	08:00			06:53		06:30		06:55 (E8)	05:17		05:52 (E6)	04:29			
	15:58	39	14:42 (E14)	17:01			18:03	4	07:18 (E9)	20:07	10	07:05 (E8)	21:10	17	06:09 (E6)	22:01		
9	08:47		14:03 (E13)	07:58			06:50		07:16 (E9)	06:27	06:53 (E8)	05:15		05:52 (E6)	04:28			
	15:59	38	14:41 (E14)	17:03			18:05	8	07:24 (E9)	20:10	15	07:08 (E8)	21:12	17	06:09 (E6)	22:02		
10	08:46		14:04 (E13)	07:56			06:47		07:13 (E9)	06:25	06:50 (E8)	05:13		05:52 (E6)	04:28			
	16:01	36	14:40 (E14)	17:05			18:07	11	07:24 (E9)	20:12	18	07:08 (E8)	21:14	16	06:08 (E6)	22:03		
11	08:45		14:04 (E13)	07:54			06:45		07:10 (E9)	06:22	06:49 (E8)	05:10		05:53 (E6)	04:27			
	16:03	37	14:41 (E13)	17:08			18:09	13	07:23 (E9)	20:14	20	07:09 (E8)	21:16	14	06:07 (E6)	22:04		
12	08:44		14:03 (E13)	07:52			06:42		07:09 (E9)	06:20	06:48 (E8)	05:08		05:54 (E6)	04:27			
	16:04	37	14:40 (E13)	17:10			18:11	15	07:24 (E9)	20:16	21	07:09 (E8)	21:18	12	06:06 (E6)	22:05		
13	08:43		14:04 (E13)	07:49			06:39		07:09 (E9)	06:17	06:47 (E8)	05:06		05:55 (E6)	04:26			
	16:06	37	14:41 (E13)	17:12			18:13	14	07:23 (E9)	20:18	23	07:10 (E8)	21:20	9	06:04 (E6)	22:06		
14	08:42		14:04 (E13)	07:47			06:37		07:09 (E9)	06:14	06:46 (E8)	05:04		05:58 (E6)	04:26			
	16:08	38	14:42 (E13)	17:14			18:15	12	07:21 (E9)	20:20	23	07:09 (E8)	21:22	5	06:03 (E6)	22:07		
15	08:41		14:04 (E13)	07:45			06:34		07:10 (E9)	06:12	06:47 (E8)	05:02			04:26			
	16:10	38	14:42 (E13)	17:17			18:17	9	07:19 (E9)	20:22	23	07:10 (E8)	21:24		22:07			
16	08:40		14:05 (E13)	07:43			06:31		06:09		06:46 (E8)	05:01			04:25			
	16:12	38	14:43 (E13)	17:19			18:20		20:24	23	07:09 (E8)	21:25			22:08			
17	08:39		14:05 (E13)	07:40			06:29		06:07		06:47 (E8)	04:59			04:25			
	16:14	38	14:43 (E13)	17:21			18:22		20:26	21	07:08 (E8)	21:27			22:08			
18	08:37		14:06 (E13)	07:38			06:26		06:04		06:46 (E8)	04:57			04:25			
	16:16	37	14:43 (E13)	17:23			18:24		20:28	21	07:07 (E8)	21:29			22:09			
19	08:36		14:06 (E13)	07:35			06:23		06:02		06:47 (E8)	04:55			04:25			
	16:18	37	14:43 (E13)	17:25			18:26		20:30	19	07:06 (E8)	21:31			22:09			
20	08:35		14:07 (E13)	07:33			06:21		05:59		06:48 (E8)	04:53			04:25			
	16:20	37	14:44 (E13)	17:28			18:28		20:32	17	07:05 (E8)	21:33			22:10			
21	08:33		14:07 (E13)	07:31			06:18		05:57		06:49 (E8)	04:52			04:25			
	16:22	37	14:44 (E13)	17:30			18:30		20:35	14	07:03 (E8)	21:35			22:10			
22	08:32		14:07 (E13)	07:28			06:15		05:54		06:52 (E8)	04:50			04:25			
	16:24	37	14:44 (E13)	17:32			18:32		20:37	9	07:01 (E8)	21:36			22:10			
23	08:30		14:07 (E13)	07:26			06:13		05:52			04:48			04:26			
	16:26	37	14:44 (E13)	17:34			18:34		20:39			21:38			22:10			
24	08:29		14:08 (E13)	07:23			06:10		05:49			04:47			04:26			
	16:28	36	14:44 (E13)	17:37			18:36		20:41			21:40			22:10			
25	08:27		14:09 (E13)	07:21			06:07		05:47			04:45			04:26			
	16:30	35	14:44 (E13)	17:39			18:38		20:43			21:42			22:10			
26	08:25		14:10 (E13)	07:18			06:05		05:44			04:44			04:27			
	16:32	34	14:44 (E13)	17:41			18:40		20:45			21:43			22:10			
27	08:24		14:11 (E13)	07:16			06:02		05:42			04:42			04:27			
	16:34	33	14:44 (E13)	17:43			18:43		20:47			21:45			22:10			
28	08:22		14:12 (E13)	07:13			05:59		05:39			04:41			04:28			
	16:36	31	14:43 (E13)	17:45			18:45		20:49			21:47			22:10			
29	08:20		14:13 (E13)				06:57		05:37			04:39			04:28			
	16:39	30	14:43 (E13)				19:47		20:51			21:48			22:10			
30	08:18		14:14 (E13)				06:54		05:35		06:02 (E6)	04:38			04:29			
	16:41	28	14:42 (E13)				19:49		20:53	4	06:06 (E6)	21:50			22:09			
31	08:17		14:15 (E13)				06:51					04:37						
	16:43	25	14:40 (E13)				19:51					21:51						
Potential sun hours	235			266			366			426			508			529		
Total, worst case	1126			54			86			285			194					
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			0.62			0.66			0.67					
Total reduction	0.09			0.13			0.25			0.32			0.37					
Total, real	97			7			22			92			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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 22:09	05:16 21:28	06:03 (E6) 20:14	06:17 20:14	06:48 (E8) 18:54	07:17 15:15
2	04:31 22:08	05:17 21:26	06:03 (E6) 20:11	06:19 20:11	06:49 (E8) 18:51	07:19 15:44
3	04:32 22:08	05:19 21:24	06:02 (E6) 20:09	06:21 20:09	06:51 (E8) 18:48	07:21 15:43
4	04:33 22:07	05:21 21:22	06:02 (E6) 20:06	06:23 20:06	06:53 (E8) 18:46	07:23 15:42
5	04:34 22:07	05:23 21:19	06:01 (E6) 20:03	06:25 20:03	06:54 (E8) 18:43	07:25 15:42
6	04:35 22:06	05:25 21:17	06:01 (E6) 20:01	06:27 20:01	06:56 (E8) 18:40	07:27 15:41
7	04:36 22:05	05:27 21:15	06:01 (E6) 19:58	06:29 19:58	06:58 (E8) 18:38	07:29 15:40
8	04:37 22:04	05:29 21:13	06:02 (E6) 19:55	06:31 19:55	07:00 (E8) 18:35	07:31 15:39
9	04:38 22:03	05:31 21:11	06:04 (E6) 19:53	06:33 19:53	07:02 (E8) 18:32	07:33 15:38
10	04:39 22:02	05:33 21:08	06:05 (E6) 19:50	06:35 19:50	07:04 (E8) 18:30	07:35 15:37
11	04:41 22:01	05:35 21:06	06:07 (E6) 19:47	06:37 19:47	07:06 (E8) 18:27	07:37 15:36
12	04:42 22:00	05:37 21:04	06:09 (E6) 19:45	06:39 19:45	07:08 (E8) 18:25	07:39 15:35
13	04:43 21:59	05:39 21:01	06:11 (E6) 19:42	06:41 19:42	07:10 (E8) 18:22	07:41 15:34
14	04:45 21:58	05:41 20:59	06:14 (E6) 19:39	06:43 19:39	07:12 (E8) 18:19	07:43 15:33
15	04:46 21:57	05:43 20:57	06:16 (E6) 19:37	06:45 19:37	07:14 (E8) 18:17	07:45 15:32
16	04:48 21:55	05:45 20:54	06:18 (E6) 19:34	06:47 19:34	07:16 (E8) 18:14	07:47 15:31
17	04:49 21:54	05:47 20:52	06:20 (E6) 19:31	06:49 19:31	07:18 (E8) 18:12	07:49 15:30
18	04:51 21:52	05:49 20:49	06:22 (E6) 19:29	06:51 19:29	07:20 (E8) 18:09	07:51 15:29
19	04:52 21:51	05:51 20:47	06:24 (E6) 19:26	06:53 19:26	07:22 (E8) 18:07	07:53 15:28
20	04:54 21:49	05:53 20:45	06:26 (E6) 19:23	06:55 19:23	07:24 (E8) 18:04	07:55 15:27
21	04:56 21:48	05:55 20:42	06:28 (E6) 19:20	06:57 19:20	07:26 (E8) 18:02	07:57 15:26
22	04:57 21:46	05:57 20:40	06:30 (E6) 19:18	06:59 19:18	07:28 (E8) 18:00	07:59 15:25
23	04:59 21:45	05:59 20:37	06:32 (E6) 19:15	07:01 19:15	07:30 (E8) 17:57	08:01 15:24
24	05:01 21:43	06:01 20:35	06:34 (E6) 19:12	07:03 19:12	07:32 (E8) 17:55	08:03 15:23
25	05:03 21:41	06:03 20:32	06:36 (E6) 19:10	07:05 19:10	07:34 (E8) 17:52	08:05 15:22
26	05:04 21:39	06:05 20:29	06:38 (E6) 19:07	07:07 19:07	07:36 (E8) 17:50	08:07 15:21
27	05:06 21:37	06:07 20:27	06:40 (E6) 19:04	07:09 19:04	07:38 (E8) 17:47	08:09 15:20
28	05:08 21:36	06:09 20:24	06:42 (E6) 19:02	07:11 19:02	07:40 (E8) 17:45	08:11 15:19
29	05:10 21:34	06:11 20:22	06:44 (E6) 18:59	07:13 18:59	07:42 (E8) 17:43	08:13 15:18
30	05:12 21:32	06:13 20:19	06:46 (E6) 18:56	07:15 18:56	07:44 (E8) 17:41	08:15 15:17
31	05:14 21:30	06:15 20:17	06:48 (E6) 18:53	07:17 18:53	07:46 (E8) 17:39	08:17 15:16
Potential sun hours	529	469	385	324	247	216
Total, worst case	18	397	100	58	756	1217
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	0.62	0.66	0.66
Total reduction	0.32	0.32	0.27	0.16	0.05	0.05
Total, real	6	128	27	9	40	56

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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	08:45 (E14)	07:11	06:49	05:33
	15:48	16:45	2 08:47 (E14)	17:48	19:53	20:56
2	08:51	08:13	08:43 (E14)	07:08	06:46	05:30
	15:49	16:48	6 08:49 (E14)	17:50	19:55	20:58
3	08:50	08:11	08:41 (E14)	07:06	06:44	05:28
	15:51	16:50	9 08:50 (E14)	17:52	19:57	21:00
4	08:50	08:09	08:39 (E14)	07:03	06:41	05:26
	15:52	16:52	12 08:51 (E14)	17:54	19:59	21:02
5	08:49	08:07	08:37 (E14)	07:01	06:38	05:24
	15:53	16:54	15 08:52 (E14)	17:56	20:01	21:04
6	08:49	08:05	08:34 (E14)	06:58	06:36	05:21
	15:55	16:57	18 08:52 (E14)	17:58	20:03	21:06
7	08:48	08:03	08:34 (E14)	06:55	06:33	05:19
	15:56	16:59	18 08:52 (E14)	18:01	20:06	21:08
8	08:48	08:01	08:34 (E14)	06:53	06:30	05:17
	15:58	17:01	19 08:53 (E14)	18:03	20:08	21:10
9	08:47	07:58	08:34 (E14)	06:50	06:28	05:15
	16:00	17:03	18 08:52 (E14)	18:05	20:10	21:12
10	08:46	07:56	08:35 (E14)	06:48	06:25	05:13
	16:01	17:05	17 08:52 (E14)	18:07	20:12	21:14
11	08:45	07:54	08:36 (E14)	06:45	06:22	05:11
	16:03	17:08	15 08:51 (E14)	18:09	20:14	21:16
12	08:44	07:52	08:36 (E14)	06:42	07:08 (E13)	06:20
	16:05	17:10	14 08:50 (E14)	18:11	07:12 (E13)	20:16
13	08:43	07:50	08:38 (E14)	06:40	07:05 (E13)	06:17
	16:06	17:12	10 08:48 (E14)	18:13	07:12 (E13)	20:18
14	08:42	07:47	06:37	07:02 (E13)	06:15	05:05
	16:08	17:14	18:16	10 07:12 (E13)	20:20	21:22
15	08:41	07:45	06:34	07:00 (E13)	06:12	05:03
	16:10	17:17	18:18	13 07:13 (E13)	20:22	21:24
16	08:40	07:43	06:32	06:57 (E13)	06:09	05:01
	16:12	17:19	18:20	16 07:13 (E13)	20:24	21:26
17	08:39	07:40	06:29	06:56 (E13)	06:07	04:59
	16:14	17:21	18:22	16 07:12 (E13)	20:26	21:27
18	08:38	07:38	06:26	06:57 (E13)	06:04	04:57
	16:16	17:23	18:24	15 07:12 (E13)	20:28	21:29
19	08:36	07:36	06:24	06:57 (E13)	06:02	04:55
	16:18	17:26	18:26	13 07:10 (E13)	20:31	21:31
20	08:35	07:33	06:21	06:58 (E13)	05:59	04:53
	16:20	17:28	18:28	10 07:08 (E13)	20:33	21:33
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	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	17:34	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	22:10
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	05:44	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	22:09
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		173	104			
Sun reduction		0.20	0.41			
Oper. time red.		0.98	0.98			
Wind dir. red.		0.61	0.64			
Total reduction		0.12	0.26			
Total, real		21	27			

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:46 (E13)	07:23
	22:09	21:28	20:14	18:54	07:51 (E13)	08:04 (E14)
2	04:31	05:18	06:19	07:19	07:48 (E13)	07:25
	22:09	21:26	20:11	18:51	07:49 (E13)	08:03 (E14)
3	04:32	05:20	06:21	07:21		08:04 (E14)
	22:08	21:24	20:09	18:48		08:22 (E14)
4	04:33	05:22	06:23	07:23		08:03 (E14)
	22:07	21:22	20:06	18:46		08:22 (E14)
5	04:34	05:23	06:25	07:26		08:05 (E14)
	22:07	21:20	20:04	18:43		08:22 (E14)
6	04:35	05:25	06:27	07:28		08:07 (E14)
	22:06	21:17	20:01	18:40		08:22 (E14)
7	04:36	05:27	06:29	07:30		08:09 (E14)
	22:05	21:15	19:58	18:38		08:21 (E14)
8	04:37	05:29	06:31	07:32		08:12 (E14)
	22:04	21:13	19:56	18:35		08:21 (E14)
9	04:38	05:31	06:33	07:34		08:14 (E14)
	22:03	21:11	19:53	18:33		08:20 (E14)
10	04:39	05:33	06:35	07:36		08:17 (E14)
	22:02	21:09	19:50	18:30		08:19 (E14)
11	04:41	05:35	06:37	07:38		08:19 (E14)
	22:01	21:06	19:48	18:27		08:39
12	04:42	05:37	06:39	07:40		16:15
	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	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		16:10
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	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	07:53		07:59
	21:53	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
	21:50	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	07:52 (E13)		15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	19:12	07:53 (E13)		15:53
25	05:03	06:03	07:05	08:07		08:13
	21:41	20:32	19:10	07:54 (E13)		15:52
26	05:05	06:05	07:07	08:09		08:15
	21:39	20:30	19:07	07:55 (E13)		15:51
27	05:06	06:07	07:09	08:11		08:17
	21:38	20:27	19:04	07:54 (E13)		15:50
28	05:08	06:09	07:11	08:13		08:19
	21:36	20:24	19:02	07:54 (E13)		15:48
29	05:10	06:11	07:13	08:15		08:21
	21:34	20:22	18:59	07:54 (E13)		15:47
30	05:12	06:13	07:15	08:17		08:23
	21:32	20:19	18:56	07:53 (E13)		15:46
31	05:14	06:15		08:19 (E14)		08:25
	21:30	20:17		08:05 (E14)		15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			101	51		133
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			0.27	0.16		0.05
Total, real			27	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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	05:40 (E14) 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	05:40 (E14) 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	05:38 (E14) 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	05:38 (E14) 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 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:26 22:09	04:51 21:52	05:37 (E14) 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	05:37 (E14) 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	05:37 (E14) 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	05:52 (E14) 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	05:52 (E14) 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	05:53 (E14) 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	05:36 (E14) 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	05:38 (E14) 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	05:39 (E14) 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	05:41 (E14) 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	05:43 (E14) 20:24	07:11 19:02	08:14 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	05:44 (E14) 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	04:39 21:50	04:30 22:09	05:12 21:32	05:46 (E14) 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	04:37 21:51		05:14 21:30	05:48 (E14) 20:17	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					205							
Sun reduction					0.57							
Oper. time red.					0.98							
Wind dir. red.					0.67							
Total reduction					0.37							
Total, real					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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E14) 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 (E14) 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 (E14) 17:52	07:06 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	08:41 (E14) 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 (E14) 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 (E14) 17:58	06:58 20:04	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	08:42 (E14) 18:01	06:55 07:21 (E13)	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	08:43 (E14) 18:03	06:53 07:18 (E13)	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	08:44 (E14) 18:05	06:50 07:16 (E13)	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	08:48 (E14) 18:07	06:48 07:13 (E13)	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	08:52 (E14) 18:09	06:45 07:10 (E13)	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	18:11	06:42 07:10 (E13)	05:09 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	18:13	06:40 07:11 (E13)	05:07 21:20	04:26 22:06
14	08:42 16:08	07:47 17:14	18:16	06:37 07:11 (E13)	05:05 21:22	04:26 22:07
15	08:41 16:10	07:45 17:17	18:18	06:34 07:14 (E13)	05:03 21:24	04:26 22:07
16	08:40 16:12	07:43 17:19	18:20	06:32 20:22 (E13)	05:01 21:26	04:26 22:08
17	08:39 16:14	07:40 17:21	18:22	06:29 20:26	04:59 21:27	04:25 22:09
18	08:38 16:16	07:38 17:23	18:24	06:26 20:28	04:57 21:29	04:25 22:09
19	08:36 16:18	07:36 17:26	18:26	06:24 20:31	04:55 21:31	04:25 22:09
20	08:35 16:20	07:33 17:28	18:28	06:21 20:33	04:53 21:33	04:25 22:10
21	08:33 16:22	07:31 17:30	18:30	06:18 20:35	04:52 21:35	04:25 22:10
22	08:32 16:24	07:28 17:32	18:32	06:16 20:37	04:50 21:37	04:26 22:10
23	08:30 16:26	07:26 17:35	18:34	06:13 20:39	04:48 21:38	04:26 22:10
24	08:29 16:28	07:23 17:37	18:36	06:10 20:41	04:47 21:40	04:26 22:11
25	08:27 16:30	07:21 17:39	18:39	06:08 20:43	04:45 21:42	04:27 22:11
26	08:26 16:32	07:18 17:41	18:41	06:05 20:45	04:44 21:43	04:27 22:10
27	08:24 16:34	07:16 17:43	18:43	06:02 20:47	04:42 21:45	04:27 22:10
28	08:22 16:37	07:13 17:45	18:45	06:00 20:49	04:41 21:47	04:28 22:10
29	08:20 16:39	08:52 (E14) 08:54 (E14)	18:45 19:47	05:59 20:51	04:53 21:48	04:25 22:10
30	08:19 16:41	08:50 (E14) 08:55 (E14)	18:45 19:49	05:57 20:53	04:40 21:50	04:29 22:10
31	08:17 16:43	08:48 (E14) 08:57 (E14)	18:45 19:51	05:57 21:51	04:40 21:51	04:29 22:10
Potential sun hours	235	266	366	426	508	529
Total, worst case	16	134	93			
Sun reduction	0.13	0.20	0.41			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.60	0.60	0.62			
Total reduction	0.08	0.12	0.25			
Total, real	1	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	07:17	07:50 (E13)	07:23
	22:09	21:28	20:14	18:54	08:04 (E13)	08:16 (E14)
2	04:31	05:18	06:19	07:19	07:49 (E13)	07:25
	22:09	21:26	20:11	18:51	08:04 (E13)	08:22 (E14)
3	04:32	05:20	06:21	07:21	07:50 (E13)	07:27
	22:08	21:24	20:09	18:48	08:04 (E13)	08:13 (E14)
4	04:33	05:22	06:23	07:23	07:52 (E13)	07:29
	22:07	21:22	20:06	18:46	08:03 (E13)	08:26 (E14)
5	04:34	05:23	06:25	07:26	07:54 (E13)	07:31
	22:07	21:20	20:04	18:43	08:02 (E13)	08:12 (E14)
6	04:35	05:25	06:27	07:28	07:56 (E13)	07:34
	22:06	21:17	20:01	18:40	08:01 (E13)	08:11 (E14)
7	04:36	05:27	06:29	07:30	07:58 (E13)	07:36
	22:05	21:15	19:58	18:38	07:59 (E13)	08:08 (E14)
8	04:37	05:29	06:31	07:32		07:38
	22:04	21:13	19:56	18:35		08:12 (E14)
9	04:38	05:31	06:33	07:34		08:14 (E14)
	22:03	21:11	19:53	18:33		08:16 (E14)
10	04:39	05:33	06:35	07:36		08:17 (E14)
	22:02	21:09	19:50	18:30		08:19 (E14)
11	04:41	05:35	06:37	07:38		08:21 (E14)
	22:01	21:06	19:48	18:27		08:23 (E14)
12	04:42	05:37	06:39	07:40		08:25 (E14)
	22:00	21:04	19:45	18:25		08:27 (E14)
13	04:44	05:39	06:41	07:42		08:29 (E14)
	21:59	21:02	19:42	18:22		08:31 (E14)
14	04:45	05:41	06:43	07:44		08:33 (E14)
	21:58	20:59	19:39	18:20		08:35 (E14)
15	04:46	05:43	06:45	07:46		08:37 (E14)
	21:57	20:57	19:37	18:17		08:39 (E14)
16	04:48	05:45	06:47	07:48		08:41 (E14)
	21:55	20:54	19:34	18:15		08:43 (E14)
17	04:49	05:47	06:49	07:50		08:45 (E14)
	21:54	20:52	19:31	18:12		08:47 (E14)
18	04:51	05:49	06:51	07:53		08:49 (E14)
	21:53	20:50	19:29	18:09		08:51 (E14)
19	04:53	05:51	06:53	07:55		08:53 (E14)
	21:51	20:47	19:26	18:07		08:55 (E14)
20	04:54	05:53	06:55	07:57		08:57 (E14)
	21:50	20:45	19:23	18:04		08:59 (E14)
21	04:56	05:55	06:57	07:59		09:01 (E14)
	21:48	20:42	19:21	18:02		09:03 (E14)
22	04:58	05:57	06:59	08:01		09:05 (E14)
	21:46	20:40	19:18	18:00		09:07 (E14)
23	04:59	05:59	07:01	08:03		09:09 (E14)
	21:45	20:37	19:15	17:57		09:11 (E14)
24	05:01	06:01	07:03	08:05		09:13 (E14)
	21:43	20:35	19:13	17:55		09:15 (E14)
25	05:03	06:03	07:05	07:07		09:17 (E14)
	21:41	20:32	19:10	16:52		09:19 (E14)
26	05:05	06:05	07:07	07:10		09:21 (E14)
	21:39	20:30	19:07	16:50		09:23 (E14)
27	05:06	06:07	07:09	07:12		09:25 (E14)
	21:38	20:27	19:04	16:48		09:27 (E14)
28	05:08	06:09	07:11	07:14		09:29 (E14)
	21:36	20:25	19:02	16:45		09:31 (E14)
29	05:10	06:11	07:13	07:16		09:33 (E14)
	21:34	20:22	18:59	16:43		09:35 (E14)
30	05:12	06:13	07:15	07:18		09:37 (E14)
	21:32	20:19	18:56	16:41		09:39 (E14)
31	05:14	06:15		07:20		09:41 (E14)
	21:30	20:17		16:38		09:43 (E14)
Potential sun hours	529	469	385	324	247	216
Total, worst case			23	68	150	
Sun reduction			0.43	0.26	0.08	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.62	0.62	0.60	
Total reduction			0.26	0.16	0.05	
Total, real			6	11	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	09:17 (E13) 17:48	07:11 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	09:19 (E13) 17:50	07:08 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	09:20 (E13) 17:52	07:06 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	09:23 (E13) 17:54	07:03 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	09:32 (E13) 17:54	07:01 19:59	05:23 21:02	04:32 21:57	04:34 22:07	05:23 21:22	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	09:32 (E13) 17:54	06:58 19:59	05:21 21:04	04:31 21:58	04:35 22:07	05:25 21:20	06:27 20:03	07:28 18:43	07:34 16:25	08:32 15:41
7	08:48 15:56	08:03 16:59	09:32 (E13) 17:54	06:55 19:59	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:29 20:03	07:30 18:38	07:36 16:23	08:34 15:40
8	08:48 15:58	08:01 17:01	09:32 (E13) 17:54	06:53 19:59	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 20:03	07:32 18:35	07:38 16:21	08:35 15:40
9	08:47 15:59	07:58 17:03	09:32 (E13) 17:54	06:50 19:59	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 20:03	07:34 18:32	07:40 16:19	08:37 15:39
10	08:46 16:01	07:56 17:05	09:32 (E13) 17:54	06:47 19:59	05:13 21:14	04:28 22:03	04:39 22:02	05:33 21:09	06:35 20:03	07:36 18:30	07:42 16:17	08:38 15:39
11	08:45 16:03	07:54 17:08	09:32 (E13) 17:54	06:45 19:59	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 20:03	07:38 18:27	07:44 16:15	08:39 15:38
12	08:44 16:05	07:52 17:10	09:32 (E13) 17:54	06:42 19:59	05:08 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 20:03	07:40 18:25	07:46 16:13	08:40 15:38
13	08:43 16:06	07:50 17:12	09:32 (E13) 17:54	06:40 19:59	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 20:03	07:42 18:22	07:49 16:11	08:42 15:38
14	08:42 16:08	07:47 17:14	09:32 (E13) 17:54	06:37 19:59	05:04 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 20:03	07:44 18:20	07:51 16:09	08:43 15:38
15	08:41 16:10	07:45 17:17	09:32 (E13) 17:54	06:34 19:59	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 20:03	07:46 18:17	07:53 16:08	08:44 15:38
16	08:40 16:12	07:43 17:19	09:32 (E13) 17:54	06:32 19:59	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:54	06:47 20:03	07:48 18:14	07:55 16:06	08:45 15:38
17	08:39 16:14	07:40 17:21	09:32 (E13) 17:54	06:29 19:59	04:59 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 20:03	07:50 18:12	07:57 16:04	08:46 15:38
18	08:38 16:16	07:38 17:23	09:32 (E13) 17:54	06:26 19:59	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 20:03	07:52 18:09	07:59 16:02	08:48 15:38
19	08:36 16:18	07:36 17:26	09:32 (E13) 17:54	06:24 19:59	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 20:03	07:55 18:07	08:01 16:01	08:48 15:38
20	08:35 16:20	07:33 17:28	09:32 (E13) 17:54	06:21 19:59	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 20:03	07:57 18:04	08:03 15:59	08:48 15:39
21	08:33 16:22	07:31 17:30	09:32 (E13) 17:54	06:18 19:59	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 20:03	07:59 18:02	08:05 15:58	08:49 15:39
22	08:32 16:24	07:28 17:32	09:32 (E13) 17:54	06:16 19:59	04:50 21:37	04:25 22:10	04:57 21:46	05:57 20:40	06:59 20:03	08:01 17:59	08:07 15:56	08:50 15:39
23	08:30 16:26	07:26 17:34	09:32 (E13) 17:54	06:13 19:59	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 20:03	08:03 17:57	08:09 15:55	08:50 15:40
24	08:29 16:28	07:23 17:37	09:32 (E13) 17:54	06:10 19:59	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 20:03	08:05 17:55	08:11 15:53	08:51 15:41
25	08:27 16:30	07:21 17:39	09:32 (E13) 17:54	06:08 19:59	04:45 21:42	04:26 22:10	05:03 21:41	06:03 20:32	07:05 20:03	08:07 17:52	08:13 15:52	08:52 15:41
26	08:26 16:32	07:18 17:41	09:32 (E13) 17:54	06:05 19:59	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 20:03	08:09 17:50	08:15 15:51	08:54 15:42
27	08:24 16:34	07:16 17:43	09:32 (E13) 17:54	06:02 19:59	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 20:03	08:11 17:47	08:17 15:49	08:56 15:43
28	08:22 16:36	07:13 17:45	09:32 (E13) 17:54	05:59 19:59	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 20:03	08:13 17:44	08:19 15:48	08:58 15:44
29	08:20 16:39	07:13 17:48	09:32 (E13) 17:54	05:57 19:59	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 20:03	08:15 17:41	08:21 15:47	08:59 15:45
30	08:19 16:41	07:13 17:50	09:32 (E13) 17:54	05:54 19:59	04:38 21:50	04:29 22:09	05:12 21:32	06:13 20:19	07:15 20:03	08:17 17:41	08:22 15:46	09:02 15:46
31	08:17 16:43	07:13 17:52	09:32 (E13) 17:54	05:51 19:59	04:37 21:51	04:37 21:51	05:14 21:30	06:15 20:17	07:17 20:03	08:19 17:41	08:24 15:47	09:05 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case	382	58										
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	30	7									21	

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:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	07:37 (E15)	06:49	05:33
	15:48	16:45	17:48	10 07:47 (E15)	19:53	20:55
2	08:50	08:13	07:08	07:34 (E14)	06:46	05:30
	15:50	16:48	17:50	13 07:47 (E15)	19:55	20:58
3	08:50	08:11	07:06	07:32 (E14)	06:44	05:28
	15:51	16:50	17:52	15 07:47 (E15)	19:57	21:00
4	08:50	08:09	07:03	07:29 (E14)	06:41	05:26
	15:52	16:52	17:54	18 07:47 (E15)	19:59	21:02
5	08:49	08:07	07:01	07:26 (E14)	06:38	05:24
	15:54	16:54	17:56	20 07:46 (E14)	20:01	21:04
6	08:49	08:05	06:58	07:24 (E14)	06:36	05:21
	15:55	16:57	17:58	23 07:47 (E14)	20:03	21:06
7	08:48	08:03	06:55	07:22 (E14)	06:33	05:19
	15:56	16:59	18:01	25 07:47 (E14)	20:06	21:08
8	08:48	08:01	06:53	07:21 (E14)	06:30	05:17
	15:58	17:01	18:03	26 07:47 (E14)	20:08	21:10
9	08:47	07:58	06:50	07:21 (E14)	06:28	05:15
	16:00	17:03	18:05	27 07:48 (E14)	20:10	21:12
10	08:46	07:56	06:48	07:20 (E14)	06:25	05:13
	16:01	17:05	18:07	27 07:47 (E14)	20:12	21:14
11	08:45	07:54	06:45	07:20 (E14)	06:22	05:11
	16:03	17:08	18:09	27 07:47 (E14)	20:14	21:16
12	08:44	07:52	06:42	07:20 (E14)	06:20	05:09
	16:05	17:10	18:11	27 07:47 (E14)	20:16	21:18
13	08:43	07:50	06:40	07:20 (E14)	06:17	05:07
	16:06	17:12	18:13	26 07:46 (E14)	20:18	21:20
14	08:42	07:47	06:37	07:20 (E14)	06:15	05:05
	16:08	17:14	18:15	25 07:45 (E14)	20:20	21:22
15	08:41	07:45	06:34	07:22 (E14)	06:12	05:03
	16:10	17:17	18:18	22 07:44 (E14)	20:22	21:24
16	08:40	07:43	06:32	07:22 (E14)	06:09	05:01
	16:12	17:19	18:20	20 07:42 (E14)	20:24	21:26
17	08:39	07:40	06:29	07:24 (E14)	06:07	05:00
	16:14	17:21	18:22	16 07:40 (E14)	20:26	21:27
18	08:38	07:38	06:26	07:26 (E14)	06:04	05:00
	16:16	17:23	18:24	11 07:37 (E14)	20:28	21:29
19	08:36	07:36	06:24	06:02	05:59	05:00
	16:18	17:26	18:26	20:31	19 06:47 (E13)	21:31
20	08:35	07:33	06:21	05:59	06:27 (E13)	04:54
	16:20	17:28	18:28	20:33	20 06:47 (E13)	21:33
21	08:33	07:31	06:18	05:57	06:27 (E13)	04:52
	16:22	17:30	18:30	20:35	19 06:46 (E13)	21:35
22	08:32	07:28	06:16	05:54	06:27 (E13)	04:50
	16:24	17:32	18:32	20:37	18 06:45 (E13)	21:37
23	08:30	07:26	06:13	05:52	06:27 (E13)	04:48
	16:26	17:34	18:34	20:39	17 06:44 (E13)	21:38
24	08:29	07:23	06:10	05:49	06:28 (E13)	04:47
	16:28	17:37	18:36	20:41	15 06:43 (E13)	21:40
25	08:27	07:21	06:08	05:47	06:30 (E13)	04:45
	16:30	17:39	18:39	20:43	11 06:41 (E13)	21:42
26	08:26	07:18	06:05	05:45	06:32 (E13)	04:44
	16:32	17:41	18:41	20:45	5 06:37 (E13)	21:43
27	08:24	07:16	06:02	05:42		04:42
	16:34	17:43	18:43	20:47		22:10
28	08:22	07:13	06:00	05:40		04:41
	16:37	17:45	18:45	20:49		22:10
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						
Sun reduction		11	378		177	
Oper. time red.		0.20	0.41		0.50	
Wind dir. red.		0.98	0.98		0.98	
Total reduction		0.62	0.62		0.65	
Total, real		0.12	0.25		0.32	
		1	95		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:00 (E14)	07:23
	22:09	21:28	20:14	18:54	26 08:26 (E14)	16:36
2	04:31	05:18	06:19	07:19	07:59 (E14)	16:36
	22:09	21:26	20:11	18:51	27 08:26 (E14)	16:34
3	04:32	05:20	06:21	07:21	07:58 (E14)	16:34
	22:08	21:24	20:09	18:48	28 08:26 (E14)	16:32
4	04:33	05:22	06:23	07:23	07:58 (E14)	16:32
	22:07	21:22	20:06	18:46	27 08:25 (E14)	16:30
5	04:34	05:24	06:25	07:25	07:58 (E14)	16:30
	22:07	21:20	20:04	18:43	26 08:24 (E14)	16:27
6	04:35	05:25	06:27	07:28	07:58 (E14)	16:27
	22:06	21:17	20:01	18:40	26 08:24 (E14)	16:25
7	04:36	05:27	06:29	07:30	07:58 (E14)	16:25
	22:05	21:15	19:58	18:38	25 08:23 (E14)	16:23
8	04:37	05:29	06:31	07:32	08:00 (E14)	16:23
	22:04	21:13	19:56	18:35	21 08:21 (E14)	16:21
9	04:38	05:31	06:33	07:34	08:03 (E14)	16:21
	22:03	21:11	19:53	18:33	19 08:22 (E15)	16:19
10	04:40	05:33	06:35	07:36	08:05 (E14)	16:19
	22:02	21:08	19:50	18:30	17 08:22 (E15)	16:17
11	04:41	05:35	06:37	07:38	08:07 (E14)	16:17
	22:01	21:06	19:48	18:27	14 08:21 (E15)	16:15
12	04:42	05:37	06:39	07:40	08:09 (E14)	16:15
	22:00	21:04	19:45	18:25	12 08:21 (E15)	16:13
13	04:44	05:39	06:41	07:42	08:11 (E15)	16:13
	21:59	21:02	19:42	18:22	9 08:20 (E15)	16:11
14	04:45	05:41	06:43	07:44	08:13 (E15)	16:11
	21:58	20:59	19:39	18:20	6 08:19 (E15)	16:10
15	04:46	05:43	06:45	07:46	08:16 (E15)	16:10
	21:57	20:57	19:37	18:17	2 08:18 (E15)	16:08
16	04:48	05:45	06:47	07:48		16:08
	21:55	20:54	19:34	18:15		16:06
17	04:49	05:47	06:49	07:50		16:06
	21:54	20:52	7 06:46 (E13)	18:12		16:04
18	04:51	05:49	06:51	07:52		16:04
	21:52	20:50	12 06:48 (E13)	18:09		16:03
19	04:53	05:51	06:53	07:55		16:03
	21:51	20:47	14 06:48 (E13)	18:07		16:01
20	04:54	05:53	06:55	07:57		16:01
	21:49	20:45	16 06:49 (E13)	18:04		16:00
21	04:56	05:55	06:57	07:59		15:59
	21:48	20:42	18 06:50 (E13)	18:02		15:58
22	04:58	05:57	06:59	08:01		15:58
	21:46	20:40	19 06:50 (E13)	18:00		15:56
23	04:59	05:59	07:01	08:03		15:56
	21:45	20:37	19 06:50 (E13)	17:57		15:55
24	05:01	06:01	07:03	08:05		15:55
	21:43	20:35	18 06:50 (E13)	17:55		15:53
25	05:03	06:03	07:05	08:11 (E14)		15:53
	21:41	20:32	16 06:50 (E13)	17:52		15:52
26	05:05	06:05	07:07	08:07 (E14)		15:52
	21:39	20:30	13 06:49 (E13)	17:50		15:51
27	05:06	06:07	07:09	08:05 (E14)		15:51
	21:38	20:27	11 06:49 (E13)	17:48		15:50
28	05:08	06:09	07:11	08:03 (E14)		15:50
	21:36	20:24	8 06:47 (E13)	17:46		15:49
29	05:10	06:11	07:13	08:02 (E14)		15:48
	21:34	20:22	4 06:45 (E13)	17:44		15:47
30	05:12	06:13	07:15	08:01 (E14)		15:47
	21:32	20:19	18:56	08:26 (E14)		15:46
31	05:14	06:15		07:20		15:46
	21:30	20:17		16:38		15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		175	112	285		
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	29	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		07:37 (E15)	06:49	05:33	04:36
	15:48	16:45	17:48	3	07:40 (E15)	19:53	20:55	21:53
2	08:50	08:13	07:08		07:34 (E15)	06:46	05:30	04:35
	15:50	16:48	17:50	7	07:41 (E15)	19:55	20:58	21:54
3	08:50	08:11	07:06		07:32 (E15)	06:44	05:28	04:34
	15:51	16:50	17:52	10	07:42 (E15)	19:57	21:00	21:55
4	08:50	08:09	07:03		07:29 (E15)	06:41	05:26	04:33
	15:52	16:52	17:54	12	07:41 (E15)	19:59	21:02	21:57
5	08:49	08:07	07:01		07:26 (E14)	06:38	05:24	04:32
	15:54	16:54	17:56	15	07:41 (E15)	20:01	21:04	21:58
6	08:49	08:05	06:58		07:24 (E14)	06:36	05:21	04:31
	15:55	16:57	17:58	17	07:41 (E15)	20:03	21:06	21:59
7	08:48	08:03	06:55		07:21 (E14)	06:33	05:19	04:30
	15:56	16:59	18:01	19	07:40 (E15)	20:06	21:08	22:00
8	08:48	08:01	06:53		07:18 (E14)	06:30	05:17	04:29
	15:58	17:01	18:03	20	07:38 (E15)	20:08	21:10	22:01
9	08:47	07:58	06:50		07:16 (E14)	06:28	05:15	04:29
	16:00	17:03	18:05	22	07:38 (E14)	20:10	21:12	22:02
10	08:46	07:56	06:48		07:13 (E14)	06:25	05:13	04:28
	16:01	17:05	18:07	25	07:38 (E14)	20:12	21:14	22:03
11	08:45	07:54	06:45		07:12 (E14)	06:22	05:11	04:27
	16:03	17:08	18:09	26	07:38 (E14)	20:14	21:16	22:04
12	08:44	07:52	06:42		07:13 (E14)	06:20	05:09	04:27
	16:05	17:10	18:11	26	07:39 (E14)	20:16	21:18	22:05
13	08:43	07:50	06:40		07:12 (E14)	06:17	05:07	04:27
	16:06	17:12	18:13	26	07:38 (E14)	20:18	21:20	22:06
14	08:42	07:47	06:37		07:11 (E14)	06:15	05:05	04:26
	16:08	17:14	18:16	27	07:38 (E14)	20:20	21:22	22:07
15	08:41	07:45	06:34		07:12 (E14)	06:12	06:38 (E13)	05:03
	16:10	17:17	18:18	26	07:38 (E14)	20:22	06:41 (E13)	21:24
16	08:40	07:43	06:32		07:12 (E14)	06:09	06:35 (E13)	05:01
	16:12	17:19	18:20	25	07:37 (E14)	20:24	06:41 (E13)	21:26
17	08:39	07:40	06:29		07:12 (E14)	06:07	06:33 (E13)	04:59
	16:14	17:21	18:22	23	07:35 (E14)	20:26	06:42 (E13)	21:27
18	08:38	07:38	06:26		07:12 (E14)	06:04	06:30 (E13)	04:57
	16:16	17:23	18:24	22	07:34 (E14)	20:28	06:42 (E13)	21:29
19	08:36	07:36	06:24		07:14 (E14)	06:02	06:28 (E13)	04:55
	16:18	17:26	18:26	19	07:33 (E14)	20:31	06:43 (E13)	21:31
20	08:35	07:33	06:21		07:16 (E14)	05:59	06:26 (E13)	04:54
	16:20	17:28	18:28	14	07:30 (E14)	20:33	06:43 (E13)	21:33
21	08:33	07:31	06:18		07:18 (E14)	05:57	06:23 (E13)	04:52
	16:22	17:30	18:30	8	07:26 (E14)	20:35	06:42 (E13)	21:35
22	08:32	07:28	06:16			05:54	06:24 (E13)	04:50
	16:24	17:32	18:32			20:37	06:42 (E13)	21:37
23	08:30	07:26	06:13			05:52	06:23 (E13)	04:48
	16:26	17:34	18:34			20:39	06:41 (E13)	21:38
24	08:29	07:23	06:10			05:49	06:24 (E13)	04:47
	16:28	17:37	18:36			20:41	06:40 (E13)	21:40
25	08:27	07:21	06:08			05:47	06:25 (E13)	04:45
	16:30	17:39	18:39			20:43	06:39 (E13)	21:42
26	08:26	07:18	06:05			05:45	06:26 (E13)	04:44
	16:32	17:41	18:41			20:45	06:37 (E13)	21:43
27	08:24	07:16	06:02			05:42	06:29 (E13)	04:42
	16:34	17:43	18:43			20:47	06:34 (E13)	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	528
Total, worst case				392		163		
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				98		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E14) 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:51 (E14) 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 (E14) 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 (E14) 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 (E14) 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 (E14) 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 (E14) 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 (E14) 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 (E15) 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 (E15) 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 (E15) 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 (E15) 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 (E15) 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	08:13 (E15) 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	08:06 (E14) 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:01 (E14) 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	07:58 (E14) 17:55	08:05 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:57 (E14) 17:52	08:13 15:52	08:50 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:55 (E14) 17:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:54 (E14) 17:48	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:53 (E14) 17:46	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:52 (E14) 17:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:52 (E14) 17:41	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		08:18 (E14) 17:20	15:46 15:47	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		166	179	215		
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		53	46	34		

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	06:49	05:33	06:06 (E13)
	15:48	16:45	17:48	19:53	20:55	19 06:25 (E13)
2	08:50	08:13	07:08	06:46	05:30	06:07 (E13)
	15:50	16:48	17:50	19:55	20:58	17 06:24 (E13)
3	08:50	08:11	07:06	06:44	05:28	06:08 (E13)
	15:51	16:50	17:52	19:57	21:00	16 06:24 (E13)
4	08:50	08:09	07:03	07:29 (E15)	05:26	06:09 (E13)
	15:52	16:52	17:54	2 07:31 (E15)	21:02	13 06:22 (E13)
5	08:49	08:07	07:01	07:26 (E15)	05:24	06:10 (E13)
	15:54	16:54	17:56	6 07:32 (E15)	21:04	11 06:21 (E13)
6	08:49	08:05	06:58	07:24 (E15)	05:21	06:13 (E13)
	15:55	16:57	17:58	9 07:33 (E15)	21:06	5 06:18 (E13)
7	08:48	08:03	06:55	07:21 (E15)	05:19	04:30
	15:56	16:59	18:01	12 07:33 (E15)	21:08	22:00
8	08:48	08:01	06:53	07:18 (E15)	05:17	04:29
	15:58	17:01	18:03	15 07:33 (E15)	21:10	22:01
9	08:47	07:58	06:50	07:16 (E15)	05:15	04:29
	16:00	17:03	18:05	18 07:34 (E15)	21:12	22:02
10	08:46	07:56	06:48	07:15 (E15)	05:13	04:28
	16:01	17:05	18:07	18 07:33 (E15)	21:14	22:03
11	08:45	07:54	06:45	07:15 (E15)	05:11	04:27
	16:03	17:08	18:09	16 07:31 (E15)	21:16	22:04
12	08:44	07:52	06:42	07:08 (E14)	05:09	04:27
	16:05	17:10	18:11	23 07:31 (E15)	21:18	22:05
13	08:43	07:50	06:40	07:05 (E14)	05:07	04:27
	16:06	17:12	18:13	24 07:29 (E15)	21:20	22:06
14	08:42	07:47	06:37	07:02 (E14)	05:05	04:26
	16:08	17:14	18:15	22 07:24 (E15)	21:22	22:07
15	08:41	07:45	06:34	07:00 (E14)	05:03	04:26
	16:10	17:17	18:18	24 07:24 (E14)	21:24	22:07
16	08:40	07:43	06:32	06:58 (E14)	05:01	04:26
	16:12	17:19	18:20	26 07:24 (E14)	21:25	22:08
17	08:39	07:40	06:29	06:57 (E14)	04:59	04:25
	16:14	17:21	18:22	27 07:24 (E14)	21:27	22:08
18	08:38	07:38	06:26	06:56 (E14)	04:57	04:25
	16:16	17:23	18:24	28 07:24 (E14)	21:29	22:09
19	08:36	07:36	06:24	06:56 (E14)	04:55	04:25
	16:18	17:26	18:26	29 07:25 (E14)	21:31	22:09
20	08:35	07:33	06:21	06:55 (E14)	04:54	04:25
	16:20	17:28	18:28	29 07:24 (E14)	21:33	22:10
21	08:33	07:31	06:18	06:55 (E14)	04:52	04:25
	16:22	17:30	18:30	29 07:24 (E14)	21:35	22:10
22	08:32	07:28	06:16	06:55 (E14)	04:50	04:26
	16:24	17:32	18:32	29 07:24 (E14)	3 06:24 (E13)	22:10
23	08:30	07:26	06:13	06:55 (E14)	06:18 (E13)	04:48
	16:26	17:34	18:34	28 07:23 (E14)	6 06:24 (E13)	22:10
24	08:29	07:23	06:10	06:55 (E14)	06:16 (E13)	04:47
	16:28	17:37	18:36	27 07:22 (E14)	9 06:25 (E13)	22:10
25	08:27	07:21	06:08	06:56 (E14)	06:14 (E13)	04:45
	16:30	17:39	18:39	25 07:21 (E14)	12 06:26 (E13)	22:10
26	08:26	07:18	06:05	06:57 (E14)	06:11 (E13)	04:44
	16:32	17:41	18:41	23 07:20 (E14)	15 06:26 (E13)	22:10
27	08:24	07:16	06:02	06:57 (E14)	06:09 (E13)	04:42
	16:34	17:43	18:43	20 07:17 (E14)	17 06:26 (E13)	22:10
28	08:22	07:13	06:00	07:00 (E14)	06:07 (E13)	04:41
	16:37	17:45	18:45	16 07:16 (E14)	20 06:27 (E13)	22:10
29	08:20		06:57	08:02 (E14)	06:07 (E13)	04:40
	16:39		19:47	10 08:12 (E14)	20 06:27 (E13)	22:10
30	08:19		06:54		06:07 (E13)	04:38
	16:41		19:49		19 06:26 (E13)	22:09
31	08:17		06:52			04:37
	16:43		19:51			21:51
Potential sun hours	235	266	366	426	508	528
Total, worst case			535	121		81
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			136	39		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E14)	07:23
	22:09	21:28	20:14	18:54	23 08:09 (E15)	16:36
2	04:31	05:18	06:19	07:19	07:48 (E14)	07:25
	22:09	21:26	20:11	18:51	22 08:10 (E15)	16:34
3	04:32	05:20	06:21	07:21	07:54 (E15)	07:27
	22:08	21:24	20:09	18:48	16 08:10 (E15)	16:32
4	04:33	05:22	06:23	07:23	07:53 (E15)	07:29
	22:07	21:22	20:06	18:46	18 08:11 (E15)	16:30
5	04:34	05:24	06:25	07:25	07:54 (E15)	07:31
	22:07	21:20	20:04	18:43	16 08:10 (E15)	16:27
6	04:35	05:25	06:27	07:28	07:56 (E15)	07:33
	22:06	21:17	20:01	18:40	14 08:10 (E15)	16:25
7	04:36	05:27	06:29	07:30	07:58 (E15)	07:36
	22:05	21:15	7 06:28 (E13)	19:58	11 08:09 (E15)	16:23
8	04:37	05:29	06:31	07:32	08:00 (E15)	07:38
	22:04	21:13	12 06:31 (E13)	19:56	8 08:08 (E15)	16:21
9	04:38	05:31	06:33	07:34	08:03 (E15)	07:40
	22:03	21:11	14 06:32 (E13)	19:53	4 08:07 (E15)	16:19
10	04:40	05:33	06:35	07:36		07:42
	22:02	21:08	16 06:33 (E13)	19:50		16:17
11	04:41	05:35	06:37	07:38		07:44
	22:01	21:06	18 06:34 (E13)	19:47		16:15
12	04:42	05:37	06:39	07:40		07:46
	22:00	21:04	19 06:34 (E13)	19:45		16:13
13	04:44	05:39	06:41	07:42		07:49
	21:59	21:02	20 06:34 (E13)	19:42		16:11
14	04:45	05:41	06:43	07:44		07:51
	21:58	20:59	20 06:34 (E13)	19:39	9 08:02 (E14)	18:20
15	04:46	05:43	06:45	07:46		07:53
	21:57	20:57	19 06:34 (E13)	19:37	15 08:05 (E14)	18:17
16	04:48	05:45	06:47	07:48		07:55
	21:55	20:54	17 06:34 (E13)	19:34	20 08:07 (E14)	18:15
17	04:49	05:47	06:49	07:50		07:57
	21:54	20:52	14 06:33 (E13)	19:31	23 08:08 (E14)	18:12
18	04:51	05:49	06:51	07:52		07:59
	21:52	20:50	12 06:33 (E13)	19:29	25 08:09 (E14)	18:09
19	04:53	05:51	06:53	07:55		08:01
	21:51	20:47	9 06:31 (E13)	19:26	26 08:09 (E14)	18:07
20	04:54	05:53	06:55	07:57		08:03
	21:49	20:45	6 06:30 (E13)	19:23	27 08:09 (E14)	18:04
21	04:56	05:55	06:57	07:59		08:05
	21:48	20:42	2 06:28 (E13)	19:21	29 08:10 (E14)	18:02
22	04:58	05:57	06:59	08:01		08:07
	21:46	20:40	19:18	29 08:09 (E14)	18:00	15:56
23	04:59	05:59	07:01	08:03		08:09
	21:45	20:37	19:15	29 08:09 (E14)	17:57	15:55
24	05:01	06:01	07:03	08:05		08:11
	21:43	20:35	19:12	29 08:09 (E14)	17:55	15:53
25	05:03	06:03	07:05	08:07		08:13
	21:41	20:32	19:10	28 08:08 (E14)	16:52	15:52
26	05:05	06:05	07:07	08:09		08:15
	21:39	20:30	19:07	27 08:07 (E14)	16:50	15:51
27	05:06	06:07	07:09	08:11		08:17
	21:38	20:27	19:04	26 08:06 (E14)	16:48	15:50
28	05:08	06:09	07:11	08:13		08:19
	21:36	20:24	19:02	24 08:05 (E14)	16:45	15:48
29	05:10	06:11	07:13	08:15		08:21
	21:34	20:22	18:59	22 08:04 (E14)	16:43	15:47
30	05:12	06:13	07:15	08:17		08:22
	21:32	20:19	18:56	23 08:07 (E15)	16:41	15:46
31	05:14	06:15				08:51
	21:30	20:17				15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		205	411	132		
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		66	109	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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:

25/06/2024 23:53/4.0.540

## 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	09:58 (E13)	08:15	10:03 (E13)	07:11	06:49	05:33	04:36
	15:48	27 10:25 (E13)	16:45	37 10:40 (E13)	17:48	19:53	20:55	21:53
2	08:50	09:59 (E13)	08:13	10:04 (E13)	07:08	06:46	05:30	04:35
	15:49	28 10:27 (E13)	16:47	35 10:39 (E13)	17:50	19:55	20:57	21:54
3	08:50	09:58 (E13)	08:11	10:06 (E13)	07:06	06:43	05:28	04:34
	15:51	29 10:27 (E13)	16:50	33 10:39 (E13)	17:52	19:57	21:00	21:55
4	08:50	09:58 (E13)	08:09	10:07 (E13)	07:03	06:41	05:26	04:33
	15:52	30 10:28 (E13)	16:52	31 10:38 (E13)	17:54	19:59	21:02	21:57
5	08:49	09:59 (E13)	08:07	10:08 (E13)	07:00	06:38	05:23	04:32
	15:53	30 10:29 (E13)	16:54	29 10:37 (E13)	17:56	20:01	21:04	21:58
6	08:49	09:58 (E13)	08:05	10:09 (E13)	06:58	06:35	05:21	04:31
	15:55	32 10:30 (E13)	16:56	26 10:35 (E13)	17:58	20:03	21:06	21:59
7	08:48	09:58 (E13)	08:03	10:11 (E13)	06:55	06:33	05:19	04:30
	15:56	33 10:31 (E13)	16:59	22 10:33 (E13)	18:00	20:05	21:08	22:00
8	08:48	09:58 (E13)	08:01	10:14 (E13)	06:53	06:30	05:17	04:29
	15:58	33 10:31 (E13)	17:01	17 10:31 (E13)	18:03	20:08	21:10	22:01
9	08:47	09:58 (E13)	07:58	10:18 (E13)	06:50	06:28	05:15	04:29
	15:59	34 10:32 (E13)	17:03	8 10:26 (E13)	18:05	20:10	21:12	22:02
10	08:46	09:58 (E13)	07:56		06:47	06:25	05:13	04:28
	16:01	35 10:33 (E13)	17:05		18:07	20:12	21:14	22:03
11	08:45	09:58 (E13)	07:54		06:45	06:22	05:11	04:27
	16:03	36 10:34 (E13)	17:08		18:09	20:14	21:16	22:04
12	08:44	09:59 (E13)	07:52		06:42	06:20	05:08	04:27
	16:04	36 10:35 (E13)	17:10		18:11	20:16	21:18	22:05
13	08:43	09:58 (E13)	07:49		06:40	06:17	05:06	04:26
	16:06	37 10:35 (E13)	17:12		18:13	20:18	21:20	22:06
14	08:42	09:58 (E13)	07:47		06:37	06:14	05:04	04:26
	16:08	38 10:36 (E13)	17:14		18:15	20:20	21:22	22:07
15	08:41	09:58 (E13)	07:45		06:34	06:12	05:03	04:26
	16:10	38 10:36 (E13)	17:17		18:18	20:22	21:24	22:07
16	08:40	09:58 (E13)	07:43		06:32	06:09	05:01	04:25
	16:12	39 10:37 (E13)	17:19		18:20	20:24	21:25	22:08
17	08:39	09:59 (E13)	07:40		06:29	06:07	04:59	04:25
	16:14	39 10:38 (E13)	17:21		18:22	20:26	21:27	22:08
18	08:37	09:59 (E13)	07:38		06:26	06:04	04:57	04:25
	16:16	40 10:39 (E13)	17:23		18:24	20:28	21:29	22:09
19	08:36	09:58 (E13)	07:36		06:24	06:02	04:55	04:25
	16:18	41 10:39 (E13)	17:26		18:26	20:30	21:31	22:09
20	08:35	09:59 (E13)	07:33		06:21	05:59	04:53	04:25
	16:20	41 10:40 (E13)	17:28		18:28	20:33	21:33	22:10
21	08:33	09:59 (E13)	07:31		06:18	05:57	04:52	04:25
	16:22	41 10:40 (E13)	17:30		18:30	20:35	21:35	22:10
22	08:32	09:59 (E13)	07:28		06:16	05:54	04:50	04:25
	16:24	41 10:40 (E13)	17:32		18:32	20:37	21:37	22:10
23	08:30	09:59 (E13)	07:26		06:13	05:52	04:48	04:26
	16:26	41 10:40 (E13)	17:34		18:34	20:39	21:38	22:10
24	08:29	10:00 (E13)	07:23		06:10	05:49	04:47	04:26
	16:28	41 10:41 (E13)	17:37		18:36	20:41	21:40	22:10
25	08:27	10:00 (E13)	07:21		06:07	05:47	04:45	04:26
	16:30	41 10:41 (E13)	17:39		18:38	20:43	21:42	22:10
26	08:26	10:01 (E13)	07:18		06:05	05:44	04:44	04:27
	16:32	40 10:41 (E13)	17:41		18:41	20:45	21:43	22:10
27	08:24	10:01 (E13)	07:16		06:02	05:42	04:42	04:27
	16:34	40 10:41 (E13)	17:43		18:43	20:47	21:45	22:10
28	08:22	10:01 (E13)	07:13		05:59	05:40	04:41	04:28
	16:36	40 10:41 (E13)	17:45		18:45	20:49	21:47	22:10
29	08:20	10:02 (E13)			06:57	05:37	04:40	04:29
	16:39	39 10:41 (E13)			19:47	20:51	21:48	22:10
30	08:18	10:03 (E13)			06:54	05:35	04:38	04:29
	16:41	38 10:41 (E13)			19:49	20:53	21:50	22:09
31	08:17	10:03 (E13)			06:51		04:37	
	16:43	38 10:41 (E13)			19:51		21:51	
Potential sun hours	235		266		366	426	508	529
Total, worst case	1136		238				246	
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				0.37	
Total, real	91		29				91	

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:55 (E7)	06:17	07:17	07:23				08:24	09:40 (E13)
	22:09	21:28	19 06:14 (E7)	20:14	18:54	16:36				15:45	36 10:16 (E13)
2	04:31	05:18	05:55 (E7)	06:19	07:19	07:25			09:47 (E13)	08:26	09:41 (E13)
	22:09	21:26	20 06:15 (E7)	20:11	18:51	16:34	10	09:57 (E13)	15:44	35	10:16 (E13)
3	04:32	05:19	05:55 (E7)	06:21	07:21	07:27			09:44 (E13)	08:28	09:41 (E13)
	22:08	21:24	20 06:15 (E7)	20:09	18:48	16:32	17	10:01 (E13)	15:43	34	10:15 (E13)
4	04:33	05:21	05:56 (E7)	06:23	07:23	07:29			09:41 (E13)	08:29	09:42 (E13)
	22:07	21:22	19 06:15 (E7)	20:06	18:46	16:29	22	10:03 (E13)	15:42	34	10:16 (E13)
5	04:34	05:23	05:56 (E7)	06:25	07:25	07:31			09:39 (E13)	08:31	09:43 (E13)
	22:07	21:20	18 06:14 (E7)	20:03	18:43	16:27	26	10:05 (E13)	15:42	33	10:16 (E13)
6	04:35	05:25	05:58 (E7)	06:27	07:27	07:33			09:38 (E13)	08:32	09:44 (E13)
	22:06	21:17	16 06:14 (E7)	20:01	18:40	16:25	29	10:07 (E13)	15:41	32	10:16 (E13)
7	04:36	05:27	06:00 (E7)	06:29	07:30	07:36			09:36 (E13)	08:34	09:45 (E13)
	22:05	21:15	13 06:13 (E7)	19:58	18:38	16:23	32	10:08 (E13)	15:40	30	10:15 (E13)
8	04:37	05:29	06:02 (E7)	06:31	07:32	07:38			09:36 (E13)	08:35	09:46 (E13)
	22:04	21:13	10 06:12 (E7)	19:55	18:35	16:21	33	10:09 (E13)	15:40	30	10:16 (E13)
9	04:38	05:31	06:04 (E7)	06:33	07:34	07:40			09:35 (E13)	08:37	09:46 (E13)
	22:03	21:11	7 06:11 (E7)	19:53	18:32	16:19	35	10:10 (E13)	15:39	29	10:15 (E13)
10	04:39	05:33	06:06 (E7)	06:35	07:36	07:42			09:35 (E13)	08:38	09:48 (E13)
	22:02	21:08	4 06:10 (E7)	19:50	18:30	16:17	36	10:11 (E13)	15:39	28	10:16 (E13)
11	04:41	05:35		06:37	07:38	07:44			09:34 (E13)	08:39	09:48 (E13)
	22:01	21:06		19:47	18:27	16:15	38	10:12 (E13)	15:38	27	10:15 (E13)
12	04:42	05:37		06:39	07:40	07:46			09:34 (E13)	08:40	09:50 (E13)
	22:00	21:04		19:45	18:25	16:13	38	10:12 (E13)	15:38	26	10:16 (E13)
13	04:43	05:39		06:41	07:42	07:49			09:34 (E13)	08:42	09:50 (E13)
	21:59	21:02		19:42	18:22	16:11	39	10:13 (E13)	15:38	26	10:16 (E13)
14	04:45	05:41		06:43	07:44	07:51			09:33 (E13)	08:43	09:51 (E13)
	21:58	20:59		19:39	18:19	16:09	40	10:13 (E13)	15:38	25	10:16 (E13)
15	04:46	05:43		06:45	07:46	07:53			09:33 (E13)	08:44	09:52 (E13)
	21:57	20:57		19:37	18:17	16:08	40	10:13 (E13)	15:38	24	10:16 (E13)
16	04:48	05:45		06:47	07:48	07:55			09:34 (E13)	08:45	09:52 (E13)
	21:55	20:54		19:34	18:14	16:06	40	10:14 (E13)	15:38	24	10:16 (E13)
17	04:49	05:47		06:49	07:50	07:57			09:33 (E13)	08:46	09:53 (E13)
	21:54	20:52		19:31	18:12	16:04	41	10:14 (E13)	15:38	23	10:16 (E13)
18	04:51	05:49		06:51	07:52	07:59			09:34 (E13)	08:46	09:54 (E13)
	21:52	20:50		19:29	18:09	16:02	41	10:15 (E13)	15:38	23	10:17 (E13)
19	04:52	05:51		06:53	07:55	08:01			09:34 (E13)	08:47	09:54 (E13)
	21:51	20:47		19:26	18:07	16:01	41	10:15 (E13)	15:38	22	10:16 (E13)
20	04:54	05:53		06:55	07:57	08:03			09:34 (E13)	08:48	09:55 (E13)
	21:49	20:45		19:23	18:04	15:59	41	10:15 (E13)	15:39	22	10:17 (E13)
21	04:56	05:55		06:57	07:59	08:05			09:34 (E13)	08:48	09:56 (E13)
	21:48	20:42		19:20	18:02	15:58	41	10:15 (E13)	15:39	22	10:18 (E13)
22	04:57	05:57		06:59	08:01	08:07			09:35 (E13)	08:49	09:56 (E13)
	21:46	20:40		19:18	17:59	15:56	41	10:16 (E13)	15:39	22	10:18 (E13)
23	04:59	05:59		07:01	08:03	08:09			09:35 (E13)	08:50	09:57 (E13)
	21:45	20:37		19:15	17:57	15:55	41	10:16 (E13)	15:40	22	10:19 (E13)
24	05:01	06:01		07:03	08:05	08:11			09:36 (E13)	08:50	09:57 (E13)
	21:43	20:35		19:12	17:55	15:53	40	10:16 (E13)	15:41	22	10:19 (E13)
25	05:03	06:02 (E7)	06:03	07:05	07:07	08:13			09:36 (E13)	08:50	09:57 (E13)
	21:41	8 06:10 (E7)	20:32	19:10	16:52	15:52	39	10:15 (E13)	15:41	23	10:20 (E13)
26	05:04	05:59 (E7)	06:05	07:07	07:10	08:15			09:36 (E13)	08:51	09:57 (E13)
	21:39	12 06:11 (E7)	20:30	19:07	16:50	15:51	39	10:15 (E13)	15:42	23	10:20 (E13)
27	05:06	05:59 (E7)	06:07	07:09	07:12	08:17			09:38 (E13)	08:51	09:57 (E13)
	21:38	13 06:12 (E7)	20:27	19:04	16:47	15:49	38	10:16 (E13)	15:43	24	10:21 (E13)
28	05:08	05:57 (E7)	06:09	07:11	07:14	08:19			09:38 (E13)	08:51	09:58 (E13)
	21:36	15 06:12 (E7)	20:24	19:02	16:45	15:48	38	10:16 (E13)	15:44	24	10:22 (E13)
29	05:10	05:57 (E7)	06:11	07:13	07:16	08:21			09:39 (E13)	08:51	09:58 (E13)
	21:34	16 06:13 (E7)	20:22	18:59	16:43	15:47	37	10:16 (E13)	15:45	24	10:22 (E13)
30	05:12	05:56 (E7)	06:13	07:15	07:18	08:22			09:40 (E13)	08:51	09:58 (E13)
	21:32	18 06:14 (E7)	20:19	18:56	16:40	15:46	36	10:16 (E13)	15:46	26	10:24 (E13)
31	05:14	05:56 (E7)	06:15		07:20				08:51		09:59 (E13)
	21:30	19 06:15 (E7)	20:17		16:38				15:47	26	10:25 (E13)
Potential sun hours	529		469		385	324	247		216		
Total, worst case		101		146			1029		821		
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		0.32		0.33			0.05		0.04		
Total, real		33		48			51		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		10:01 (E13)	08:15		10:06 (E13)	07:11	06:49	05:33		04:36
	15:48	29	10:30 (E13)	16:45	39	10:45 (E13)	17:48	19:53	20:55		21:53
2	08:50		10:02 (E13)	08:13		10:07 (E13)	07:08	06:46	05:30		04:35
	15:49	30	10:32 (E13)	16:47	38	10:45 (E13)	17:50	19:55	20:57		21:54
3	08:50		10:02 (E13)	08:11		10:08 (E13)	07:06	06:43	05:28		04:34
	15:51	30	10:32 (E13)	16:50	36	10:44 (E13)	17:52	19:57	21:00		21:55
4	08:50		10:01 (E13)	08:09		10:10 (E13)	07:03	06:41	05:26		04:33
	15:52	32	10:33 (E13)	16:52	33	10:43 (E13)	17:54	19:59	21:02	1	05:54 (E7)
5	08:49		10:02 (E13)	08:07		10:11 (E13)	07:00	06:38	05:23		04:32
	15:53	32	10:34 (E13)	16:54	32	10:43 (E13)	17:56	20:01	21:04	5	05:57 (E7)
6	08:49		10:02 (E13)	08:05		10:12 (E13)	06:58	06:35	05:21		04:31
	15:55	33	10:35 (E13)	16:56	29	10:41 (E13)	17:58	20:03	21:06	9	05:59 (E7)
7	08:48		10:02 (E13)	08:03		10:14 (E13)	06:55	06:33	05:19		04:30
	15:56	33	10:35 (E13)	16:59	25	10:39 (E13)	18:00	20:05	21:08	12	06:00 (E7)
8	08:48		10:02 (E13)	08:01		10:16 (E13)	06:53	06:30	05:17		04:29
	15:58	34	10:36 (E13)	17:01	22	10:38 (E13)	18:03	20:08	21:10	14	06:00 (E7)
9	08:47		10:02 (E13)	07:58		10:18 (E13)	06:50	06:28	05:15		04:29
	15:59	35	10:37 (E13)	17:03	16	10:34 (E13)	18:05	20:10	21:12	17	06:01 (E7)
10	08:46		10:02 (E13)	07:56		10:24 (E13)	06:47	06:25	05:13		04:28
	16:01	36	10:38 (E13)	17:05	5	10:29 (E13)	18:07	20:12	21:14	19	06:01 (E7)
11	08:45		10:02 (E13)	07:54			06:45	06:22	05:11		04:27
	16:03	37	10:39 (E13)	17:08			18:09	20:14	21:16	20	06:01 (E7)
12	08:44		10:02 (E13)	07:52			06:42	06:20	05:08		04:27
	16:04	38	10:40 (E13)	17:10			18:11	20:16	21:18	20	06:01 (E7)
13	08:43		10:01 (E13)	07:49			06:40	06:17	05:06		04:26
	16:06	39	10:40 (E13)	17:12			18:13	20:18	21:20	19	06:00 (E7)
14	08:42		10:02 (E13)	07:47			06:37	06:14	05:04		04:26
	16:08	39	10:41 (E13)	17:14			18:15	20:20	21:22	19	06:01 (E7)
15	08:41		10:01 (E13)	07:45			06:34	06:12	05:03		04:26
	16:10	40	10:41 (E13)	17:17			18:18	20:22	21:24	18	06:00 (E7)
16	08:40		10:02 (E13)	07:43			06:32	06:09	05:01		04:25
	16:12	40	10:42 (E13)	17:19			18:20	20:24	21:25	18	06:00 (E7)
17	08:39		10:02 (E13)	07:40			06:29	06:07	04:59		04:25
	16:14	41	10:43 (E13)	17:21			18:22	20:26	21:27	17	06:00 (E7)
18	08:37		10:02 (E13)	07:38			06:26	06:04	04:57		04:25
	16:16	41	10:43 (E13)	17:23			18:24	20:28	21:29	16	05:59 (E7)
19	08:36		10:02 (E13)	07:36			06:24	06:02	04:55		04:25
	16:18	42	10:44 (E13)	17:26			18:26	20:30	21:31	14	05:58 (E7)
20	08:35		10:03 (E13)	07:33			06:21	05:59	04:53		04:25
	16:20	42	10:45 (E13)	17:28			18:28	20:33	21:33	12	05:57 (E7)
21	08:33		10:02 (E13)	07:31			06:18	05:57	04:52		04:25
	16:22	43	10:45 (E13)	17:30			18:30	20:35	21:35	9	05:55 (E7)
22	08:32		10:02 (E13)	07:28			06:16	05:54	04:50		04:25
	16:24	43	10:45 (E13)	17:32			18:32	20:37	21:37	5	05:54 (E7)
23	08:30		10:02 (E13)	07:26			06:13	05:52	04:48		04:26
	16:26	43	10:45 (E13)	17:34			18:34	20:39	21:38		22:10
24	08:29		10:03 (E13)	07:23			06:10	05:49	04:47		04:26
	16:28	43	10:46 (E13)	17:37			18:36	20:41	21:40		22:10
25	08:27		10:04 (E13)	07:21			06:07	05:47	04:45		04:26
	16:30	42	10:46 (E13)	17:39			18:38	20:43	21:42		22:10
26	08:26		10:04 (E13)	07:18			06:05	05:44	04:44		04:27
	16:32	42	10:46 (E13)	17:41			18:41	20:45	21:43		22:10
27	08:24		10:04 (E13)	07:16			06:02	05:42	04:42		04:27
	16:34	43	10:47 (E13)	17:43			18:43	20:47	21:45		22:10
28	08:22		10:05 (E13)	07:13			05:59	05:40	04:41		04:28
	16:36	42	10:47 (E13)	17:45			18:45	20:49	21:47		22:10
29	08:20		10:05 (E13)				06:57	05:37	04:40		04:29
	16:39	41	10:46 (E13)				19:47	20:51	21:48		22:10
30	08:18		10:06 (E13)				06:54	05:35	04:38		04:29
	16:41	40	10:46 (E13)				19:49	20:53	21:50		22:09
31	08:17		10:07 (E13)				06:51		04:37		
	16:43	39	10:46 (E13)				19:51		21:51		
Potential sun hours	235			266			366	426	508		529
Total, worst case		1184			275				264		
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				0.37		
Total, real		95			33				98		

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E7)	06:17	07:17	07:23		09:52 (E13)	08:24	09:44 (E13)	
	22:09	21:28	20	06:11 (E7)	20:14	18:54	16:36	8	10:00 (E13)	15:45	37
2	04:31	05:18		05:52 (E7)	06:19	07:19	07:25		09:47 (E13)	08:26	
	22:09	21:26	19	06:11 (E7)	20:11	18:51	16:34	17	10:04 (E13)	15:44	36
3	04:32	05:19		05:53 (E7)	06:21	07:21	07:27		09:45 (E13)	08:28	
	22:08	21:24	18	06:11 (E7)	20:09	18:48	16:32	23	10:08 (E13)	15:43	35
4	04:33	05:21		05:55 (E7)	06:23	07:23	07:29		09:43 (E13)	08:29	
	22:07	21:22	16	06:11 (E7)	20:06	18:46	16:29	26	10:09 (E13)	15:42	34
5	04:34	05:23		05:56 (E7)	06:25	07:25	07:31		09:41 (E13)	08:31	
	22:07	21:20	13	06:09 (E7)	20:03	18:43	16:27	30	10:11 (E13)	15:42	34
6	04:35	05:25		05:58 (E7)	06:27	07:27	07:33		09:41 (E13)	08:32	
	22:06	21:17	11	06:09 (E7)	20:01	18:40	16:25	32	10:13 (E13)	15:41	33
7	04:36	05:27		06:00 (E7)	06:29	07:30	07:36		09:39 (E13)	08:34	
	22:05	21:15	8	06:08 (E7)	19:58	18:38	16:23	34	10:13 (E13)	15:40	32
8	04:37	05:29		06:02 (E7)	06:31	07:32	07:38		09:39 (E13)	08:35	
	22:04	21:13	4	06:06 (E7)	19:55	18:35	16:21	36	10:15 (E13)	15:40	32
9	04:38	05:31			06:33	07:34	07:40		09:38 (E13)	08:37	
	22:03	21:11			19:53	18:32	16:19	37	10:15 (E13)	15:39	30
10	04:39	05:33			06:35	07:36	07:42		09:38 (E13)	08:38	
	22:02	21:08			19:50	18:30	16:17	39	10:17 (E13)	15:39	30
11	04:41	05:35			06:37	07:38	07:44		09:37 (E13)	08:39	
	22:01	21:06			19:47	18:27	16:15	40	10:17 (E13)	15:38	28
12	04:42	05:37			06:39	07:40	07:46		09:37 (E13)	08:40	
	22:00	21:04			19:45	18:25	16:13	40	10:17 (E13)	15:38	28
13	04:43	05:39			06:41	07:42	07:49		09:37 (E13)	08:42	
	21:59	21:02			19:42	18:22	16:11	41	10:18 (E13)	15:38	27
14	04:45	05:41			06:43	07:44	07:51		09:37 (E13)	08:43	
	21:58	20:59			19:39	18:19	16:09	41	10:18 (E13)	15:38	27
15	04:46	05:43			06:45	07:46	07:53		09:36 (E13)	08:44	
	21:57	20:57			19:37	18:17	16:08	42	10:18 (E13)	15:38	26
16	04:48	05:45			06:47	07:48	07:55		09:37 (E13)	08:45	
	21:55	20:54			19:34	18:14	16:06	42	10:19 (E13)	15:38	25
17	04:49	05:47			06:49	07:50	07:57		09:37 (E13)	08:46	
	21:54	20:52			19:31	18:12	16:04	42	10:19 (E13)	15:38	24
18	04:51	05:49			06:51	07:52	07:59		09:37 (E13)	08:46	
	21:52	20:50			19:29	18:09	16:02	43	10:20 (E13)	15:38	25
19	04:52	05:51			06:53	07:55	08:01		09:37 (E13)	08:47	
	21:51	20:47			19:26	18:07	16:01	43	10:20 (E13)	15:38	24
20	04:54	05:53			06:55	07:57	08:03		09:37 (E13)	08:48	
	21:49	20:45			19:23	18:04	15:59	43	10:20 (E13)	15:39	24
21	04:56	05:55			06:57	07:59	08:05		09:37 (E13)	08:48	
	21:48	20:42			19:20	18:02	15:58	43	10:20 (E13)	15:39	24
22	04:57	05:58 (E7)	05:57		06:59	08:01	08:07		09:39 (E13)	08:49	
	21:46	7	06:05 (E7)	20:40	19:18	17:59	15:56	42	10:21 (E13)	15:39	24
23	04:59	05:56 (E7)	05:59		07:01	08:03	08:09		09:39 (E13)	08:50	
	21:45	10	06:06 (E7)	20:37	19:15	17:57	15:55	42	10:21 (E13)	15:40	24
24	05:01	05:55 (E7)	06:01		07:03	08:05	08:11		09:39 (E13)	08:50	
	21:43	13	06:08 (E7)	20:35	19:12	17:55	15:53	42	10:21 (E13)	15:41	24
25	05:03	05:54 (E7)	06:03		07:05	07:07	08:13		09:39 (E13)	08:50	
	21:41	15	06:09 (E7)	20:32	19:10	16:52	15:52	41	10:20 (E13)	15:41	25
26	05:04	05:53 (E7)	06:05		07:07	07:10	08:15		09:40 (E13)	08:51	
	21:39	16	06:09 (E7)	20:30	19:07	16:50	15:51	40	10:20 (E13)	15:42	25
27	05:06	05:53 (E7)	06:07		07:09	07:12	08:17		09:41 (E13)	08:51	
	21:38	17	06:10 (E7)	20:27	19:04	16:47	15:49	40	10:21 (E13)	15:43	25
28	05:08	05:52 (E7)	06:09		07:11	07:14	08:19		09:42 (E13)	08:51	
	21:36	18	06:10 (E7)	20:24	19:02	16:45	15:48	39	10:21 (E13)	15:44	26
29	05:10	05:52 (E7)	06:11		07:13	07:16	08:21		09:42 (E13)	08:51	
	21:34	19	06:11 (E7)	20:22	18:59	16:43	15:47	39	10:21 (E13)	15:45	27
30	05:12	05:52 (E7)	06:13		07:15	07:18	08:22		09:43 (E13)	08:51	
	21:32	19	06:11 (E7)	20:19	18:56	16:40	15:46	38	10:21 (E13)	15:46	27
31	05:14	05:52 (E7)	06:15			07:20			08:51		
	21:30	20	06:12 (E7)	20:17		16:38			15:47		28
Potential sun hours	529		469		385	324	247		216		
Total, worst case		154		109			1105			870	
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		0.32		0.33			0.05			0.04	
Total, real		50		36			55			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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		10:06 (E13)	08:15		10:14 (E13)	07:11	06:49	05:33		04:36	
	15:48	33	10:39 (E13)	16:45	36	10:50 (E13)	17:48	19:53	20:55		21:53	
2	08:50		10:07 (E13)	08:13		10:15 (E13)	07:08	06:46	05:30		04:35	
	15:49	33	10:40 (E13)	16:47	34	10:49 (E13)	17:50	19:55	20:57		21:54	
3	08:50		10:06 (E13)	08:11		10:17 (E13)	07:06	06:43	05:28		04:34	
	15:51	34	10:40 (E13)	16:50	32	10:49 (E13)	17:52	19:57	21:00		21:55	
4	08:50		10:06 (E13)	08:09		10:18 (E13)	07:03	06:41	05:26	05:54 (E7)	04:33	
	15:52	35	10:41 (E13)	16:52	30	10:48 (E13)	17:54	19:59	21:02	3 05:57 (E7)	21:57	
5	08:49		10:07 (E13)	08:07		10:20 (E13)	07:00	06:38	05:23	05:52 (E7)	04:32	
	15:53	35	10:42 (E13)	16:54	27	10:47 (E13)	17:56	20:01	21:04	7 05:59 (E7)	21:58	
6	08:49		10:07 (E13)	08:05		10:21 (E13)	06:58	06:35	05:21	05:50 (E7)	04:31	
	15:55	36	10:43 (E13)	16:56	23	10:44 (E13)	17:58	20:03	21:06	10 06:00 (E7)	21:59	
7	08:48		10:07 (E13)	08:03		10:24 (E13)	06:55	06:33	05:19	05:48 (E7)	04:30	
	15:56	36	10:43 (E13)	16:59	18	10:42 (E13)	18:00	20:05	21:08	13 06:01 (E7)	22:00	
8	08:48		10:07 (E13)	08:01		10:28 (E13)	06:53	06:30	05:17	05:46 (E7)	04:29	
	15:58	37	10:44 (E13)	17:01	10	10:38 (E13)	18:03	20:08	21:10	15 06:01 (E7)	22:01	
9	08:47		10:07 (E13)	07:58			06:50	06:28	05:15	05:44 (E7)	04:28	
	15:59	38	10:45 (E13)	17:03			18:05	20:10	21:12	18 06:02 (E7)	22:02	
10	08:46		10:07 (E13)	07:56			06:47	06:25	05:13	05:42 (E7)	04:28	
	16:01	39	10:46 (E13)	17:05			18:07	20:12	21:14	20 06:02 (E7)	22:03	
11	08:45		10:07 (E13)	07:54			06:45	06:22	05:11	05:42 (E7)	04:27	
	16:03	39	10:46 (E13)	17:08			18:09	20:14	21:16	20 06:02 (E7)	22:04	
12	08:44		10:08 (E13)	07:52			06:42	06:20	05:08	05:42 (E7)	04:27	
	16:04	39	10:47 (E13)	17:10			18:11	20:16	21:18	20 06:02 (E7)	22:05	
13	08:43		10:07 (E13)	07:49			06:40	06:17	05:06	05:42 (E7)	04:26	
	16:06	40	10:47 (E13)	17:12			18:13	20:18	21:20	19 06:01 (E7)	22:06	
14	08:42		10:07 (E13)	07:47			06:37	06:14	05:04	05:42 (E7)	04:26	
	16:08	41	10:48 (E13)	17:14			18:15	20:20	21:22	20 06:02 (E7)	22:07	
15	08:41		10:07 (E13)	07:45			06:34	06:12	05:03	05:42 (E7)	04:26	
	16:10	41	10:48 (E13)	17:17			18:18	20:22	21:24	19 06:01 (E7)	22:07	
16	08:40		10:08 (E13)	07:43			06:32	06:09	05:01	05:43 (E7)	04:25	
	16:12	41	10:49 (E13)	17:19			18:20	20:24	21:25	18 06:01 (E7)	22:08	
17	08:39		10:08 (E13)	07:40			06:29	06:07	04:59	05:44 (E7)	04:25	
	16:14	42	10:50 (E13)	17:21			18:22	20:26	21:27	17 06:01 (E7)	22:08	
18	08:37		10:08 (E13)	07:38			06:26	06:04	04:57	05:44 (E7)	04:25	
	16:16	42	10:50 (E13)	17:23			18:24	20:28	21:29	16 06:00 (E7)	22:09	
19	08:36		10:08 (E13)	07:35			06:24	06:02	04:55	05:44 (E7)	04:25	
	16:18	42	10:50 (E13)	17:26			18:26	20:30	21:31	14 05:58 (E7)	22:09	
20	08:35		10:09 (E13)	07:33			06:21	05:59	04:53	05:46 (E7)	04:25	
	16:20	42	10:51 (E13)	17:28			18:28	20:33	21:33	12 05:58 (E7)	22:10	
21	08:33		10:09 (E13)	07:31			06:18	05:57	04:52	05:47 (E7)	04:25	
	16:22	42	10:51 (E13)	17:30			18:30	20:35	21:35	9 05:56 (E7)	22:10	
22	08:32		10:09 (E13)	07:28			06:16	05:54	04:50	05:50 (E7)	04:25	
	16:24	42	10:51 (E13)	17:32			18:32	20:37	21:37	4 05:54 (E7)	22:10	
23	08:30		10:09 (E13)	07:26			06:13	05:52	04:48		04:26	
	16:26	43	10:52 (E13)	17:34			18:34	20:39	21:38		22:10	
24	08:29		10:10 (E13)	07:23			06:10	05:49	04:47		04:26	
	16:28	43	10:53 (E13)	17:37			18:36	20:41	21:40		22:10	
25	08:27		10:10 (E13)	07:21			06:07	05:47	04:45		04:26	
	16:30	43	10:53 (E13)	17:39			18:38	20:43	21:42		22:10	
26	08:26		10:11 (E13)	07:18			06:05	05:44	04:44		04:27	
	16:32	41	10:52 (E13)	17:41			18:41	20:45	21:43		22:10	
27	08:24		10:11 (E13)	07:16			06:02	05:42	04:42		04:27	
	16:34	41	10:52 (E13)	17:43			18:43	20:47	21:45		22:10	
28	08:22		10:12 (E13)	07:13			05:59	05:40	04:41		04:28	
	16:36	40	10:52 (E13)	17:45			18:45	20:49	21:47		22:10	
29	08:20		10:13 (E13)				06:57	05:37	04:40		04:29	
	16:39	39	10:52 (E13)				19:47	20:51	21:48		22:10	
30	08:18		10:13 (E13)				06:54	05:35	04:38		04:29	
	16:41	39	10:52 (E13)				19:49	20:53	21:50		22:09	
31	08:17		10:14 (E13)				06:51		04:37			
	16:43	37	10:51 (E13)				19:51		21:51			
Potential sun hours	235			266			366	426	508		529	
Total, worst case		1215			210					274		
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					0.37		
Total, real		97			25					102		

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:

25/06/2024 23:53/4.0.540

## 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		05:52 (E7)	06:17		07:17		07:23			08:24		09:49 (E13)
	22:09			21:28	20	06:12 (E7)	20:14		18:54		16:36			15:45	40	10:29 (E13)
2	04:31			05:18		05:52 (E7)	06:19		07:19		07:25			08:26		09:50 (E13)
	22:09			21:26	20	06:12 (E7)	20:11		18:51		16:34			15:44	39	10:29 (E13)
3	04:32			05:19		05:53 (E7)	06:21		07:21		07:27		09:57 (E13)	08:28		09:50 (E13)
	22:08			21:24	19	06:12 (E7)	20:09		18:48		16:32	12	10:09 (E13)	15:43	38	10:28 (E13)
4	04:33			05:21		05:55 (E7)	06:23		07:23		07:29		09:53 (E13)	08:29		09:51 (E13)
	22:07			21:22	17	06:12 (E7)	20:06		18:46		16:29	19	10:12 (E13)	15:42	37	10:28 (E13)
5	04:34			05:23		05:56 (E7)	06:25		07:25		07:31		09:51 (E13)	08:31		09:52 (E13)
	22:07			21:20	14	06:10 (E7)	20:03		18:43		16:27	23	10:14 (E13)	15:42	36	10:28 (E13)
6	04:35			05:25		05:58 (E7)	06:27		07:27		07:33		09:49 (E13)	08:32		09:53 (E13)
	22:06			21:17	12	06:10 (E7)	20:01		18:40		16:25	28	10:17 (E13)	15:41	36	10:29 (E13)
7	04:36			05:27		06:00 (E7)	06:29		07:30		07:36		09:48 (E13)	08:34		09:53 (E13)
	22:05			21:15	9	06:09 (E7)	19:58		18:38		16:23	30	10:18 (E13)	15:40	35	10:28 (E13)
8	04:37			05:29		06:02 (E7)	06:31		07:32		07:38		09:47 (E13)	08:35		09:54 (E13)
	22:04			21:13	6	06:08 (E7)	19:55		18:35		16:21	33	10:20 (E13)	15:40	35	10:29 (E13)
9	04:38			05:31		06:04 (E7)	06:33		07:34		07:40		09:46 (E13)	08:37		09:54 (E13)
	22:03			21:11	1	06:05 (E7)	19:53		18:32		16:19	34	10:20 (E13)	15:39	34	10:28 (E13)
10	04:39			05:33			06:35		07:36		07:42		09:46 (E13)	08:38		09:56 (E13)
	22:02			21:08			19:50		18:30		16:17	36	10:22 (E13)	15:39	33	10:29 (E13)
11	04:41			05:35			06:37		07:38		07:44		09:45 (E13)	08:39		09:56 (E13)
	22:01			21:06			19:47		18:27		16:15	37	10:22 (E13)	15:38	33	10:29 (E13)
12	04:42			05:37			06:39		07:40		07:46		09:44 (E13)	08:40		09:57 (E13)
	22:00			21:04			19:45		18:25		16:13	39	10:23 (E13)	15:38	33	10:30 (E13)
13	04:43			05:39			06:41		07:42		07:49		09:44 (E13)	08:42		09:58 (E13)
	21:59			21:02			19:42		18:22		16:11	40	10:24 (E13)	15:38	32	10:30 (E13)
14	04:45			05:41			06:43		07:44		07:51		09:44 (E13)	08:43		09:58 (E13)
	21:58			20:59			19:39		18:19		16:09	40	10:24 (E13)	15:38	32	10:30 (E13)
15	04:46			05:43			06:45		07:46		07:53		09:43 (E13)	08:44		09:59 (E13)
	21:57			20:57			19:37		18:17		16:08	41	10:24 (E13)	15:38	31	10:30 (E13)
16	04:48			05:45			06:47		07:48		07:55		09:44 (E13)	08:45		10:00 (E13)
	21:55			20:54			19:34		18:14		16:06	41	10:25 (E13)	15:38	30	10:30 (E13)
17	04:49			05:47			06:49		07:50		07:57		09:43 (E13)	08:46		10:01 (E13)
	21:54			20:52			19:31		18:12		16:04	42	10:25 (E13)	15:38	29	10:30 (E13)
18	04:51			05:49			06:51		07:52		07:59		09:44 (E13)	08:46		10:01 (E13)
	21:52			20:50			19:29		18:09		16:02	43	10:27 (E13)	15:38	30	10:31 (E13)
19	04:52			05:51			06:53		07:55		08:01		09:44 (E13)	08:47		10:01 (E13)
	21:51			20:47			19:26		18:07		16:01	43	10:27 (E13)	15:38	29	10:30 (E13)
20	04:54			05:53			06:55		07:57		08:03		09:44 (E13)	08:48		10:02 (E13)
	21:49			20:45			19:23		18:04		15:59	42	10:26 (E13)	15:39	29	10:31 (E13)
21	04:56			05:55			06:57		07:59		08:05		09:44 (E13)	08:48		10:03 (E13)
	21:48			20:42			19:20		18:02		15:58	42	10:26 (E13)	15:39	29	10:32 (E13)
22	04:57		05:59 (E7)	05:57			06:59		08:01		08:07		09:45 (E13)	08:49		10:03 (E13)
	21:46	7	06:06 (E7)	20:40			19:18		17:59		15:56	42	10:27 (E13)	15:39	29	10:32 (E13)
23	04:59		05:57 (E7)	05:59			07:01		08:03		08:09		09:45 (E13)	08:50		10:04 (E13)
	21:45	10	06:07 (E7)	20:37			19:15		17:57		15:55	42	10:27 (E13)	15:40	29	10:33 (E13)
24	05:01		05:56 (E7)	06:01			07:03		08:05		08:11		09:45 (E13)	08:50		10:04 (E13)
	21:43	13	06:09 (E7)	20:35			19:12		17:55		15:53	42	10:27 (E13)	15:41	29	10:33 (E13)
25	05:03		05:55 (E7)	06:03			07:05		07:07		08:13		09:45 (E13)	08:50		10:04 (E13)
	21:41	15	06:10 (E7)	20:32			19:10		16:52		15:52	42	10:27 (E13)	15:41	30	10:34 (E13)
26	05:04		05:54 (E7)	06:05			07:07		07:10		08:15		09:46 (E13)	08:51		10:04 (E13)
	21:39	16	06:10 (E7)	20:30			19:07		16:50		15:51	41	10:27 (E13)	15:42	30	10:34 (E13)
27	05:06		05:54 (E7)	06:07			07:09		07:12		08:17		09:47 (E13)	08:51		10:05 (E13)
	21:38	17	06:11 (E7)	20:27			19:04		16:47		15:49	41	10:28 (E13)	15:43	30	10:35 (E13)
28	05:08		05:53 (E7)	06:09			07:11		07:14		08:19		09:48 (E13)	08:51		10:05 (E13)
	21:36	18	06:11 (E7)	20:24			19:02		16:45		15:48	40	10:28 (E13)	15:44	30	10:35 (E13)
29	05:10		05:53 (E7)	06:11			07:13		07:16		08:21		09:48 (E13)	08:51		10:05 (E13)
	21:34	19	06:12 (E7)	20:22			18:59		16:43		15:47	40	10:28 (E13)	15:45	31	10:36 (E13)
30	05:12		05:53 (E7)	06:13			07:15		07:18		08:22		09:49 (E13)	08:51		10:06 (E13)
	21:32	19	06:12 (E7)	20:19			18:56		16:40		15:46	39	10:28 (E13)	15:46	31	10:37 (E13)
31	05:14		05:53 (E7)	06:15					07:20					08:51		10:06 (E13)
	21:30	20	06:13 (E7)	20:17					16:38					15:47	32	10:38 (E13)
Potential sun hours	529			469				385	324		247			216		
Total, worst case		154			118						1034				1001	
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		0.32			0.33						0.05				0.04	
Total, real		50			39						51				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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	04:36 21:52	04:30 22:08	05:15 21:27	20:32 (E12) 18 20:50 (E12)	06:17 20:14	07:17 18:53	07:22 16:36
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	20:32 (E12) 18 20:50 (E12)	06:19 20:11	07:19 18:51	07:24 16:33
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	20:32 (E12) 17 20:49 (E12)	06:21 20:08	07:21 18:48	07:26 16:31
4	08:49 15:52	08:08 16:52	07:03 17:54	06:40 19:59	05:25 21:01	20:26 (E12) 3 20:29 (E12)	04:32 21:56	05:21 21:21	20:31 (E12) 16 20:47 (E12)	06:23 20:06	07:23 18:45	07:29 16:29
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	05:23 21:03	20:25 (E12) 6 20:31 (E12)	04:32 21:57	05:23 21:19	20:32 (E12) 13 20:45 (E12)	06:25 20:03	07:25 18:43	07:31 16:27
6	08:48 15:55	08:04 16:56	06:57 17:58	06:35 20:03	05:21 21:05	20:24 (E12) 9 20:33 (E12)	04:31 21:58	05:25 21:17	20:33 (E12) 10 20:43 (E12)	06:27 20:00	07:27 18:40	07:33 16:25
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:19 21:07	20:23 (E12) 12 20:35 (E12)	04:30 22:00	05:27 21:15	20:33 (E12) 8 20:41 (E12)	06:29 19:58	07:29 18:37	07:35 16:23
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	20:22 (E12) 14 20:36 (E12)	04:37 22:01	05:29 21:12	20:35 (E12) 5 20:40 (E12)	06:31 19:55	07:31 18:35	07:37 16:21
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:11	20:22 (E12) 16 20:38 (E12)	04:38 22:02	05:31 21:10	20:35 (E12) 2 20:37 (E12)	06:33 19:52	07:33 18:32	07:39 16:19
10	08:45 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	20:22 (E12) 18 20:40 (E12)	04:39 22:02	05:33 21:08	20:37 (E12)	06:35 19:50	07:35 18:30	07:42 16:17
11	08:45 16:03	07:54 17:07	06:44 18:09	06:22 20:13	05:10 21:15	20:22 (E12) 18 20:40 (E12)	04:40 22:01	05:35 21:06	06:37 (E12)	06:37 19:47	07:37 18:27	07:44 16:15
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:15	05:08 21:17	20:22 (E12) 17 20:39 (E12)	04:42 22:05	05:37 21:03	06:39 (E12)	06:39 19:44	07:39 18:24	07:46 16:13
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	20:22 (E12) 17 20:39 (E12)	04:43 22:05	05:39 21:01	06:41 (E12)	06:41 19:42	07:42 18:22	07:48 16:11
14	08:42 16:08	07:47 17:14	06:36 18:15	06:14 20:20	05:04 21:21	20:22 (E12) 16 20:38 (E12)	04:45 22:06	05:41 20:59	06:43 (E12)	06:43 19:39	07:44 18:19	07:50 16:09
15	08:41 16:10	07:44 17:16	06:34 18:17	06:12 20:22	05:02 21:23	20:23 (E12) 16 20:39 (E12)	04:46 22:07	05:43 20:56	06:45 (E12)	06:45 19:36	07:46 18:17	07:52 16:07
16	08:39 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	20:23 (E12) 15 20:38 (E12)	04:48 22:07	05:45 20:54	06:47 (E12)	06:47 19:34	07:48 18:14	07:54 16:06
17	08:38 16:13	07:40 17:21	06:29 18:21	06:06 20:26	04:59 21:27	20:24 (E12) 12 20:36 (E12)	04:49 22:08	05:47 20:52	06:49 (E12)	06:49 19:31	07:50 18:12	07:57 16:04
18	08:37 16:15	07:37 17:23	06:26 18:23	06:04 20:28	04:57 21:29	20:26 (E12) 10 20:36 (E12)	04:51 22:08	05:49 20:49	06:51 (E12)	06:51 19:28	07:52 18:09	07:59 16:02
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	20:27 (E12) 7 20:34 (E12)	04:52 22:09	05:51 20:47	06:53 (E12)	06:53 19:25	07:54 18:07	08:01 16:01
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:32	20:29 (E12) 04:25	04:54 22:09	05:53 20:44	06:55 (E12)	06:55 19:23	07:56 18:04	08:03 15:59
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	20:30 (E12) 04:25	04:56 22:09	05:55 20:42	06:57 (E12)	06:57 19:20	07:58 18:02	08:05 15:57
22	08:31 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	20:31 (E12) 04:25	04:57 22:10	05:57 20:39	06:59 (E12)	06:59 19:17	08:01 17:59	08:07 15:56
23	08:30 16:26	07:25 17:34	06:12 18:34	05:51 20:38	04:48 21:38	20:32 (E12) 04:26	04:59 22:10	05:59 20:37	07:01 (E12)	07:01 19:15	08:03 17:57	08:09 15:54
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:40	04:47 21:39	20:33 (E12) 04:26	05:01 22:10	06:01 20:34	07:03 (E12)	07:03 19:12	08:05 17:54	08:11 15:53
25	08:27 16:30	07:20 17:38	06:07 18:38	05:47 20:43	04:45 21:41	20:34 (E12) 04:26	05:02 22:10	06:03 20:32	07:05 (E12)	07:05 19:09	08:07 16:52	08:13 15:52
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:44 21:43	20:35 (E12) 04:27	05:04 22:10	06:05 20:29	07:07 (E12)	07:07 19:07	08:09 16:50	08:15 15:50
27	08:23 16:34	07:15 17:43	06:02 18:42	05:42 20:47	04:42 21:44	20:36 (E12) 04:27	05:06 22:10	06:07 20:27	07:09 (E12)	07:09 19:04	08:11 16:47	08:16 15:49
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	20:37 (E12) 04:28	05:08 22:09	06:09 20:24	07:11 (E12)	07:11 19:01	08:13 16:45	08:18 15:48
29	08:20 16:38	07:11 19:46	05:56 19:46	05:37 20:51	04:39 21:48	20:38 (E12) 04:28	05:10 22:09	06:11 20:21	07:13 (E12)	07:13 18:59	08:14 16:43	08:19 15:47
30	08:18 16:41	06:54 19:48	05:35 20:53	04:38 21:49	04:38 21:49	20:39 (E12) 04:29	05:12 22:09	06:13 20:19	07:15 (E12)	07:15 18:56	08:15 16:40	08:22 15:46
31	08:16 16:43	06:51 19:51	05:31 20:51	04:37 21:51	04:37 21:51	20:40 (E12) 05:14	05:14 21:29	06:15 20:16	07:16 (E12)	07:16 16:38	08:16 15:46	08:22 15:46
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case					206		99	107				
Sun reduction					0.57		0.49	0.50				
Oper. time red.					0.98		0.98	0.98				
Wind dir. red.					0.63		0.63	0.63				
Total reduction					0.35		0.30	0.30				
Total, real					72		30	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:51 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:

25/06/2024 23:53/4.0.540

## 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	08:15	09:13 (E13)	07:11	06:49	05:33
	15:48	16:45	36 09:49 (E13)	17:48	19:53	20:55
2	08:50	08:13	09:13 (E13)	07:08	06:46	05:30
	15:49	16:47	37 09:50 (E13)	17:50	19:55	20:57
3	08:50	08:11	09:13 (E13)	07:06	06:43	05:28
	15:51	16:50	38 09:51 (E13)	17:52	19:57	21:00
4	08:50	08:09	09:13 (E13)	07:03	06:41	05:26
	15:52	16:52	38 09:51 (E13)	17:54	19:59	21:02
5	08:49	08:07	09:13 (E13)	07:00	06:38	05:23
	15:53	16:54	39 09:52 (E13)	17:56	20:01	21:04
6	08:49	08:05	09:12 (E13)	06:58	06:35	05:21
	15:55	16:56	40 09:52 (E13)	17:58	20:03	21:06
7	08:48	08:03	09:12 (E13)	06:55	06:33	05:19
	15:56	16:59	40 09:52 (E13)	18:01	20:05	21:08
8	08:48	08:01	09:13 (E13)	06:53	06:30	05:17
	15:58	17:01	39 09:52 (E13)	18:03	20:08	21:10
9	08:47	07:58	09:12 (E13)	06:50	06:28	05:15
	15:59	17:03	40 09:52 (E13)	18:05	20:10	21:12
10	08:46	07:56	09:13 (E13)	06:47	06:25	05:13
	16:01	17:05	39 09:52 (E13)	18:07	20:12	21:14
11	08:45	07:54	09:13 (E13)	06:45	06:22	05:11
	16:03	17:08	39 09:52 (E13)	18:09	20:14	21:16
12	08:44	07:52	09:13 (E13)	06:42	06:20	05:08
	16:05	17:10	38 09:51 (E13)	18:11	20:16	21:18
13	08:43	07:50	09:14 (E13)	06:40	06:17	05:06
	16:06	17:12	37 09:51 (E13)	18:13	20:18	21:20
14	08:42	07:47	09:14 (E13)	06:37	06:15	05:04
	16:08	17:14	36 09:50 (E13)	18:15	20:20	21:22
15	08:41	07:45	09:15 (E13)	06:34	06:12	05:03
	16:10	17:17	34 09:49 (E13)	18:18	20:22	21:24
16	08:40	07:43	09:16 (E13)	06:32	06:09	05:01
	16:12	17:19	32 09:48 (E13)	18:20	20:24	21:25
17	08:39	07:40	09:17 (E13)	06:29	06:07	04:59
	16:14	17:21	30 09:47 (E13)	18:22	20:26	21:27
18	08:37	07:38	09:18 (E13)	06:26	06:04	04:57
	16:16	17:23	27 09:45 (E13)	18:24	20:28	21:29
19	08:36	07:36	09:20 (E13)	06:24	06:02	04:55
	16:18	17:26	24 09:44 (E13)	18:26	20:30	21:31
20	08:35	07:33	09:22 (E13)	06:21	05:59	04:53
	16:20	17:28	19 09:41 (E13)	18:28	20:33	21:33
21	08:33	07:31	09:26 (E13)	06:18	05:57	04:52
	16:22	17:30	12 09:38 (E13)	18:30	20:35	21:35
22	08:32	09:24 (E13)	07:28	06:16	05:54	04:50
	16:24	10 09:34 (E13)	17:32	18:32	20:37	21:37
23	08:30	09:21 (E13)	07:26	06:13	05:52	04:48
	16:26	16 09:37 (E13)	17:34	18:34	20:39	21:38
24	08:29	09:20 (E13)	07:23	06:10	05:49	04:47
	16:28	20 09:40 (E13)	17:37	18:36	20:41	21:40
25	08:27	09:19 (E13)	07:21	06:07	05:47	04:45
	16:30	23 09:42 (E13)	17:39	18:38	20:43	21:42
26	08:26	09:17 (E13)	07:18	06:05	05:44	04:44
	16:32	26 09:43 (E13)	17:41	18:41	20:45	21:43
27	08:24	09:16 (E13)	07:16	06:02	05:42	04:42
	16:34	29 09:45 (E13)	17:43	18:43	20:47	21:45
28	08:22	09:16 (E13)	07:13	05:59	05:40	04:41
	16:36	30 09:46 (E13)	17:45	18:45	20:49	21:47
29	08:20	09:15 (E13)		06:57	05:37	04:40
	16:39	32 09:47 (E13)		19:47	20:51	21:48
30	08:18	09:15 (E13)		06:54	05:35	04:38
	16:41	33 09:48 (E13)		19:49	20:53	21:50
31	08:17	09:14 (E13)		06:51		04:37
	16:43	35 09:49 (E13)		19:51	21:51	
Potential sun hours	235		266	366	426	508
Total, worst case		254	714			186
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	0.12			0.37
Total, real		20	83			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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Sprīdiš 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	05:16	05:52 (E7)	06:17	07:17			07:23	08:42 (E13)	08:24	
	22:09	21:28	17 06:09 (E7)	20:14	18:54			16:36	40 09:22 (E13)	15:45	
2	04:31	05:18	05:52 (E7)	06:19	07:19			07:25	08:42 (E13)	08:26	
	22:09	21:26	18 06:10 (E7)	20:11	18:51			16:34	39 09:21 (E13)	15:44	
3	04:32	05:19	05:53 (E7)	06:21	07:21			07:27	08:42 (E13)	08:28	
	22:08	21:24	17 06:10 (E7)	20:09	18:48			16:32	40 09:22 (E13)	15:43	
4	04:33	05:21	05:55 (E7)	06:23	07:23			07:29	08:42 (E13)	08:29	
	22:07	21:22	15 06:10 (E7)	20:06	18:46			16:29	40 09:22 (E13)	15:42	
5	04:34	05:23	05:56 (E7)	06:25	07:25			07:31	08:42 (E13)	08:31	
	22:07	21:20	13 06:09 (E7)	20:03	18:43			16:27	39 09:21 (E13)	15:42	
6	04:35	05:25	05:58 (E7)	06:27	07:27			07:33	08:42 (E13)	08:32	
	22:06	21:17	10 06:08 (E7)	20:01	18:40			16:25	40 09:22 (E13)	15:41	
7	04:36	05:27	06:00 (E7)	06:29	07:30			07:36	08:42 (E13)	08:34	
	22:05	21:15	8 06:08 (E7)	19:58	18:38			16:23	39 09:21 (E13)	15:40	
8	04:37	05:29	06:02 (E7)	06:31	07:32			07:38	08:43 (E13)	08:35	
	22:04	21:13	5 06:07 (E7)	19:55	18:35			16:21	38 09:21 (E13)	15:40	
9	04:38	05:31	06:04 (E7)	06:33	07:34			07:40	08:43 (E13)	08:37	
	22:03	21:11	1 06:05 (E7)	19:53	18:32			16:19	38 09:21 (E13)	15:39	
10	04:39	05:33	06:35	07:36				07:42	08:45 (E13)	08:38	
	22:02	21:08	19:50	18:30				16:17	36 09:21 (E13)	15:39	
11	04:41	05:35	06:37	07:38				07:44	08:45 (E13)	08:39	
	22:01	21:06	19:47	18:27				16:15	35 09:20 (E13)	15:38	
12	04:42	05:37	06:39	07:40				07:46	08:45 (E13)	08:40	
	22:00	21:04	19:45	18:25				16:13	34 09:19 (E13)	15:38	
13	04:43	05:39	06:41	07:42				07:49	08:47 (E13)	08:42	
	21:59	21:02	19:42	18:22				16:11	32 09:19 (E13)	15:38	
14	04:45	05:41	06:43	07:44				07:51	08:48 (E13)	08:43	
	21:58	20:59	19:39	18:20				16:09	30 09:18 (E13)	15:38	
15	04:46	05:43	06:45	07:46				07:53	08:48 (E13)	08:44	
	21:57	20:57	19:37	18:17				16:08	29 09:17 (E13)	15:38	
16	04:48	05:45	06:47	07:48				07:55	08:50 (E13)	08:45	
	21:55	20:54	19:34	18:14				16:06	26 09:16 (E13)	15:38	
17	04:49	05:47	06:49	07:50				07:57	08:52 (E13)	08:46	
	21:54	20:52	19:31	18:12				16:04	23 09:15 (E13)	15:38	
18	04:51	05:49	06:51	07:52				07:59	08:54 (E13)	08:46	
	21:52	20:50	19:29	18:09				16:02	20 09:14 (E13)	15:38	
19	04:52	05:51	06:53	07:55				08:01	08:56 (E13)	08:47	
	21:51	20:47	19:26	18:07				16:01	16 09:12 (E13)	15:38	
20	04:54	05:53	06:55	07:57				08:03	08:59 (E13)	08:48	
	21:49	20:45	19:23	18:04				15:59	10 09:09 (E13)	15:39	
21	04:56	05:55	06:57	07:59				08:05		08:48	
	21:48	20:42	19:20	18:02	14	09:55 (E13)	10:09 (E13)	15:58		15:39	
22	04:57	05:57	06:59	08:01				08:07		08:49	
	21:46	20:40	19:18	17:59	21	10:12 (E13)	15:56			15:39	
23	04:59	05:59	07:01	08:03				08:09		08:50	
	21:45	20:37	19:15	17:57	25	10:15 (E13)	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	28	10:16 (E13)	15:53			15:41	
25	05:03	06:00 (E7)	07:05	07:07				08:13		08:50	
	21:41	3 06:03 (E7)	19:10	16:52	31	09:17 (E13)	15:52			15:41	
26	05:04	05:57 (E7)	07:07	07:10				08:15		08:51	
	21:39	8 06:05 (E7)	19:07	16:50	33	09:19 (E13)	15:51			15:42	
27	05:06	05:56 (E7)	07:09	07:12				08:17		08:51	
	21:38	11 06:07 (E7)	19:04	16:47	35	09:19 (E13)	15:49			15:43	
28	05:08	05:55 (E7)	07:11	07:14				08:19		08:51	
	21:36	13 06:08 (E7)	19:02	16:45	36	09:19 (E13)	15:48			15:44	
29	05:10	05:54 (E7)	07:13	07:16				08:21		08:51	
	21:34	14 06:08 (E7)	18:59	16:43	38	09:21 (E13)	15:47			15:45	
30	05:12	05:53 (E7)	07:15	07:18				08:22		08:51	
	21:32	16 06:09 (E7)	18:56	16:41	39	09:21 (E13)	15:46			15:46	
31	05:14	05:53 (E7)		07:20				08:43 (E13)		08:51	
	21:30	17 06:10 (E7)		16:38	39	09:22 (E13)				15:47	
Potential sun hours	529	469	385	324		247				216	
Total, worst case	82	104		339		644					
Sun reduction	0.49	0.50		0.26		0.08					
Oper. time red.	0.98	0.98		0.98		0.98					
Wind dir. red.	0.67	0.67		0.59		0.59					
Total reduction	0.32	0.33		0.15		0.05					
Total, real	26	34		51		31					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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:

25/06/2024 23:53/4.0.540

## 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 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	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	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	05:50 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	08:19 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:

25/06/2024 23:53/4.0.540

## 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	07:58 (E13) 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	07:58 (E13) 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	08:00 (E13) 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	08:02 (E13) 15:42
5	08:49 15:53	08:07 16:54	07:01 17:56	06:38 19:53	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	08:05 (E13) 15:42
6	08:49 15:55	08:05 16:56	07:04 17:58	06:35 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	08:10 (E13) 15:41
7	08:48 15:56	08:03 16:59	07:03 18:01	06:33 19:59	05:19 21:06	04:30 22:00	04:36 22:05	05:27 21:15	06:29 20:00	07:30 18:38	07:36 16:23	08:10 (E13) 15:40
8	08:48 15:58	08:01 17:01	07:03 18:03	06:30 19:58	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 20:00	07:32 18:35	07:38 16:21	08:10 (E13) 15:40
9	08:47 15:59	07:58 17:03	07:03 18:05	06:28 19:58	05:15 21:12	04:29 22:02	04:38 22:03	05:31 21:11	06:33 20:00	07:34 18:32	07:40 16:19	08:10 (E13) 15:39
10	08:46 16:01	07:56 17:05	07:03 18:07	06:25 19:58	05:13 21:14	04:28 22:03	04:39 22:02	05:33 21:09	06:35 20:00	07:36 18:30	07:42 16:17	08:10 (E13) 15:39
11	08:45 16:03	07:54 17:08	07:03 18:09	06:22 19:59	05:11 21:16	04:27 22:04	04:41 22:01	05:35 21:06	06:37 20:00	07:38 18:27	07:44 16:15	08:10 (E13) 15:39
12	08:44 16:05	07:52 17:10	07:03 18:11	06:20 19:58	05:09 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 20:00	07:40 18:25	07:46 16:13	08:10 (E13) 15:38
13	08:43 16:06	07:50 17:12	07:03 18:13	06:17 19:58	05:07 21:20	04:26 22:06	04:43 21:59	05:39 21:02	06:41 20:00	07:42 18:22	07:49 16:11	08:10 (E13) 15:38
14	08:42 16:08	07:47 17:14	07:03 18:15	06:15 19:58	05:05 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 20:00	07:44 18:20	07:51 16:09	08:10 (E13) 15:38
15	08:41 16:10	07:45 17:17	07:03 18:18	06:12 19:58	05:03 21:24	04:26 22:07	04:46 21:57	05:43 20:57	06:45 20:00	07:46 18:17	07:53 16:08	08:10 (E13) 15:38
16	08:40 16:12	07:43 17:19	07:03 18:20	06:09 19:58	05:01 21:26	04:25 22:08	04:48 21:55	05:45 20:54	06:47 20:00	07:48 18:14	07:55 16:06	08:10 (E13) 15:38
17	08:39 16:14	07:40 17:21	07:03 18:22	06:07 19:58	04:59 21:27	04:25 22:09	04:49 21:54	05:47 20:52	06:49 20:00	07:50 18:12	07:57 16:04	08:10 (E13) 15:38
18	08:38 16:16	07:38 17:23	07:03 18:24	06:04 19:58	04:57 21:29	04:25 22:09	04:51 21:53	05:49 20:50	06:51 20:00	07:52 18:09	07:59 16:02	08:10 (E13) 15:38
19	08:36 16:18	07:36 17:26	07:03 18:26	06:02 19:58	04:55 21:31	04:25 22:09	04:53 21:51	05:51 20:47	06:53 20:00	07:55 18:07	08:01 16:01	08:10 (E13) 15:38
20	08:35 16:20	07:33 17:28	07:03 18:28	06:01 19:58	04:53 21:33	04:25 22:10	04:54 21:50	05:53 20:45	06:55 20:00	07:57 18:04	08:03 15:59	08:10 (E13) 15:39
21	08:33 16:22	07:31 17:30	07:03 18:30	06:01 19:58	04:52 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 20:00	07:59 18:02	08:05 15:58	08:10 (E13) 15:39
22	08:32 16:24	07:28 17:32	07:03 18:32	06:01 19:58	04:50 21:37	04:25 22:10	04:58 21:46	05:57 20:40	06:59 20:00	08:01 18:00	08:07 15:56	08:10 (E13) 15:39
23	08:30 16:26	07:26 17:34	07:03 18:34	06:01 19:58	04:48 21:38	04:26 22:10	04:59 21:45	05:59 20:37	07:01 20:00	08:03 17:57	08:09 15:55	08:10 (E13) 15:40
24	08:29 16:28	07:23 17:37	07:03 18:36	06:01 19:58	04:47 21:40	04:26 22:10	05:01 21:43	06:01 20:35	07:03 20:00	08:05 17:55	08:11 15:53	08:10 (E13) 15:41
25	08:27 16:30	07:21 17:39	07:03 18:38	06:01 19:58	04:45 21:42	04:26 22:10	05:03 21:41	06:03 20:32	07:05 20:00	08:07 17:52	08:13 15:52	08:10 (E13) 15:41
26	08:26 16:32	07:18 17:41	07:03 18:41	06:01 19:58	04:44 21:43	04:27 22:10	05:05 21:39	06:05 20:30	07:07 20:00	08:10 17:42	08:15 15:51	08:10 (E13) 15:41
27	08:24 16:34	07:16 17:43	07:03 18:43	06:01 19:58	04:42 21:45	04:27 22:10	05:06 21:38	06:07 20:27	07:09 20:00	08:12 17:44	08:17 15:49	08:10 (E13) 15:41
28	08:22 16:36	07:13 17:45	07:03 18:45	06:01 19:58	04:41 21:47	04:28 22:10	05:08 21:36	06:09 20:24	07:11 20:00	08:14 17:45	08:19 15:48	08:10 (E13) 15:44
29	08:20 16:39	07:11 17:48	07:03 18:47	06:01 19:58	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	07:13 20:00	08:16 17:46	08:21 15:47	08:10 (E13) 15:45
30	08:19 16:41	07:03 17:54	07:03 18:48	06:01 19:58	04:38 21:50	04:29 22:10	05:12 21:32	06:13 20:19	07:15 20:00	08:18 17:47	08:22 15:46	08:10 (E13) 15:46
31	08:17 16:43	07:03 17:55	07:03 18:49	06:01 19:58	04:37 21:51	04:30 22:10	05:14 21:30	06:15 20:17	07:20 20:00	08:19 17:48	08:23 15:47	08:10 (E13) 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		305									83	80
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		37									4	3

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:

25/06/2024 23:53/4.0.540

## 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 (E14) 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	08:16 (E14) 15:45
2	08:51 15:49	08:13 16:48	08:43 (E14) 17:50	07:08 19:55	06:46 20:58	05:30 21:54	04:31 22:09	04:31 21:26	05:18 20:11	06:19 18:51	07:19 16:34	08:12 (E14) 15:44
3	08:50 15:51	08:11 16:50	08:41 (E14) 17:52	07:06 19:57	06:44 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	08:12 (E14) 15:43
4	08:50 15:52	08:09 16:52	08:39 (E14) 17:54	07:03 19:59	06:41 21:02	05:26 21:57	04:33 22:07	04:33 21:22	05:22 20:06	06:23 18:46	07:23 16:30	08:10 (E14) 15:42
5	08:49 15:53	08:07 16:54	08:37 (E14) 17:56	07:01 19:59	06:38 21:04	05:24 21:58	04:34 22:07	04:34 21:20	05:23 20:04	06:25 18:43	07:26 16:27	08:10 (E14) 15:42
6	08:49 15:55	08:05 16:57	08:40 (E14) 17:58	06:58 20:04	06:36 21:06	05:21 21:59	04:35 22:06	04:35 21:17	05:25 20:01	06:27 18:40	07:28 16:25	08:10 (E14) 15:41
7	08:48 15:56	08:03 16:59	08:41 (E14) 18:01	06:55 20:06	06:33 21:08	05:19 22:00	04:36 22:05	04:36 21:15	05:27 19:58	06:29 18:38	07:30 16:23	08:09 (E14) 15:40
8	08:48 15:58	08:01 17:01	08:42 (E14) 18:03	06:53 20:08	06:30 21:10	05:17 22:01	04:37 22:04	04:37 21:13	05:29 19:56	06:31 18:35	07:32 16:21	08:12 (E14) 15:40
9	08:47 16:00	07:58 17:03	08:43 (E14) 18:05	06:50 20:10	06:28 21:12	05:15 22:02	04:38 22:03	04:38 21:11	05:31 19:53	06:33 18:33	07:34 16:19	08:14 (E14) 15:39
10	08:46 16:01	07:56 17:05	08:52 (E14) 18:05	06:48 20:12	06:25 21:14	05:13 22:03	04:39 22:03	04:39 21:09	05:33 19:50	06:35 18:30	07:36 16:17	08:14 (E14) 15:39
11	08:45 16:03	07:54 17:08	08:52 (E14) 18:09	06:45 20:14	06:22 21:16	05:11 22:04	04:41 22:01	04:41 21:06	05:35 19:48	06:37 18:27	07:38 16:15	08:14 (E14) 15:39
12	08:44 16:05	07:52 17:10	08:52 (E14) 18:11	06:42 20:16	06:20 21:18	05:09 22:05	04:42 22:00	04:42 21:04	05:37 19:45	06:39 18:25	07:40 16:13	08:14 (E14) 15:38
13	08:43 16:06	07:50 17:12	08:52 (E14) 18:13	06:40 20:18	06:17 21:20	05:07 22:06	04:44 21:59	04:44 21:02	05:39 19:42	06:41 18:22	07:42 16:11	08:14 (E14) 15:38
14	08:42 16:08	07:47 17:14	08:52 (E14) 18:16	06:37 20:20	06:15 21:22	05:05 22:07	04:45 21:58	04:45 20:59	05:41 19:39	06:43 18:20	07:44 16:10	08:14 (E14) 15:38
15	08:41 16:10	07:45 17:17	08:52 (E14) 18:18	06:34 20:22	06:12 21:24	05:03 22:07	04:46 21:57	04:46 20:57	05:43 19:37	06:45 18:17	07:46 16:08	08:14 (E14) 15:38
16	08:40 16:12	07:43 17:19	08:52 (E14) 18:20	06:32 20:24	06:09 21:26	05:01 22:08	04:48 21:55	04:48 20:55	05:45 19:34	06:47 18:15	07:48 16:06	08:14 (E14) 15:38
17	08:39 16:14	07:40 17:21	08:52 (E14) 18:22	06:29 20:26	06:07 21:27	04:59 22:09	04:49 21:54	04:49 20:52	05:47 19:31	06:49 18:12	07:50 16:04	08:14 (E14) 15:38
18	08:38 16:16	07:38 17:23	08:52 (E14) 18:24	06:26 20:29	06:04 21:29	04:57 22:09	04:51 21:53	04:51 20:50	05:49 19:29	06:51 18:09	07:53 16:03	08:14 (E14) 15:38
19	08:36 16:18	07:36 17:26	08:52 (E14) 18:26	06:24 20:31	06:02 21:31	04:55 22:09	04:53 21:51	04:53 20:47	05:51 19:26	06:53 18:07	07:55 16:01	08:14 (E14) 15:38
20	08:35 16:20	07:33 17:28	08:52 (E14) 18:28	06:21 20:33	05:59 21:33	04:53 22:10	04:54 21:50	04:54 20:45	05:53 19:23	06:55 18:05	07:57 15:59	08:14 (E14) 15:39
21	08:33 16:22	07:31 17:30	08:52 (E14) 18:30	06:18 20:35	05:57 21:35	04:52 22:10	04:56 21:48	04:56 20:42	05:55 19:21	06:57 18:02	07:59 15:58	08:14 (E14) 15:39
22	08:32 16:24	07:28 17:32	08:52 (E14) 18:32	06:16 20:37	05:54 21:37	04:50 22:10	04:58 21:46	04:58 20:40	05:57 19:18	06:59 18:00	08:01 15:56	08:14 (E14) 15:40
23	08:30 16:26	07:26 17:35	08:52 (E14) 18:34	06:13 20:39	05:52 21:38	04:48 22:10	04:56 21:45	04:56 20:37	05:59 19:15	07:01 17:57	08:03 15:55	08:14 (E14) 15:40
24	08:29 16:28	07:23 17:37	08:52 (E14) 18:36	06:10 20:41	05:49 21:40	04:47 22:11	04:54 21:43	04:54 20:35	05:59 19:13	07:03 17:55	08:05 15:53	08:14 (E14) 15:41
25	08:27 16:30	07:21 17:39	08:52 (E14) 18:39	06:08 20:43	05:47 21:42	04:45 22:11	04:53 21:41	04:53 20:32	06:03 19:10	07:05 16:52	08:07 15:52	08:14 (E14) 15:41
26	08:26 16:32	07:18 17:41	08:52 (E14) 18:41	06:05 20:45	05:45 21:43	04:44 22:10	04:53 21:39	04:53 20:30	06:05 19:07	07:07 16:50	08:07 15:51	08:14 (E14) 15:42
27	08:24 16:34	07:16 17:43	08:52 (E14) 18:43	06:02 20:47	05:42 21:45	04:42 22:10	04:53 21:38	04:53 20:27	06:07 19:04	07:09 16:48	08:09 15:50	08:14 (E14) 15:43
28	08:22 16:37	07:13 17:45	08:52 (E14) 18:45	06:00 20:49	05:40 21:47	04:41 22:10	04:53 21:36	04:53 20:25	06:09 19:02	07:11 16:45	08:11 15:48	08:14 (E14) 15:44
29	08:20 16:39	07:11 17:48	08:52 (E14) 18:47	05:57 20:51	05:37 21:48	04:40 22:10	04:53 21:34	04:53 20:22	06:11 18:59	07:13 16:43	08:13 15:47	08:14 (E14) 15:45
30	08:19 16:41	07:09 17:53	08:52 (E14) 18:49	05:54 20:54	05:35 21:50	04:38 22:10	04:53 21:32	04:53 20:19	06:13 18:56	07:15 16:41	08:13 15:46	08:14 (E14) 15:46
31	08:17 16:43	07:07 17:54	08:52 (E14) 18:51	05:52 20:52	05:32 21:51	04:37 22:10	04:53 21:30	04:53 20:17	06:15 18:56	07:21 16:38	08:13 15:47	08:14 (E14) 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case	9	118									131	
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	1	14									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:

25/06/2024 23:53/4.0.540

## 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		10:08 (E13)	08:15		07:11	06:49				05:33		06:23 (E7)	04:36		
	15:48	32	10:40 (E13)	16:45		17:48	19:53				20:55	7	06:30 (E7)	21:53		
2	08:51		10:09 (E13)	08:13		07:08	06:46				05:30			04:35		
	15:49	31	10:40 (E13)	16:47		17:50	19:55				20:58			21:54		
3	08:50		10:09 (E13)	08:11		07:06	06:43				05:28			04:34		
	15:51	32	10:41 (E13)	16:50		17:52	19:57				21:00			21:55		
4	08:50		10:09 (E13)	08:09		07:03	06:41				05:26			04:33		
	15:52	32	10:41 (E13)	16:52		17:54	19:59				21:02			21:57		
5	08:49		10:10 (E13)	08:07		07:00	06:38				05:23			04:32		
	15:53	32	10:42 (E13)	16:54		17:56	20:01				21:04			21:58		
6	08:49		10:10 (E13)	08:05		06:58	06:35				05:21			04:31		
	15:55	32	10:42 (E13)	16:56		17:58	20:03				21:06			21:59		
7	08:48		10:10 (E13)	08:03		06:55	06:33				05:19			04:30		
	15:56	32	10:42 (E13)	16:59		18:00	20:05				21:08			22:00		
8	08:48		10:11 (E13)	08:01		06:53	06:30				05:17			04:29		
	15:58	32	10:43 (E13)	17:01		18:03	20:08				21:10			22:01		
9	08:47		10:11 (E13)	07:58		06:50	06:28				05:15			04:28		
	15:59	32	10:43 (E13)	17:03		18:05	20:10				21:12			22:02		
10	08:46		10:12 (E13)	07:56		06:47	06:25				05:13			04:28		
	16:01	31	10:43 (E13)	17:05		18:07	20:12				21:14			22:03		
11	08:45		10:12 (E13)	07:54		06:45	06:22				05:11			04:27		
	16:03	32	10:44 (E13)	17:08		18:09	20:14				21:16			22:04		
12	08:44		10:13 (E13)	07:52		06:42	06:20				05:08			04:27		
	16:04	31	10:44 (E13)	17:10		18:11	20:16				21:18			22:05		
13	08:43		10:13 (E13)	07:50		06:40	06:17				05:06			04:26		
	16:06	31	10:44 (E13)	17:12		18:13	20:18				21:20			22:06		
14	08:42		10:14 (E13)	07:47		06:37	06:14				05:04			04:26		
	16:08	30	10:44 (E13)	17:14		18:15	20:20				21:22			22:07		
15	08:41		10:15 (E13)	07:45		06:34	06:12				05:03			04:26		
	16:10	30	10:45 (E13)	17:17		18:18	20:22				21:24			22:07		
16	08:40		10:15 (E13)	07:43		06:32	06:09				05:01			04:25		
	16:12	29	10:44 (E13)	17:19		18:20	20:24				21:26			22:08		
17	08:39		10:17 (E13)	07:40		06:29	06:07				04:59			04:25		
	16:14	27	10:44 (E13)	17:21		18:22	20:26				21:27			22:08		
18	08:38		10:17 (E13)	07:38		06:26	06:04			06:30 (E7)	04:57			04:25		
	16:16	27	10:44 (E13)	17:23		18:24	20:28	4	06:34 (E7)	21:29				22:09		
19	08:36		10:18 (E13)	07:36		06:24	06:02			06:28 (E7)	04:55			04:25		
	16:18	25	10:43 (E13)	17:26		18:26	20:30	8	06:36 (E7)	21:31				22:09		
20	08:35		10:19 (E13)	07:33		06:21	05:59			06:25 (E7)	04:53			04:25		
	16:20	24	10:43 (E13)	17:28		18:28	20:33	11	06:36 (E7)	21:33				22:10		
21	08:33		10:20 (E13)	07:31		06:18	05:57			06:23 (E7)	04:52			04:25		
	16:22	22	10:42 (E13)	17:30		18:30	20:35	14	06:37 (E7)	21:35				22:10		
22	08:32		10:22 (E13)	07:28		06:16	05:54			06:21 (E7)	04:50			04:25		
	16:24	19	10:41 (E13)	17:32		18:32	20:37	17	06:38 (E7)	21:37				22:10		
23	08:30		10:23 (E13)	07:26		06:13	05:52			06:18 (E7)	04:48			04:26		
	16:26	17	10:40 (E13)	17:34		18:34	20:39	19	06:37 (E7)	21:38				22:10		
24	08:29		10:26 (E13)	07:23		06:10	05:49			06:18 (E7)	04:47			04:26		
	16:28	13	10:39 (E13)	17:37		18:36	20:41	20	06:38 (E7)	21:40				22:10		
25	08:27		10:30 (E13)	07:21		06:07	05:47			06:19 (E7)	04:45			04:26		
	16:30	5	10:35 (E13)	17:39		18:38	20:43	19	06:38 (E7)	21:42				22:10		
26	08:26			07:18		06:05	05:44			06:18 (E7)	04:44			04:27		
	16:32			17:41		18:41	20:45	19	06:37 (E7)	21:43				22:10		
27	08:24			07:16		06:02	05:42			06:19 (E7)	04:42			04:27		
	16:34			17:43		18:43	20:47	17	06:36 (E7)	21:45				22:10		
28	08:22			07:13		05:59	05:40			06:19 (E7)	04:41			04:28		
	16:36			17:45		18:45	20:49	17	06:36 (E7)	21:47				22:10		
29	08:20					06:57	05:37			06:20 (E7)	04:40			04:29		
	16:39					19:47	20:51	15	06:35 (E7)	21:48				22:10		
30	08:18					06:54	05:35			06:21 (E7)	04:38			04:29		
	16:41					19:49	20:53	11	06:32 (E7)	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		680						191			7					
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						0.32			0.36					
Total, real		54						61			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:

25/06/2024 23:53/4.0.540

## 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
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	05:19 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 (E7) 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	04:43 21:59	05:39 21:02	06:29 (E7) 19:42	07:42 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:28 (E7) 19:39	07:44 18:19	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:27 (E7) 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:26 (E7) 19:34	07:48 18:14	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:25 (E7) 19:31	07:50 18:12	07:57 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:24 (E7) 19:29	07:52 18:09	07:59 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:24 (E7) 19:26	07:55 18:07	08:01 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:24 (E7) 19:23	07:57 18:04	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:26 (E7) 19:20	07:59 18:02	08:05 15:58	08:49 15:39
22	04:57 21:46	05:57 20:40	06:28 (E7) 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	04:59 21:45	05:59 20:37	06:30 (E7) 19:15	08:03 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	06:32 (E7) 19:12	08:05 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	06:34 (E7) 19:10	08:13 16:52	08:19 15:52	08:50 15:41
26	05:04 21:39	06:05 20:30	06:37 (E7) 19:07	08:15 16:50	08:21 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:12 16:47	08:17 15:49	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 16:40	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	07:20 16:38	07:23 16:34	08:25 15:44	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		196			330	979
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		0.32			0.05	0.04
Total, real		62			16	41

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:

25/06/2024 23:53/4.0.540

## 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		10:11 (E13)	08:15		10:25 (E13)	07:11	06:49	05:33	06:00 (E7)	04:36	
	15:48	34	10:45 (E13)	16:45	26	10:51 (E13)	17:48	19:53	20:55	5	06:05 (E7)	21:53
2	08:50		10:12 (E13)	08:13		10:27 (E13)	07:08	06:46	05:30		05:58 (E7)	04:35
	15:49	35	10:47 (E13)	16:47	22	10:49 (E13)	17:50	19:55	20:57	9	06:07 (E7)	21:54
3	08:50		10:12 (E13)	08:11		10:30 (E13)	07:06	06:43	05:28		05:56 (E7)	04:34
	15:51	35	10:47 (E13)	16:50	17	10:47 (E13)	17:52	19:57	21:00	12	06:08 (E7)	21:55
4	08:50		10:11 (E13)	08:09		10:33 (E13)	07:03	06:41	05:26		05:54 (E7)	04:33
	15:52	36	10:47 (E13)	16:52	11	10:44 (E13)	17:54	19:59	21:02	15	06:09 (E7)	21:57
5	08:49		10:12 (E13)	08:07			07:00	06:38	05:23		05:52 (E7)	04:32
	15:53	37	10:49 (E13)	16:54			17:56	20:01	21:04	17	06:09 (E7)	21:58
6	08:49		10:12 (E13)	08:05			06:58	06:35	05:21		05:50 (E7)	04:31
	15:55	37	10:49 (E13)	16:56			17:58	20:03	21:06	20	06:10 (E7)	21:59
7	08:48		10:12 (E13)	08:03			06:55	06:33	05:19		05:50 (E7)	04:30
	15:56	38	10:50 (E13)	16:59			18:00	20:05	21:08	20	06:10 (E7)	22:00
8	08:48		10:13 (E13)	08:01			06:53	06:30	05:17		05:50 (E7)	04:29
	15:58	37	10:50 (E13)	17:01			18:03	20:08	21:10	20	06:10 (E7)	22:01
9	08:47		10:13 (E13)	07:58			06:50	06:28	05:15		05:50 (E7)	04:28
	15:59	38	10:51 (E13)	17:03			18:05	20:10	21:12	20	06:10 (E7)	22:02
10	08:46		10:13 (E13)	07:56			06:47	06:25	05:13		05:50 (E7)	04:28
	16:01	38	10:51 (E13)	17:05			18:07	20:12	21:14	19	06:09 (E7)	22:03
11	08:45		10:13 (E13)	07:54			06:45	06:22	05:11		05:50 (E7)	04:27
	16:03	39	10:52 (E13)	17:08			18:09	20:14	21:16	19	06:09 (E7)	22:04
12	08:44		10:14 (E13)	07:52			06:42	06:20	05:08		05:50 (E7)	04:27
	16:04	39	10:53 (E13)	17:10			18:11	20:16	21:18	18	06:08 (E7)	22:05
13	08:43		10:13 (E13)	07:49			06:40	06:17	05:06		05:50 (E7)	04:26
	16:06	40	10:53 (E13)	17:12			18:13	20:18	21:20	18	06:08 (E7)	22:06
14	08:42		10:14 (E13)	07:47			06:37	06:14	05:04		05:52 (E7)	04:26
	16:08	40	10:54 (E13)	17:14			18:15	20:20	21:22	16	06:08 (E7)	22:07
15	08:41		10:14 (E13)	07:45			06:34	06:12	05:03		05:52 (E7)	04:26
	16:10	39	10:53 (E13)	17:17			18:18	20:22	21:24	15	06:07 (E7)	22:07
16	08:40		10:14 (E13)	07:43			06:32	06:09	05:01		05:53 (E7)	04:25
	16:12	40	10:54 (E13)	17:19			18:20	20:24	21:25	12	06:05 (E7)	22:08
17	08:39		10:15 (E13)	07:40			06:29	06:07	04:59		05:56 (E7)	04:25
	16:14	40	10:55 (E13)	17:21			18:22	20:26	21:27	8	06:04 (E7)	22:08
18	08:37		10:15 (E13)	07:38			06:26	06:04	04:57		05:59 (E7)	04:25
	16:16	40	10:55 (E13)	17:23			18:24	20:28	21:29	1	06:00 (E7)	22:09
19	08:36		10:15 (E13)	07:36			06:24	06:02	04:55			04:25
	16:18	40	10:55 (E13)	17:26			18:26	20:30	21:31			22:09
20	08:35		10:16 (E13)	07:33			06:21	05:59	04:53			04:25
	16:20	40	10:56 (E13)	17:28			18:28	20:33	21:33			22:10
21	08:33		10:16 (E13)	07:31			06:18	05:57	04:52			04:25
	16:22	40	10:56 (E13)	17:30			18:30	20:35	21:35			22:10
22	08:32		10:17 (E13)	07:28			06:16	05:54	04:50			04:25
	16:24	39	10:56 (E13)	17:32			18:32	20:37	21:37			22:10
23	08:30		10:17 (E13)	07:26			06:13	05:52	04:48			04:26
	16:26	38	10:55 (E13)	17:34			18:34	20:39	21:38			22:10
24	08:29		10:18 (E13)	07:23			06:10	05:49	04:47			04:26
	16:28	38	10:56 (E13)	17:37			18:36	20:41	21:40			22:10
25	08:27		10:19 (E13)	07:21			06:07	05:47	04:45			04:26
	16:30	37	10:56 (E13)	17:39			18:38	20:43	21:42			22:10
26	08:26		10:19 (E13)	07:18			06:05	05:44	04:44			04:27
	16:32	37	10:56 (E13)	17:41			18:41	20:45	21:43			22:10
27	08:24		10:20 (E13)	07:16			06:02	05:42	04:42			04:27
	16:34	35	10:55 (E13)	17:43			18:43	20:47	21:45			22:10
28	08:22		10:21 (E13)	07:13			05:59	05:40	04:41			04:28
	16:36	34	10:55 (E13)	17:45			18:45	20:49	21:47			22:10
29	08:20		10:22 (E13)				06:57	05:37	04:40			04:29
	16:39	32	10:54 (E13)				19:47	20:51	21:48			22:10
30	08:18		10:23 (E13)				06:54	05:35	04:38			04:29
	16:41	31	10:54 (E13)				19:49	20:53	21:50			22:09
31	08:17		10:25 (E13)				06:51		04:37			
	16:43	28	10:53 (E13)				19:51		21:51			
Potential sun hours	235			266			366	426	508		529	
Total, worst case		1151			76					264		
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					0.37		
Total, real		92			9					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:

25/06/2024 23:53/4.0.540

## 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	06:00 (E7) 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 (E7) 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 (E7) 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 (E7) 20:06	06:23 18:46	07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:00 (E7) 20:03	06:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:00 (E7) 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 (E7) 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 (E7) 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 (E7) 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 (E7) 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 (E7) 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 (E7) 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	06:41 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:13 19:39	06:43 18:19	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:15 19:37	06:45 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:17 19:34	06:47 18:14	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:19 19:31	06:49 18:12	07:57 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:21 19:29	06:51 18:09	07:59 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:23 19:26	06:53 18:07	08:01 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:25 19:23	06:55 18:04	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:27 19:20	06:57 18:02	08:05 15:58	08:48 15:39
22	04:57 21:46	05:57 20:40	06:29 19:18	06:59 17:59	08:07 15:56	08:49 15:39
23	04:59 21:45	05:59 20:37	06:31 19:15	07:01 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	06:33 19:12	07:03 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	06:35 19:10	07:05 16:52	08:13 15:52	08:50 15:41
26	05:04 21:39	06:05 (E7) 20:30	06:37 19:07	07:07 16:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 (E7) 20:27	06:39 19:04	07:09 16:47	08:17 15:49	08:51 15:43
28	05:08 21:36	06:09 (E7) 20:24	06:41 19:02	07:11 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 (E7) 20:22	06:43 18:59	07:13 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 (E7) 20:19	06:45 18:56	07:15 16:40	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 (E7) 20:17		07:17 16:38		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	78	190			828	1061
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	0.32	0.33			0.05	0.04
Total, real	25	62			41	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	09:40 (E13)	08:15	07:11	06:49		05:33	04:36
	15:48	23 10:03 (E13)	16:45	17:48	19:53		20:55	21:53
2	08:51	09:41 (E13)	08:13	07:08	06:46		05:30	04:35
	15:49	23 10:04 (E13)	16:47	17:50	19:55		20:58	21:54
3	08:50	09:41 (E13)	08:11	07:06	06:43		05:28	04:34
	15:51	24 10:05 (E13)	16:50	17:52	19:57		21:00	21:55
4	08:50	09:40 (E13)	08:09	07:03	06:41		05:26	04:33
	15:52	25 10:05 (E13)	16:52	17:54	19:59		21:02	21:57
5	08:49	09:41 (E13)	08:07	07:01	06:38		05:23	04:32
	15:53	25 10:06 (E13)	16:54	17:56	20:01		21:04	21:58
6	08:49	09:41 (E13)	08:05	06:58	06:35		05:21	04:31
	15:55	26 10:07 (E13)	16:56	17:58	20:03		21:06	21:59
7	08:48	09:41 (E13)	08:03	06:55	06:33		05:19	04:30
	15:56	26 10:07 (E13)	16:59	18:01	20:05		21:08	22:00
8	08:48	09:42 (E13)	08:01	06:53	06:30		05:17	04:29
	15:58	26 10:08 (E13)	17:01	18:03	20:08		21:10	22:01
9	08:47	09:42 (E13)	07:58	06:50	06:28		05:15	04:28
	15:59	27 10:09 (E13)	17:03	18:05	20:10		21:12	22:02
10	08:46	09:42 (E13)	07:56	06:47	06:25		05:13	04:28
	16:01	27 10:09 (E13)	17:05	18:07	20:12		21:14	22:03
11	08:45	09:42 (E13)	07:54	06:45	06:22		05:11	04:27
	16:03	28 10:10 (E13)	17:08	18:09	20:14		21:16	22:04
12	08:44	09:43 (E13)	07:52	06:42	06:20		05:08	04:27
	16:04	28 10:11 (E13)	17:10	18:11	20:16		21:18	22:05
13	08:43	09:42 (E13)	07:50	06:40	06:17	06:43 (E7)	05:06	04:26
	16:06	29 10:11 (E13)	17:12	18:13	20:18	1 06:44 (E7)	21:20	22:06
14	08:42	09:43 (E13)	07:47	06:37	06:15	06:40 (E7)	05:04	04:26
	16:08	28 10:11 (E13)	17:14	18:15	20:20	5 06:45 (E7)	21:22	22:07
15	08:41	09:44 (E13)	07:45	06:34	06:12	06:38 (E7)	05:03	04:26
	16:10	28 10:12 (E13)	17:17	18:18	20:22	9 06:47 (E7)	21:24	22:07
16	08:40	09:44 (E13)	07:43	06:32	06:09	06:35 (E7)	05:01	04:25
	16:12	28 10:12 (E13)	17:19	18:20	20:24	12 06:47 (E7)	21:26	22:08
17	08:39	09:45 (E13)	07:40	06:29	06:07	06:33 (E7)	04:59	04:25
	16:14	28 10:13 (E13)	17:21	18:22	20:26	14 06:47 (E7)	21:27	22:09
18	08:38	09:45 (E13)	07:38	06:26	06:04	06:30 (E7)	04:57	04:25
	16:16	27 10:12 (E13)	17:23	18:24	20:28	17 06:47 (E7)	21:29	22:09
19	08:36	09:45 (E13)	07:36	06:24	06:02	06:30 (E7)	04:55	04:25
	16:18	27 10:12 (E13)	17:26	18:26	20:30	17 06:47 (E7)	21:31	22:09
20	08:35	09:46 (E13)	07:33	06:21	05:59	06:29 (E7)	04:53	04:25
	16:20	27 10:13 (E13)	17:28	18:28	20:33	17 06:46 (E7)	21:33	22:10
21	08:33	09:46 (E13)	07:31	06:18	05:57	06:30 (E7)	04:52	04:25
	16:22	27 10:13 (E13)	17:30	18:30	20:35	15 06:45 (E7)	21:35	22:10
22	08:32	09:47 (E13)	07:28	06:16	05:54	06:31 (E7)	04:50	04:25
	16:24	25 10:12 (E13)	17:32	18:32	20:37	14 06:45 (E7)	21:37	22:10
23	08:30	09:47 (E13)	07:26	06:13	05:52	06:31 (E7)	04:48	04:26
	16:26	25 10:12 (E13)	17:34	18:34	20:39	12 06:43 (E7)	21:38	22:10
24	08:29	09:49 (E13)	07:23	06:10	05:49	06:33 (E7)	04:47	04:26
	16:28	23 10:12 (E13)	17:37	18:36	20:41	8 06:41 (E7)	21:40	22:10
25	08:27	09:50 (E13)	07:21	06:07	05:47		04:45	04:26
	16:30	22 10:12 (E13)	17:39	18:38	20:43		21:42	22:10
26	08:26	09:51 (E13)	07:18	06:05	05:44		04:44	04:27
	16:32	20 10:11 (E13)	17:41	18:41	20:45		21:43	22:10
27	08:24	09:53 (E13)	07:16	06:02	05:42		04:42	04:27
	16:34	17 10:10 (E13)	17:43	18:43	20:47		21:45	22:10
28	08:22	09:55 (E13)	07:13	05:59	05:40		04:41	04:28
	16:36	13 10:08 (E13)	17:45	18:45	20:49		21:47	22:10
29	08:20	09:58 (E13)		06:57	05:37		04:40	04:29
	16:39	7 10:05 (E13)		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		709				141		
Sun reduction		0.13				0.50		
Oper. time red.		0.98				0.98		
Wind dir. red.		0.61				0.65		
Total reduction		0.08				0.32		
Total, real		56				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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:26 15:44
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
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 21:52	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	08:49 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 15:41
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	05:04 21:39	06:05 20:30	07:07 19:07	08:15 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 17:47	08:17 15:49	08:51 15:43
28	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	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	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	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		142			432	693
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		0.32			0.05	0.04
Total, real		45			21	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		10:51 (E5)	08:15	07:11	06:49	05:32	04:35	04:30	05:15	06:17	07:17	07:23		08:24	10:38 (E5)		
	15:48	41	11:32 (E5)	16:45	17:47	19:53	20:55	21:53	22:09	21:28	20:14	18:53	16:36		15:45	40	11:18 (E5)	
2	08:51		10:52 (E5)	08:13	07:08	06:46	05:30	04:34	04:30	05:17	06:19	07:19	07:25		08:26		10:38 (E5)	
	15:49	41	11:33 (E5)	16:47	17:50	19:55	20:57	21:54	22:09	21:26	20:11	18:51	16:34		15:44	41	11:19 (E5)	
3	08:50		10:52 (E5)	08:11	07:06	06:43	05:28	04:33	04:31	05:19	06:21	07:21	07:27		08:28		10:39 (E5)	
	15:50	41	11:33 (E5)	16:49	17:52	19:57	21:00	21:55	22:08	21:24	20:09	18:48	16:31		15:43	40	11:19 (E5)	
4	08:50		10:52 (E5)	08:09	07:03	06:41	05:25	04:32	04:32	05:21	06:23	07:23	07:29		08:29		10:38 (E5)	
	15:52	41	11:33 (E5)	16:52	17:54	19:59	21:02	21:57	22:07	21:22	20:06	18:45	16:29		15:42	41	11:19 (E5)	
5	08:49		10:53 (E5)	08:07	07:00	06:38	05:23	04:31	04:33	05:23	06:25	07:25	07:31		08:31		10:39 (E5)	
	15:53	41	11:34 (E5)	16:54	17:56	20:01	21:04	21:58	22:07	21:19	20:03	18:43	16:27		15:41	41	11:20 (E5)	
6	08:49		10:53 (E5)	08:05	06:58	06:35	05:21	04:30	04:34	05:25	06:27	07:27	07:33		08:32		10:39 (E5)	
	15:54	41	11:34 (E5)	16:56	17:58	20:03	21:06	21:59	22:06	21:17	20:01	18:40	16:25		15:41	41	11:20 (E5)	
7	08:48		10:54 (E5)	08:03	06:55	06:33	05:19	04:30	04:35	05:27	06:29	07:29	07:36		08:34		10:39 (E5)	
	15:56	40	11:34 (E5)	16:58	18:00	20:05	21:08	22:00	22:05	21:15	19:58	18:38	16:23		15:40	41	11:20 (E5)	
8	08:48		10:54 (E5)	08:00	06:53	06:30	05:17	04:29	04:37	05:29	06:31	07:31	07:38		08:35		10:40 (E5)	
	15:58	41	11:35 (E5)	17:01	18:02	20:07	21:10	22:01	22:04	21:13	19:55	18:35	16:21		15:39	41	11:21 (E5)	
9	08:47		10:55 (E5)	07:58	06:50	06:27	05:14	04:28	04:38	05:31	06:33	07:34	07:40		08:37		10:41 (E5)	
	15:59	40	11:35 (E5)	17:03	18:05	20:10	21:12	22:02	22:03	21:11	19:53	18:32	16:19		15:39	41	11:22 (E5)	
10	08:46		10:55 (E5)	07:56	06:47	06:25	05:12	04:28	04:39	05:33	06:35	07:36	07:42		08:38		10:41 (E5)	
	16:01	40	11:35 (E5)	17:05	18:07	20:12	21:14	22:03	22:02	21:08	19:50	18:30	16:17		15:38	41	11:22 (E5)	
11	08:45		10:56 (E5)	07:54	06:45	06:22	05:10	04:27	04:40	05:35	06:37	07:38	07:44		08:39		10:41 (E5)	
	16:02	40	11:36 (E5)	17:07	18:09	20:14	21:16	22:04	22:01	21:06	19:47	18:27	16:15		15:38	41	11:22 (E5)	
12	08:44		10:57 (E5)	07:52	06:42	06:19	05:08	04:26	04:42	05:37	06:39	07:40	07:46		08:40		10:42 (E5)	
	16:04	39	11:36 (E5)	17:10	18:11	20:16	21:18	22:05	22:00	21:04	19:45	18:24	16:13		15:38	41	11:23 (E5)	
13	08:43		10:57 (E5)	07:49	06:39	06:17	05:06	04:26	04:43	05:39	06:41	07:42	07:49		08:42		10:42 (E5)	
	16:06	39	11:36 (E5)	17:12	18:13	20:18	21:20	22:06	21:59	21:01	19:42	18:22	16:11		15:38	41	11:23 (E5)	
14	08:42		10:58 (E5)	07:47	06:37	06:14	05:04	04:26	04:44	05:41	06:43	07:44	07:51		08:43		10:42 (E5)	
	16:08	38	11:36 (E5)	17:14	18:15	20:20	21:22	22:07	21:58	20:59	19:39	18:19	16:09		15:38	42	11:24 (E5)	
15	08:41		10:59 (E5)	07:45	06:34	06:12	05:02	04:25	04:46	05:43	06:45	07:46	07:53		08:44		10:43 (E5)	
	16:10	38	11:37 (E5)	17:16	18:17	20:22	21:24	22:07	21:57	20:57	19:37	18:17	16:07	12	10:59 (E5)	15:37	41	11:24 (E5)
16	08:40		10:59 (E5)	07:43	06:31	06:09	05:00	04:25	04:47	05:45	06:47	07:48	07:55		08:45		10:43 (E5)	
	16:12	37	11:36 (E5)	17:19	18:19	20:24	21:25	22:08	21:55	20:54	19:34	18:14	16:06	17	11:02 (E5)	15:37	41	11:24 (E5)
17	08:39		11:00 (E5)	07:40	06:29	06:07	04:58	04:25	04:49	05:47	06:49	07:50	07:57		08:46		10:44 (E5)	
	16:13	36	11:36 (E5)	17:21	18:22	20:26	21:27	22:09	21:54	20:52	19:31	18:12	16:04	22	11:04 (E5)	15:38	41	11:25 (E5)
18	08:37		11:00 (E5)	07:38	06:26	06:04	04:57	04:25	04:51	05:49	06:51	07:52	07:59		08:46		10:45 (E5)	
	16:15	36	11:36 (E5)	17:23	18:24	20:28	21:29	22:09	21:52	20:49	19:28	18:09	16:02	25	11:07 (E5)	15:38	41	11:26 (E5)
19	08:36		11:01 (E5)	07:35	06:23	06:01	04:55	04:25	04:52	05:51	06:53	07:54	08:01		08:47		10:45 (E5)	
	16:17	34	11:35 (E5)	17:25	18:26	20:30	21:31	22:09	21:51	20:47	19:26	18:07	16:00	28	11:08 (E5)	15:38	41	11:26 (E5)
20	08:35		11:03 (E5)	07:33	06:21	05:59	04:53	04:25	04:54	05:53	06:55	07:57	08:03		08:48		10:45 (E5)	
	16:19	32	11:35 (E5)	17:28	18:28	20:32	21:33	22:10	21:49	20:45	19:23	18:04	15:59	30	11:09 (E5)	15:38	41	11:26 (E5)
21	08:33		11:03 (E5)	07:31	06:18	05:56	04:51	04:25	04:55	05:55	06:57	07:59	08:05		08:49		10:46 (E5)	
	16:21	32	11:35 (E5)	17:30	18:30	20:35	21:35	22:10	21:48	20:42	19:20	18:02	15:57	32	11:10 (E5)	15:39	41	11:27 (E5)
22	08:32		11:04 (E5)	07:28	06:15	05:54	04:50	04:25	04:57	05:57	06:59	08:01	08:07		08:49		10:46 (E5)	
	16:23	30	11:34 (E5)	17:32	18:32	20:37	21:37	22:10	21:46	20:40	19:18	17:59	15:56	32	11:11 (E5)	15:39	41	11:27 (E5)
23	08:30		11:05 (E5)	07:26	06:13	05:51	04:48	04:25	04:59	05:59	07:01	08:03	08:09		08:50		10:47 (E5)	
	16:26	28	11:33 (E5)	17:34	18:34	20:39	21:38	22:10	21:45	20:37	19:15	17:57	15:54	34	11:12 (E5)	15:40	41	11:28 (E5)
24	08:29		11:08 (E5)	07:23	06:10	05:49	04:46	04:26	05:01	06:01	07:03	08:05	08:11		08:50		10:47 (E5)	
	16:28	25	11:33 (E5)	17:36	18:36	20:41	21:40	22:10	21:43	20:35	19:12	17:54	15:53	35	11:13 (E5)	15:40	41	11:28 (E5)
25	08:27		11:10 (E5)	07:21	06:07	05:47	04:45	04:26	05:02	06:03	07:05	07:07	08:13		08:50		10:47 (E5)	
	16:30	21	11:31 (E5)	17:39	18:38	20:43	21:42	22:10	21:41	20:32	19:10	16:52	15:52	36	11:13 (E5)	15:41	41	11:28 (E5)
26	08:26		11:12 (E5)	07:18	06:05	05:44	04:43	04:26	05:04	06:05	07:07	07:09	08:15		08:51		10:48 (E5)	
	16:32	17	11:29 (E5)	17:41	18:40	20:45	21:43	22:10	21:39	20:29	19:07	16:50	15:50	37	11:15 (E5)	15:42	41	11:29 (E5)
27	08:24		11:15 (E5)	07:16	06:02	05:42	04:42	04:27	05:06	06:07	07:09	07:12	08:17		08:51		10:48 (E5)	
	16:34	11	11:26 (E5)	17:43	18:42	20:47	21:45	22:10	21:38	20:27	19:04	16:47	15:49	38	11:16 (E5)	15:42	41	11:29 (E5)
28	08:22			07:13	05:59	05:39	04:41	04:28	05:08	06:09	07:11	07:14	08:19		08:51		10:49 (E5)	
	16:36			17:45	18:45	20:49	21:47	22:10	21:36	20:24	19:01	16:45	15:48	38	11:16 (E5)	15:43	41	11:30 (E5)
29	08:20				06:57	05:37	04:39	04:28	05:10	06:11	07:13	07:16	08:21		08:51		10:49 (E5)	
	16:38				19:47	20:51	21:48	22:10	21:34	20:22	18:59	16:43	15:47	39	11:17 (E5)	15:44	41	11:30 (E5)
30	08:18				06:54	05:35	04:38	04:29	05:12	06:13	07:15	07:18	08:22		08:51		10:50 (E5)	
	16:41				19:49	20:53	21:50	22:09	21:32	20:19	18:56	16:40	15:46	39	11:17 (E5)	15:45	41	11:31 (E5)
31	08:17				06:51		04:37		05:13	06:15		07:20			08:51		10:51 (E5)	
	16:43				19:51		21:51		21:30	20:17		16:38			15:46	41	11:32 (E5)	
Potential sun hours	235		266	366	426	508	529	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		

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	07:28 (E15) 07:37 (E15)	05:33 20:55
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55		20:53 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57		20:58 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59		21:00 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01		21:02 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03		21:04 21:59
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06		21:06 22:00
8	08:48 15:58	08:01 17:01	06:53 18:03	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		21:12 22:02
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	06:50 (E14) 07:00 (E14)	05:13 21:14
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 07:02 (E14)	05:42 (E13) 21:16
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	2 05:44 (E13)	22:03 22:04
13	08:43 16:06	07:50 17:12	06:40 18:13	06:17 20:18	5 05:45 (E13)	04:28 22:04
14	08:42 16:08	07:47 17:14	06:37 18:16	06:15 20:20	8 05:46 (E13)	22:05 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	10 05:47 (E13)	22:06 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	12 05:47 (E13)	22:06 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	14 05:47 (E13)	22:07 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	16 05:47 (E13)	22:08 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:31	17 05:47 (E13)	22:09 22:10
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	16 05:47 (E13)	22:09 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	15 05:47 (E13)	22:10 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	14 05:46 (E13)	22:10 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	12 05:45 (E13)	22:10 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	10 05:44 (E13)	22:10 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	8 05:43 (E13)	22:10 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	3 05:41 (E13)	22:10 22:10
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47		22:10 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49		22:10 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51		22:10 22:10
30	08:19 16:41		06:54 19:49	05:35 20:53		22:10 22:09
31	08:17 16:43		06:52 19:51	05:33 20:55		22:09 22:09
Potential sun hours	235	266	366	426	508	528
Total, worst case			107	379	195	
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			28	122	73	

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	05:50 (E13)	06:17	06:47 (E14)	07:17
	22:09	21:28	7 05:57 (E13)	20:14	14 07:01 (E14)	18:54
2	04:31	05:18	05:51 (E13)	06:19	06:49 (E14)	07:19
	22:08	21:26	4 05:55 (E13)	20:11	10 06:59 (E14)	18:51
3	04:32	05:20	05:53 (E13)	06:21		07:21
	22:08	21:24	1 05:54 (E13)	20:09		18:48
4	04:33	05:22		06:23		07:23
	22:07	21:22		20:06		18:46
5	04:34	05:24		06:25		07:25
	22:07	21:20		20:04		18:43
6	04:35	05:25		06:27		07:28
	22:06	21:17		20:01		18:40
7	04:36	05:27		06:29		07:30
	22:05	21:15		19:58		18:38
8	04:37	05:29		06:31		07:32
	22:04	21:13		19:56		18:35
9	04:38	05:31		06:33		07:34
	22:03	21:11		19:53		18:33
10	04:40	05:33		06:35		07:36
	22:02	21:08		19:50		18:30
11	04:41	05:35		06:37	07:20 (E15)	07:38
	22:01	21:06		19:48	9 07:29 (E15)	18:27
12	04:42	05:37		06:39	07:18 (E15)	07:40
	22:00	21:04		19:45	13 07:31 (E15)	18:25
13	04:44	05:39		06:41	07:17 (E15)	07:42
	21:59	21:02		19:42	14 07:31 (E15)	18:22
14	04:45	05:41		06:43	07:16 (E15)	07:44
	21:58	20:59		19:39	16 07:32 (E15)	18:20
15	04:46	05:43		06:45	07:15 (E15)	07:46
	21:57	20:57		19:37	17 07:32 (E15)	18:17
16	04:48	05:45	06:53 (E14)	06:47	07:16 (E15)	07:48
	21:55	20:54	10 07:03 (E14)	19:34	16 07:32 (E15)	18:15
17	04:50	05:47	06:50 (E14)	06:49	07:18 (E15)	07:50
	21:54	20:52	15 07:05 (E14)	19:31	13 07:31 (E15)	18:12
18	04:51	05:46 (E13)	05:49	06:49 (E14)	06:51	07:20 (E15)
	21:52	6 05:52 (E13)	20:50	18 07:07 (E14)	19:29	10 07:30 (E15)
19	04:53	05:44 (E13)	05:51	06:47 (E14)	06:53	07:22 (E15)
	21:51	9 05:53 (E13)	20:47	20 07:07 (E14)	19:26	7 07:29 (E15)
20	04:54	05:43 (E13)	05:53	06:46 (E14)	06:55	07:24 (E15)
	21:49	11 05:54 (E13)	20:45	22 07:08 (E14)	19:23	3 07:27 (E15)
21	04:56	05:42 (E13)	05:55	06:45 (E14)	06:57	07:59
	21:48	13 05:55 (E13)	20:42	23 07:08 (E14)	19:21	18:02
22	04:58	05:42 (E13)	05:57	06:44 (E14)	06:59	08:01
	21:46	14 05:56 (E13)	20:40	25 07:09 (E14)	19:18	18:00
23	04:59	05:41 (E13)	05:59	06:44 (E14)	07:01	08:03
	21:45	15 05:56 (E13)	20:37	25 07:09 (E14)	19:15	17:57
24	05:01	05:41 (E13)	06:01	06:43 (E14)	07:03	08:05
	21:43	16 05:57 (E13)	20:35	26 07:09 (E14)	19:12	17:55
25	05:03	05:41 (E13)	06:03	06:43 (E14)	07:05	08:07
	21:41	17 05:58 (E13)	20:32	26 07:09 (E14)	19:10	16:52
26	05:05	05:40 (E13)	06:05	06:43 (E14)	07:07	08:10
	21:39	17 05:57 (E13)	20:30	26 07:09 (E14)	19:07	16:50
27	05:06	05:41 (E13)	06:07	06:43 (E14)	07:09	08:12
	21:38	17 05:58 (E13)	20:27	25 07:08 (E14)	19:04	16:48
28	05:08	05:43 (E13)	06:09	06:42 (E14)	07:11	08:14
	21:36	15 05:58 (E13)	20:24	25 07:07 (E14)	19:02	16:45
29	05:10	05:44 (E13)	06:11	06:43 (E14)	07:13	08:16
	21:34	13 05:57 (E13)	20:22	23 07:06 (E14)	18:59	16:43
30	05:12	05:46 (E13)	06:13	06:44 (E14)	07:15	08:18
	21:32	11 05:57 (E13)	20:19	21 07:05 (E14)	18:56	16:41
31	05:14	05:48 (E13)	06:15	06:45 (E14)		08:20
	21:30	9 05:57 (E13)	20:17	18 07:03 (E14)		16:38
Potential sun hours	529	469	385	324	247	216
Total, worst case	183	360	142			
Sun reduction	0.49	0.50	0.43			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.67	0.66	0.65			
Total reduction	0.32	0.32	0.27			
Total, real	59	115	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	09:51 (E14)	08:15	09:14 (E15)	07:11		06:49	05:33	04:36			
	15:48	29 10:20 (E14)	16:45	6 09:20 (E15)	17:48		19:53	20:55	21:53			
2	08:50	09:52 (E14)	08:13		07:08		06:46	05:30	04:35			
	15:49	29 10:21 (E14)	16:48		17:50		19:55	20:58	21:54			
3	08:50	09:52 (E14)	08:11		07:06		06:43	05:28	04:34			
	15:51	29 10:21 (E14)	16:50		17:52		19:57	21:00	21:55			
4	08:50	09:52 (E14)	08:09		07:03		06:41	05:26	04:33			
	15:52	29 10:21 (E14)	16:52		17:54		19:59	21:02	21:57			
5	08:49	09:53 (E14)	08:07		07:01		06:38	05:23	04:32			
	15:53	29 10:22 (E14)	16:54		17:56		20:01	21:04	21:58			
6	08:49	09:53 (E14)	08:05		06:58		06:36	05:21	04:31			
	15:55	29 10:22 (E14)	16:56		17:58		20:03	21:06	21:59			
7	08:48	09:53 (E14)	08:03		06:55		06:33	05:19	04:30			
	15:56	30 10:23 (E14)	16:59		18:01		20:06	21:08	22:00			
8	08:48	09:53 (E14)	08:01		06:53		06:30	05:17	04:29			
	15:58	30 10:23 (E14)	17:01		18:03	13 07:21 (E13)	20:08	21:10	22:01			
9	08:47	09:54 (E14)	07:58		06:50		06:28	05:15	04:29			
	16:00	30 10:24 (E14)	17:03		18:05	18 07:37 (E13)	20:10	21:12	22:02			
10	08:46	09:54 (E14)	07:56		06:47		06:25	05:13	04:28			
	16:01	30 10:24 (E14)	17:05		18:07	21 07:38 (E13)	20:12	21:14	22:03			
11	08:45	09:55 (E14)	07:54		06:45		06:22	05:11	04:27			
	16:03	30 10:25 (E14)	17:08		18:09	23 07:38 (E13)	20:14	21:16	22:04			
12	08:44	09:56 (E14)	07:52		06:42		06:20	05:09	04:27			
	16:05	29 10:25 (E14)	17:10		18:11	26 07:40 (E13)	20:16	21:18	22:05			
13	08:43	09:55 (E14)	07:50		06:40		06:17	05:07	04:26			
	16:06	30 10:25 (E14)	17:12		18:13	27 07:40 (E13)	20:18	21:20	22:06			
14	08:42	09:56 (E14)	07:47		06:37		06:15	05:05	04:26			
	16:08	29 10:25 (E14)	17:14		18:15	28 07:40 (E13)	20:20	21:22	22:07			
15	08:41	09:17 (E15)	07:45		06:34		06:12	05:03	04:26			
	16:10	31 10:26 (E14)	17:17		18:18	29 07:41 (E13)	20:22	21:24	22:07			
16	08:40	09:15 (E15)	07:43		06:32		06:09	05:01	04:26			
	16:12	33 10:25 (E14)	17:19		18:20	29 07:40 (E13)	20:24	21:26	22:08			
17	08:39	09:14 (E15)	07:40		06:29		06:07	04:59	04:25			
	16:14	36 10:26 (E14)	17:21		18:22	29 07:40 (E13)	20:26	21:27	22:08			
18	08:38	09:12 (E15)	07:38		06:26		06:04	04:57	04:25			
	16:16	36 10:25 (E14)	17:23		18:24	29 07:39 (E13)	20:28	21:29	22:09			
19	08:36	09:10 (E15)	07:36		06:24		06:02	04:55	04:25			
	16:18	39 10:25 (E14)	17:26		18:26	28 07:39 (E13)	20:31	21:31	22:09			
20	08:35	09:09 (E15)	07:33		06:21		05:59	04:53	04:25			
	16:20	39 10:25 (E14)	17:28		18:28	27 07:38 (E13)	20:33	21:33	22:10			
21	08:33	09:07 (E15)	07:31		06:18		05:57	04:52	04:25			
	16:22	41 10:25 (E14)	17:30		18:30	25 07:36 (E13)	20:35	21:35	22:10			
22	08:32	09:06 (E15)	07:28		06:16		05:54	04:50	04:26			
	16:24	41 10:24 (E14)	17:32		18:32	22 07:35 (E13)	20:37	21:37	22:10			
23	08:30	09:06 (E15)	07:26		06:13		05:52	04:48	04:26			
	16:26	39 10:23 (E14)	17:34		18:34	20 07:33 (E13)	20:39	21:38	22:10			
24	08:29	09:07 (E15)	07:23		06:10		05:49	04:47	04:26			
	16:28	35 10:22 (E14)	17:37		18:36	15 07:30 (E13)	20:41	21:40	22:10			
25	08:27	09:07 (E15)	07:21		06:08		05:47	04:45	04:26			
	16:30	32 10:21 (E14)	17:39		18:38	8 07:27 (E13)	20:43	21:42	22:10			
26	08:26	09:07 (E15)	07:18		06:05		05:44	04:44	04:27			
	16:32	26 10:18 (E14)	17:41		18:41		20:45	21:43	22:10			
27	08:24	09:08 (E15)	07:16		06:02		05:42	04:42	04:27			
	16:34	18 09:26 (E15)	17:43		18:43		20:47	21:45	22:10			
28	08:22	09:09 (E15)	07:13		05:59		05:40	04:41	04:28			
	16:37	17 09:26 (E15)	17:45		18:45		20:49	21:47	22:10			
29	08:20	09:10 (E15)			06:57		05:37	04:40	04:29			
	16:39	15 09:25 (E15)			19:47		20:51	21:48	22:10			
30	08:19	09:11 (E15)			06:54		05:35	04:38	04:29			
	16:41	13 09:24 (E15)			19:49		20:53	21:50	22:09			
31	08:17	09:12 (E15)			06:51			04:37				
	16:43	11 09:23 (E15)			19:51			21:51				
Potential sun hours	235		266		366		426	508	529			
Total, worst case	914		6		417							
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		0.12		0.25							
Total, real	72		1		104							

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	07:53 (E13)	07:23
	22:09	21:28	20:14	18:54	26 08:19 (E13)	16:36
2	04:31	05:18	06:19	07:19	07:53 (E13)	07:25
	22:09	21:26	20:11	18:51	25 08:18 (E13)	16:34
3	04:32	05:20	06:21	07:21	07:54 (E13)	07:27
	22:08	21:24	20:09	18:48	22 08:16 (E13)	16:32
4	04:33	05:21	06:23	07:23	07:55 (E13)	07:29
	22:07	21:22	20:06	18:46	20 08:15 (E13)	16:29
5	04:34	05:23	06:25	07:25	07:57 (E13)	07:31
	22:07	21:20	20:03	18:43	15 08:12 (E13)	16:27
6	04:35	05:25	06:27	07:28	08:00 (E13)	07:33
	22:06	21:17	20:01	18:40	8 08:08 (E13)	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	6 08:46 (E15)	15:39
11	04:41	05:35	06:37	07:38	08:43 (E15)	15:39
	22:01	21:06	19:47	18:27	11 08:54 (E15)	15:39
12	04:42	05:37	06:39	07:40	08:42 (E15)	15:39
	22:00	21:04	19:45	18:25	13 08:55 (E15)	15:38
13	04:43	05:39	06:41	07:42	08:41 (E15)	15:38
	21:59	21:02	19:42	18:22	16 08:57 (E15)	15:38
14	04:45	05:41	06:43	07:44	08:40 (E15)	15:38
	21:58	20:59	19:39	18:20	17 08:57 (E15)	15:38
15	04:46	05:43	06:45	07:46	08:40 (E15)	15:38
	21:57	20:57	19:37	18:17	18 08:58 (E15)	15:38
16	04:48	05:45	06:47	07:48	08:40 (E15)	15:38
	21:55	20:54	19:34	18:14	26 09:51 (E14)	15:38
17	04:49	05:47	06:49	07:50	07:57	08:40 (E15)
	21:54	20:52	19:31	18:12	32 09:54 (E14)	15:38
18	04:51	05:49	06:51	08:07 (E13)	07:52	08:41 (E15)
	21:52	20:50	19:29	7 08:14 (E13)	18:09	08:46
19	04:53	05:51	06:53	08:03 (E13)	07:55	08:41 (E15)
	21:51	20:47	19:26	14 08:17 (E13)	18:07	08:47
20	04:54	05:53	06:55	08:01 (E13)	07:57	08:41 (E15)
	21:49	20:45	19:23	18 08:19 (E13)	18:04	08:48
21	04:56	05:55	06:57	07:59 (E13)	07:59	08:45 (E15)
	21:48	20:42	19:21	22 08:21 (E13)	18:02	08:49
22	04:58	05:57	06:59	07:57 (E13)	08:01	08:45 (E15)
	21:46	20:40	19:18	24 08:21 (E13)	18:00	08:49
23	04:59	05:59	07:01	07:56 (E13)	08:03	08:47 (E15)
	21:45	20:37	19:15	26 08:22 (E13)	17:57	08:50
24	05:01	06:01	07:03	07:55 (E13)	08:05	08:49 (E15)
	21:43	20:35	19:12	27 08:22 (E13)	17:55	08:51
25	05:03	06:03	07:05	07:54 (E13)	07:07	08:51 (E15)
	21:41	20:32	19:10	28 08:22 (E13)	16:52	08:50
26	05:05	06:05	07:07	07:53 (E13)	07:10	08:51 (E15)
	21:39	20:30	19:07	29 08:22 (E13)	16:50	08:51
27	05:06	06:07	07:09	07:53 (E13)	07:12	08:51 (E15)
	21:38	20:27	19:04	29 08:22 (E13)	16:48	08:51
28	05:08	06:09	07:11	07:53 (E13)	07:14	08:51 (E15)
	21:36	20:24	19:02	29 08:22 (E13)	16:45	08:51
29	05:10	06:11	07:13	07:53 (E13)	07:16	08:51 (E15)
	21:34	20:22	18:59	28 08:21 (E13)	16:43	08:51
30	05:12	06:13	07:15	07:53 (E13)	07:18	08:51 (E15)
	21:32	20:19	18:56	27 08:20 (E13)	16:41	08:51
31	05:14	06:15			07:20	08:51
	21:30	20:17			16:38	08:51
Potential sun hours	529	469	385	324	247	216
Total, worst case			308	116	595	881
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	0.60	0.61
Total reduction			0.26	0.16	0.05	0.04
Total, real			80	18	29	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E15) 21:52
2	08:50 15:50	08:13 16:48	07:08 17:50	06:46 19:55	05:30 20:57	05:58 (E15) 21:54
3	08:50 15:51	08:11 16:50	07:06 17:52	06:44 19:57	05:28 21:00	05:56 (E15) 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	05:56 (E15) 21:57
5	08:49 15:54	08:07 16:54	07:01 17:56	06:38 20:01	05:24 21:04	05:56 (E15) 21:58
6	08:49 15:55	08:05 16:57	06:58 17:58	06:36 20:03	05:21 21:06	05:57 (E15) 21:59
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	05:58 (E15) 22:00
8	08:47 15:58	08:01 17:01	06:53 18:03	06:30 20:08	05:17 21:10	06:00 (E15) 22:01
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	06:07 (E15) 22:02
10	08:46 16:01	07:56 17:06	06:48 18:07	06:25 20:12	05:13 21:14	06:10 (E15) 22:03
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	06:10 (E15) 22:04
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	05:58 (E15) 22:05
13	08:43 16:07	07:50 17:12	06:40 18:13	06:17 20:18	05:07 21:20	06:09 (E15) 22:06
14	08:42 16:08	07:47 17:15	06:37 18:16	06:15 20:20	05:05 21:22	06:07 (E15) 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:24	06:06 (E15) 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	06:10 20:24	05:01 21:25	06:05 (E15) 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	06:04 (E15) 22:08
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	06:03 (E15) 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	06:02 20:30	04:55 21:31	06:02 (E15) 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:33	04:54 21:33	06:01 (E15) 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 (E15) 22:10
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	05:59 (E15) 22:10
23	08:30 16:26	07:26 17:35	06:13 18:34	05:52 20:39	04:49 21:38	05:58 (E15) 22:10
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	05:57 (E15) 22:10
25	08:27 16:30	07:21 17:39	06:08 18:39	05:47 20:43	04:45 21:42	05:56 (E15) 22:10
26	08:26 16:32	07:18 17:41	06:05 18:41	05:45 20:45	04:44 21:43	05:55 (E15) 22:10
27	08:24 16:35	07:16 17:43	06:02 18:43	05:42 20:47	04:43 21:45	05:54 (E15) 22:10
28	08:22 16:37	07:13 17:45	06:00 18:45	05:40 20:49	06:07 (E15) 06:10 (E15)	05:53 (E15) 22:10
29	08:20 16:39		06:57 19:47	05:37 20:51	06:05 (E15) 06:11 (E15)	05:52 (E15) 22:10
30	08:18 16:41		06:54 19:49	05:35 20:53	06:03 (E15) 06:12 (E15)	05:51 (E15) 22:09
31	08:17 16:43		06:52 19:51			05:17 (E14)
Potential sun hours	235	266	366	426	508	528
Total, worst case				18		271
Sun reduction				0.50	0.57	0.56
Oper. time red.				0.98	0.98	0.98
Wind dir. red.				0.67	0.67	0.66
Total reduction				0.33	0.37	0.36
Total, real				6	37	98

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 22:09	05:08 (E14) 21:28	05:16 21:28	06:17 20:14	07:17 18:54	07:23 16:36
2	04:31 22:08	05:09 (E14) 21:26	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34
3	04:32 22:08	05:09 (E14) 21:24	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32
4	04:33 22:07	05:10 (E14) 21:22	05:22 21:22	06:23 20:06	07:23 18:46	07:29 16:30
5	04:34 22:07	05:11 (E14) 21:19	05:24 21:19	06:25 20:03	07:25 18:43	07:31 16:27
6	04:35 22:06	05:12 (E14) 21:17	05:26 21:17	06:27 20:01	07:28 18:40	07:33 16:25
7	04:36 22:05	05:13 (E14) 21:15	05:28 21:15	06:29 19:58	07:30 18:38	07:36 16:23
8	04:37 22:04	05:15 (E14) 21:13	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21
9	04:38 22:03	05:16 (E14) 21:11	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19
10	04:40 22:02	05:17 (E14) 21:08	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17
11	04:41 22:01	05:18 (E14) 21:06	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15
12	04:42 22:00	05:19 (E14) 21:04	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13
13	04:44 21:59	05:20 (E14) 21:02	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11
14	04:45 21:58	05:21 (E14) 21:01	05:41 21:01	06:43 19:40	07:44 18:20	07:51 16:10
15	04:47 21:57	05:22 (E14) 20:59	05:43 20:59	06:45 19:39	07:46 18:19	07:53 16:09
16	04:48 21:55	05:23 (E14) 20:57	05:45 20:57	06:47 19:37	07:48 18:17	07:55 16:08
17	04:50 21:54	05:24 (E14) 20:55	05:47 20:55	06:49 19:35	07:50 18:15	07:57 16:06
18	04:51 21:52	05:25 (E14) 20:53	05:49 20:53	06:51 19:33	07:52 18:13	07:59 16:04
19	04:53 21:51	05:26 (E14) 20:51	05:51 20:51	06:53 19:31	07:54 18:11	08:01 16:03
20	04:54 21:49	05:27 (E14) 20:49	05:53 20:49	06:55 19:29	07:56 18:09	08:03 16:01
21	04:56 21:48	05:28 (E14) 20:47	05:55 20:47	06:57 19:27	07:58 18:07	08:05 16:00
22	04:58 21:46	05:29 (E14) 20:45	05:57 20:45	06:59 19:25	08:01 18:05	08:07 16:00
23	04:59 21:45	05:30 (E14) 20:43	05:59 20:43	07:01 19:23	08:03 18:03	08:09 16:00
24	05:01 21:43	05:31 (E14) 20:41	06:01 20:41	07:03 19:21	08:05 18:01	08:11 16:00
25	05:03 21:41	05:32 (E14) 20:39	06:03 20:39	07:05 19:19	08:07 18:00	08:13 16:00
26	05:05 21:39	05:33 (E14) 20:37	06:05 20:37	07:07 19:17	08:09 17:58	08:15 16:00
27	05:07 21:37	05:34 (E14) 20:35	06:07 20:35	07:09 19:15	08:11 17:57	08:17 16:00
28	05:08 21:36	05:35 (E14) 20:33	06:09 20:33	07:11 19:13	08:13 17:55	08:19 16:00
29	05:10 21:34	05:36 (E14) 20:31	06:11 20:31	07:13 19:11	08:15 17:53	08:21 16:00
30	05:12 21:32	05:37 (E14) 20:29	06:13 20:29	07:15 19:09	08:17 17:51	08:23 16:00
31	05:14 21:30	05:38 (E14) 20:27	06:15 20:27	07:17 19:07	08:19 17:49	08:25 16:00
Potential sun hours	529	469	384	324	248	216
Total, worst case	45	122				
Sun reduction	0.49	0.50				
Oper. time red.	0.98	0.98				
Wind dir. red.	0.66	0.67				
Total reduction	0.32	0.32				
Total, real	14	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Tūdalinas - 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		10:51 (E13)	08:15	07:11								06:49		07:24 (E8)	05:32		06:19 (E7)	04:36					
	15:48	30	11:21 (E13)	16:45	17:48								19:53	9	07:33 (E8)	20:55	17	06:36 (E7)	21:53					
2	08:50		10:52 (E13)	08:13	07:08								06:46			05:30		06:21 (E7)	04:35					
	15:49	30	11:22 (E13)	16:47	17:50								19:55			20:57	14	06:35 (E7)	21:54					
3	08:50		10:53 (E13)	08:11	07:06								06:43			05:28		06:22 (E7)	04:34					
	15:51	28	11:21 (E13)	16:50	17:52								19:57			21:00	11	06:33 (E7)	21:55					
4	08:50		10:53 (E13)	08:09	07:03								06:41			05:26		06:26 (E7)	04:33					
	15:52	28	11:21 (E13)	16:52	17:54								19:59			21:02	3	06:29 (E7)	21:57					
5	08:49		10:54 (E13)	08:07	07:00								06:38			05:23			04:32					
	15:53	28	11:22 (E13)	16:54	17:56								20:01			21:04			21:58					
6	08:49		10:55 (E13)	08:05	06:58								06:35			05:21			04:31					
	15:55	27	11:22 (E13)	16:56	17:58								20:03			21:06			21:59					
7	08:48		10:56 (E13)	08:03	06:55								06:33			05:19			04:30					
	15:56	26	11:22 (E13)	16:59	18:00								20:05			21:08			22:00					
8	08:48		10:56 (E13)	08:01	06:53								06:30			05:17			04:29					
	15:58	26	11:22 (E13)	17:01	18:03								20:08			21:10			22:01					
9	08:47		10:57 (E13)	07:58	06:50								06:28			05:15			04:28					
	15:59	25	11:22 (E13)	17:03	18:05								20:10			21:12			22:02					
10	08:46		10:59 (E13)	07:56	06:47								06:25			05:13			04:28					
	16:01	22	11:21 (E13)	17:05	18:07								20:12			21:14			22:03					
11	08:45		11:00 (E13)	07:54	06:45								06:22			05:10			04:27					
	16:03	21	11:21 (E13)	17:08	18:09								20:14			21:16			22:04					
12	08:44		11:01 (E13)	07:52	06:42								06:20			05:08			04:27					
	16:04	20	11:21 (E13)	17:10	18:11								20:16			21:18			22:05					
13	08:43		11:02 (E13)	07:50	06:40								06:17			05:06			04:26					
	16:06	17	11:19 (E13)	17:12	18:13								20:18			21:20			22:06					
14	08:42		11:04 (E13)	07:47	06:37								06:14			05:04			04:26					
	16:08	15	11:19 (E13)	17:14	18:15								20:20			21:22			22:07					
15	08:41		11:07 (E13)	07:45	06:34								06:12			05:02			04:26					
	16:10	11	11:18 (E13)	17:17	18:18								20:22			21:24			22:07					
16	08:40		11:11 (E13)	07:43	06:32								06:09			05:01			04:25					
	16:12	2	11:13 (E13)	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		06:30 (E7)	04:57			04:25					
	16:16			17:23	18:24								20:28	3	06:33 (E7)	21:29			22:09					
19	08:36			07:36	06:24								06:02		06:28 (E7)	04:55			04:25					
	16:18			17:25	18:26								20:30	8	06:36 (E7)	21:31			22:09					
20	08:35			07:33	06:21								05:59		06:25 (E7)	04:53			04:25					
	16:20			17:28	18:28								20:33	12	06:37 (E7)	21:33			22:10					
21	08:33			07:31	06:18								05:57		06:23 (E7)	04:52			04:25					
	16:22			17:30	18:30								20:35	16	06:39 (E7)	21:35			22:10					
22	08:32			07:28	06:16								05:54		06:21 (E7)	04:50			04:25					
	16:24			17:32	18:32								20:37	19	06:40 (E7)	21:37			22:10					
23	08:30			07:26	06:13								05:52		06:19 (E7)	04:48			04:26					
	16:26			17:34	18:34								20:39	20	06:39 (E7)	21:38			22:10					
24	08:29			07:23	06:10								05:49		06:19 (E7)	04:47			04:26					
	16:28			17:37	18:36								20:41	21	06:40 (E7)	21:40			22:10					
25	08:27			07:21	06:07								05:47		06:19 (E7)	04:45			04:26					
	16:30			17:39	18:38	4	06:37 (E8)	20:43	21	06:40 (E7)	21:42		20:43	21	06:40 (E7)	21:42			22:10					
26	08:26			07:18	06:05		06:30 (E8)	05:44		06:18 (E7)	04:44		05:44		06:18 (E7)	04:44			04:27					
	16:32			17:41	18:41	7	06:37 (E8)	20:45	21	06:39 (E7)	21:43		20:45	21	06:39 (E7)	21:43			22:10					
27	08:24			07:16	06:02		06:27 (E8)	05:42		06:18 (E7)	04:42		05:42		06:18 (E7)	04:42			04:27					
	16:34			17:43	18:43	10	06:37 (E8)	20:47	21	06:39 (E7)	21:45		20:47	21	06:39 (E7)	21:45			22:10					
28	08:22			07:13	05:59		06:24 (E8)	05:40		06:18 (E7)	04:41		05:40		06:18 (E7)	04:41			04:28					
	16:36			17:45	18:45	13	06:37 (E8)	20:49	21	06:39 (E7)	21:47		20:49	21	06:39 (E7)	21:47			22:10					
29	08:20				06:57		07:22 (E8)	05:37		06:19 (E7)	04:39		05:37		06:19 (E7)	04:39			04:28					
	16:39				19:47	15	07:37 (E8)	20:51	20	06:39 (E7)	21:48		20:51	20	06:39 (E7)	21:48			22:10					
30	08:18				06:54		07:22 (E8)	05:35		06:19 (E7)	04:38		05:35		06:19 (E7)	04:38			04:29					
	16:41				19:49	14	07:36 (E8)	20:53	18	06:37 (E7)	21:50		20:53	18	06:37 (E7)	21:50			22:09					
31	08:17				06:51		07:22 (E8)									04:37								
	16:43				19:51	12	07:34 (E8)									21:51								
Potential sun hours	235			266	366			426								508			529					
Total, worst case		356			75			230								45								
Sun reduction		0.13			0.41			0.50								0.57								
Oper. time red.		0.98			0.98			0.98								0.98								
Wind dir. red.		0.60			0.65			0.65								0.65								
Total reduction		0.08			0.26			0.32								0.36								
Total, real		28			20			73								16								

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

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Tudalinas - 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	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	05:19	06:21	07:21	07:27	08:28
	22:08	21:24	20:09	18:48	16:32	15:43
4	04:33	05:21	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	07:25	07:31	08:31
	22:07	21:20	20:03	18:43	16:27	15:42
6	04:35	05:25	06:27	07:27	07:33	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	19:55	18:35	16:21	15:40
9	04:38	05:31	06:34 (E7)	07:34	07:40	08:37
	22:03	21:11	19:53	18:32	16:19	15:39
10	04:39	05:33	06:31 (E7)	07:36	07:42	08:38
	22:02	21:08	19:50	18:30	16:17	15:39
11	04:41	05:35	06:29 (E7)	07:38	07:44	08:39
	22:01	21:06	19:47	18:27	16:15	15:38
12	04:42	05:37	06:28 (E7)	07:15 (E8)	07:40	08:40
	22:00	21:04	19:45	18:25	16:13	15:38
13	04:43	05:39	06:27 (E7)	07:13 (E8)	07:42	08:42
	21:59	21:02	19:42	18:22	16:11	15:38
14	04:45	05:41	06:26 (E7)	07:12 (E8)	07:44	08:43
	21:58	20:59	19:39	18:19	16:09	15:38
15	04:46	05:43	06:26 (E7)	07:14 (E8)	07:46	08:44
	21:57	20:57	19:37	18:17	16:08	15:38
16	04:48	05:45	06:25 (E7)	07:16 (E8)	07:48	08:45
	21:55	20:54	19:34	18:14	16:06	15:38
17	04:49	05:47	06:25 (E7)	07:18 (E8)	07:50	08:46
	21:54	20:52	19:31	18:12	16:04	15:38
18	04:51	05:49	06:24 (E7)	07:20 (E8)	07:52	08:46
	21:52	20:50	19:29	18:09	16:02	15:38
19	04:52	05:51	06:24 (E7)	07:22 (E8)	07:55	08:47
	21:51	20:47	19:26	18:07	16:01	15:38
20	04:54	05:53	06:25 (E7)	07:23 (E8)	08:03	08:48
	21:49	20:45	19:23	18:04	15:59	15:39
21	04:56	05:55	06:26 (E7)	07:25	08:05	08:49
	21:48	20:42	19:20	18:02	15:58	15:39
22	04:57	05:57	06:28 (E7)	07:26	08:07	08:49
	21:46	20:40	19:18	17:59	15:56	15:39
23	04:59	05:59	06:30 (E7)	07:27	08:09	08:50
	21:45	20:37	19:15	17:57	15:55	15:40
24	05:01	06:01	06:32 (E7)	07:28	08:11	08:50
	21:43	20:35	19:12	17:55	15:53	15:41
25	05:03	06:03	06:34 (E7)	07:29	08:13	08:50
	21:41	20:32	19:10	16:52	15:52	15:41
26	05:04	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	16:47	15:49	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	16:40	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		272	86		64	903
Sun reduction		0.50	0.43		0.08	0.07
Oper. time red.		0.98	0.98		0.98	0.98
Wind dir. red.		0.65	0.65		0.60	0.60
Total reduction		0.32	0.27		0.05	0.04
Total, real		86	24		3	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E14)	07:11	06:49	05:33
	15:48	16:45	4 08:50 (E14)	17:48	19:53	20:56
2	08:51	08:13	08:43 (E14)	07:08	06:46	05:30
	15:50	16:48	7 08:50 (E14)	17:50	19:55	20:58
3	08:50	08:11	08:41 (E14)	07:06	06:44	05:28
	15:51	16:50	10 08:51 (E14)	17:52	19:57	21:00
4	08:50	08:09	08:39 (E14)	07:03	06:41	05:26
	15:52	16:52	13 08:52 (E14)	17:54	19:59	21:02
5	08:49	08:07	08:37 (E14)	07:01	06:38	05:24
	15:53	16:54	16 08:53 (E14)	17:56	20:01	21:04
6	08:49	08:05	08:35 (E14)	06:58	06:36	05:21
	15:55	16:57	17 08:52 (E14)	17:58	20:04	21:06
7	08:48	08:03	08:35 (E14)	06:55	06:33	05:19
	15:56	16:59	17 08:52 (E14)	18:01	20:06	21:08
8	08:48	08:01	08:36 (E14)	06:53	06:30	05:17
	15:58	17:01	17 08:53 (E14)	18:03	20:08	21:10
9	08:47	07:58	08:36 (E14)	06:50	07:16 (E13)	06:28
	16:00	17:03	15 08:51 (E14)	18:05	3 07:19 (E13)	20:10
10	08:46	07:56	08:37 (E14)	06:48	07:13 (E13)	06:25
	16:01	17:05	14 08:51 (E14)	18:07	7 07:20 (E13)	20:12
11	08:45	07:54	08:39 (E14)	06:45	07:10 (E13)	06:22
	16:03	17:08	11 08:50 (E14)	18:09	10 07:20 (E13)	20:14
12	08:44	07:52	08:41 (E14)	06:42	07:08 (E13)	06:20
	16:05	17:10	6 08:47 (E14)	18:11	13 07:21 (E13)	20:16
13	08:43	07:50		06:40	07:05 (E13)	06:17
	16:06	17:12		18:13	15 07:20 (E13)	20:18
14	08:42	07:47		06:37	07:04 (E13)	06:15
	16:08	17:14		18:16	15 07:19 (E13)	20:20
15	08:41	07:45		06:34	07:06 (E13)	06:12
	16:10	17:17		18:18	13 07:19 (E13)	20:22
16	08:40	07:43		06:32	07:06 (E13)	06:09
	16:12	17:19		18:20	11 07:17 (E13)	20:24
17	08:39	07:40		06:29	07:08 (E13)	06:07
	16:14	17:21		18:22	5 07:13 (E13)	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		04:37
	16:43			19:51		21:51
Potential sun hours	235	266	366	426	508	529
Total, worst case		147	92			
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		18	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

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Anna / anna@environment.lv

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25/06/2024 23:53/4.0.540

## SHADOW - Calendar

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Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

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1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	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 (E13) 08:00 (E13)	07:23 08:07 (E14)
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:48 (E13) 07:59 (E13)	07:25 08:21 (E14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:50 (E13) 07:58 (E13)	07:27 08:22 (E14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:52 (E13) 07:57 (E13)	07:29 08:22 (E14)
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:54 (E13) 07:55 (E13)	07:31 08:23 (E14)
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:07 (E14) 08:22 (E14)
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:09 (E14) 08:22 (E14)
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:12 (E14) 08:22 (E14)
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:14 (E14) 08:21 (E14)
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:17 (E14) 08:21 (E14)
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:19 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 20:54	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	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 20:25	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	08:10 (E14) 08:17 (E14)	08:23 15:46
31	05:14 21:30	06:15 20:17		07:20 16:38	08:08 (E14) 08:20 (E14)	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			51	58	128	
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			13	9	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)
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Idle start wind speed: Cut in wind speed from power curve

	January		February		March		April	May	June
1	08:51		08:15	09:08 (E14)	07:11	07:37 (E13)	06:49	05:33	04:36
	15:48		16:45	8 09:16 (E14)	17:48	9 07:46 (E13)	19:53	20:56	21:53
2	08:51		08:13		07:08	07:34 (E13)	06:46	05:30	04:35
	15:49		16:48		17:50	12 07:46 (E13)	19:55	20:58	21:54
3	08:50		08:11		07:06	07:32 (E13)	06:44	05:28	04:34
	15:51		16:50		17:52	14 07:46 (E13)	19:57	21:00	21:55
4	08:50		08:09		07:03	07:30 (E13)	06:41	05:26	04:33
	15:52		16:52		17:54	16 07:46 (E13)	19:59	21:02	21:57
5	08:49		08:07		07:01	07:30 (E13)	06:38	05:24	04:32
	15:53		16:54		17:56	16 07:46 (E13)	20:01	21:04	21:58
6	08:49		08:05		06:58	07:30 (E13)	06:36	05:21	04:31
	15:55		16:56		17:58	15 07:45 (E13)	20:04	21:06	21:59
7	08:48		08:03		06:55	07:31 (E13)	06:33	05:19	04:30
	15:56		16:59		18:01	12 07:43 (E13)	20:06	21:08	22:00
8	08:48		08:01		06:53	07:32 (E13)	06:30	05:17	04:29
	15:58		17:01		18:03	9 07:41 (E13)	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		17:21		18:22		20:26	21:27	22:09
18	08:38	09:12 (E14)	07:38		06:26		06:04	04:57	04:25
	16:16	2 09:14 (E14)	17:23		18:24		20:28	21:29	22:09
19	08:36	09:10 (E14)	07:36		06:24		06:02	04:55	04:25
	16:18	4 09:14 (E14)	17:26		18:26		20:31	21:31	22:09
20	08:35	09:09 (E14)	07:33		06:21		05:59	04:53	04:25
	16:20	7 09:16 (E14)	17:28		18:28		20:33	21:33	22:10
21	08:33	09:07 (E14)	07:31		06:18		05:57	04:52	04:25
	16:22	10 09:17 (E14)	17:30		18:30		20:35	21:35	22:10
22	08:32	09:05 (E14)	07:28		06:16		05:54	04:50	04:26
	16:24	12 09:17 (E14)	17:32		18:32		20:37	21:37	22:10
23	08:30	09:03 (E14)	07:26		06:13		05:52	04:48	04:26
	16:26	15 09:18 (E14)	17:34		18:34		20:39	21:38	22:10
24	08:29	09:02 (E14)	07:23		06:10		05:49	04:47	04:26
	16:28	17 09:19 (E14)	17:37		18:36		20:41	21:40	22:11
25	08:27	09:02 (E14)	07:21		06:08		05:47	04:45	04:26
	16:30	17 09:19 (E14)	17:39		18:39		20:43	21:42	22:11
26	08:26	09:02 (E14)	07:18		06:05		05:44	04:44	04:27
	16:32	17 09:19 (E14)	17:41		18:41		20:45	21:43	22:10
27	08:24	09:02 (E14)	07:16	07:42 (E13)	06:02		05:42	04:42	04:27
	16:34	17 09:19 (E14)	17:43	1 07:43 (E13)	18:43		20:47	21:45	22:10
28	08:22	09:03 (E14)	07:13	07:40 (E13)	06:00		05:40	04:41	04:28
	16:37	16 09:19 (E14)	17:45	5 07:45 (E13)	18:45		20:49	21:47	22:10
29	08:20	09:04 (E14)			06:57		05:37	04:40	04:29
	16:39	15 09:19 (E14)			19:47		20:51	21:48	22:10
30	08:19	09:05 (E14)			06:54		05:35	04:38	04:29
	16:41	13 09:18 (E14)			19:49		20:53	21:50	22:10
31	08:17	09:06 (E14)			06:52			04:37	
	16:43	11 09:17 (E14)			19:51			21:51	
Potential sun hours	235		266		366		426	508	529
Total, worst case	173		14		103				
Sun reduction	0.13		0.20		0.41				
Oper. time red.	0.98		0.98		0.98				
Wind dir. red.	0.58		0.60		0.62				
Total reduction	0.08		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)
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Idle start wind speed: Cut in wind speed from power curve

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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 16:30		08:29 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	5	08:11 (E13) 08:16 (E13)		07:31 16:27
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	11	08:08 (E13) 08:19 (E13)		07:34 16:25
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	14	08:06 (E13) 08:20 (E13)		07:36 16:23
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	15	08:06 (E13) 08:21 (E13)		07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	16	08:05 (E13) 08:21 (E13)		07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	16	08:05 (E13) 08:21 (E13)	8	07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	13	08:07 (E13) 08:20 (E13)	8	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	10	08:09 (E13) 08:19 (E13)	11	07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	7	08:11 (E13) 08:18 (E13)	14	07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	3	08:14 (E13) 08:17 (E13)	16	07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17			16	07:53 16:08
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15			17	07:55 16:06
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12			17	07:57 16:04
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09			17	07:59 16:03
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07			17	08:01 16:01
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04			15	08:03 15:59
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02			12	08:05 15:58
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00			10	08:07 15:56
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57			7	08:09 15:55
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55			4	08:11 15:53
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52			2	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
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48				08:17 15:50
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45				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
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41				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				110		183		
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				17		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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		10:09 (E13)	08:15		10:22 (E13)	07:11		06:49				05:33		06:00 (E7)	04:36		
	15:48	34	10:43 (E13)	16:45	27	10:49 (E13)	17:48		19:53				20:55	6	06:06 (E7)	21:53		
2	08:50		10:10 (E13)	08:13		10:24 (E13)	07:08		06:46				05:30		05:58 (E7)	04:35		
	15:49	34	10:44 (E13)	16:47	24	10:48 (E13)	17:50		19:55				20:57	9	06:07 (E7)	21:54		
3	08:50		10:10 (E13)	08:11		10:26 (E13)	07:06		06:43				05:28		05:56 (E7)	04:34		
	15:51	34	10:44 (E13)	16:50	20	10:46 (E13)	17:52		19:57				21:00	12	06:08 (E7)	21:55		
4	08:50		10:09 (E13)	08:09		10:30 (E13)	07:03		06:41				05:26		05:54 (E7)	04:33		
	15:52	36	10:45 (E13)	16:52	13	10:43 (E13)	17:54		19:59				21:02	15	06:09 (E7)	21:57		
5	08:49		10:10 (E13)	08:07			07:00		06:38				05:23		05:52 (E7)	04:32		
	15:53	36	10:46 (E13)	16:54			17:56		20:01				21:04	18	06:10 (E7)	21:58		
6	08:49		10:10 (E13)	08:05			06:58		06:35				05:21		05:51 (E7)	04:31		
	15:55	36	10:46 (E13)	16:56			17:58		20:03				21:06	19	06:10 (E7)	21:59		
7	08:48		10:10 (E13)	08:03			06:55		06:33				05:19		05:50 (E7)	04:30		
	15:56	37	10:47 (E13)	16:59			18:00		20:05				21:08	20	06:10 (E7)	22:00		
8	08:48		10:11 (E13)	08:01			06:53		06:30				05:17		05:50 (E7)	04:29		
	15:58	37	10:48 (E13)	17:01			18:03		20:08				21:10	20	06:10 (E7)	22:01		
9	08:47		10:11 (E13)	07:58			06:50		06:28				05:15		05:50 (E7)	04:28		
	15:59	37	10:48 (E13)	17:03			18:05		20:10				21:12	20	06:10 (E7)	22:02		
10	08:46		10:11 (E13)	07:56			06:47		06:25				05:13		05:50 (E7)	04:28		
	16:01	38	10:49 (E13)	17:05			18:07		20:12				21:14	20	06:10 (E7)	22:03		
11	08:45		10:11 (E13)	07:54			06:45		06:22				05:11		05:50 (E7)	04:27		
	16:03	39	10:50 (E13)	17:08			18:09		20:14				21:16	19	06:09 (E7)	22:04		
12	08:44		10:12 (E13)	07:52			06:42		06:20				05:08		05:51 (E7)	04:27		
	16:04	38	10:50 (E13)	17:10			18:11		20:16				21:18	18	06:09 (E7)	22:05		
13	08:43		10:11 (E13)	07:49			06:40		06:17				05:06		05:51 (E7)	04:26		
	16:06	39	10:50 (E13)	17:12			18:13		20:18				21:20	17	06:08 (E7)	22:06		
14	08:42		10:12 (E13)	07:47			06:37		06:14				05:04		05:52 (E7)	04:26		
	16:08	39	10:51 (E13)	17:14			18:15		20:20				21:22	16	06:08 (E7)	22:07		
15	08:41		10:12 (E13)	07:45			06:34		06:12				05:03		05:53 (E7)	04:26		
	16:10	39	10:51 (E13)	17:17			18:18		20:22				21:24	14	06:07 (E7)	22:07		
16	08:40		10:12 (E13)	07:43			06:32		06:09				05:01		05:54 (E7)	04:25		
	16:12	40	10:52 (E13)	17:19			18:20		20:24				21:25	11	06:05 (E7)	22:08		
17	08:39		10:13 (E13)	07:40			06:29		06:07				04:59		05:57 (E7)	04:25		
	16:14	40	10:53 (E13)	17:21			18:22		20:26				21:27	7	06:04 (E7)	22:08		
18	08:37		10:13 (E13)	07:38			06:26		06:04				04:57			04:25		
	16:16	40	10:53 (E13)	17:23			18:24		20:28				21:29			22:09		
19	08:36		10:13 (E13)	07:36			06:24		06:02				04:55			04:25		
	16:18	40	10:53 (E13)	17:26			18:26		20:30				21:31			22:09		
20	08:35		10:14 (E13)	07:33			06:21		05:59				04:53			04:25		
	16:20	40	10:54 (E13)	17:28			18:28		20:33				21:33			22:10		
21	08:33		10:14 (E13)	07:31			06:18		05:57				04:52			04:25		
	16:22	39	10:53 (E13)	17:30			18:30		20:35				21:35			22:10		
22	08:32		10:14 (E13)	07:28			06:16		05:54				04:50			04:25		
	16:24	39	10:53 (E13)	17:32			18:32		20:37				21:37			22:10		
23	08:30		10:15 (E13)	07:26			06:13		05:52				04:48			04:26		
	16:26	38	10:53 (E13)	17:34			18:34		20:39				21:38			22:10		
24	08:29		10:16 (E13)	07:23			06:10		05:49				04:47			04:26		
	16:28	38	10:54 (E13)	17:37			18:36		20:41				21:40			22:10		
25	08:27		10:16 (E13)	07:21			06:07		05:47				04:45			04:26		
	16:30	38	10:54 (E13)	17:39			18:38		20:43				21:42			22:10		
26	08:26		10:17 (E13)	07:18			06:05		05:44				04:44			04:27		
	16:32	37	10:54 (E13)	17:41			18:41		20:45				21:43			22:10		
27	08:24		10:18 (E13)	07:16			06:02		05:42				04:42			04:27		
	16:34	35	10:53 (E13)	17:43			18:43		20:47				21:45			22:10		
28	08:22		10:19 (E13)	07:13			05:59		05:40				04:41			04:28		
	16:36	34	10:53 (E13)	17:45			18:45		20:49				21:47			22:10		
29	08:20		10:19 (E13)				06:57		05:37				04:40			04:29		
	16:39	33	10:52 (E13)				19:47		20:51				21:48			22:10		
30	08:18		10:21 (E13)				06:54		05:35				04:38			04:29		
	16:41	31	10:52 (E13)				19:49		20:53	1	06:02 (E7)	06:03 (E7)	21:50			22:09		
31	08:17		10:22 (E13)				06:51						04:37					
	16:43	29	10:51 (E13)				19:51						21:51					
Potential sun hours	235			266			366		426				508			529		
Total, worst case		1144			84				1				261					
Sun reduction		0.13			0.20				0.50				0.57					
Oper. time red.		0.98			0.98				0.98				0.98					
Wind dir. red.		0.61			0.61				0.67				0.67					
Total reduction		0.08			0.12				0.33				0.37					
Total, real		91			10				0				97					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	06:01 (E7) 20:14	06:17 18:54	07:17 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:01 (E7) 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 (E7) 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 (E7) 20:06	06:23 18:46	07:29 16:29	08:29 15:42
5	04:34 22:07	05:23 21:20	06:00 (E7) 20:03	06:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:25 21:17	06:00 (E7) 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 (E7) 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 (E7) 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 (E7) 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 (E7) 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 (E7) 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 (E7) 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 (E7) 19:42	06:41 18:22	07:49 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:13 (E7) 19:39	06:43 18:19	07:51 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:15 (E7) 19:37	06:45 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:17 (E7) 19:34	06:47 18:14	07:55 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:19 (E7) 19:31	06:49 18:12	07:57 16:04	08:46 15:38
18	04:51 21:52	05:49 20:50	06:21 (E7) 19:29	06:51 18:09	07:59 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:23 (E7) 19:26	06:53 18:07	08:01 16:01	08:47 15:38
20	04:54 21:49	05:53 20:45	06:25 (E7) 19:23	06:55 18:04	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:27 (E7) 19:20	06:57 18:02	08:05 15:58	08:48 15:39
22	04:57 21:46	05:57 20:40	06:29 (E7) 19:18	06:59 17:59	08:07 15:56	08:49 15:39
23	04:59 21:45	05:59 20:37	06:31 (E7) 19:15	07:01 17:57	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	06:33 (E7) 19:12	07:03 17:55	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	06:35 (E7) 19:10	07:05 16:52	08:13 15:52	08:50 15:41
26	05:04 21:39	06:05 20:30	06:37 (E7) 19:07	07:07 16:50	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	06:39 (E7) 19:04	07:09 16:47	08:17 15:49	08:51 15:43
28	05:08 21:36	06:09 20:24	06:41 (E7) 19:02	07:11 16:45	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	06:43 (E7) 18:59	07:13 16:43	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	06:45 (E7) 18:56	07:15 16:40	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17	06:47 (E7) 18:54	07:17 16:38	08:24 15:44	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case	70	192			839	1034
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	0.32	0.33			0.05	0.04
Total, real	23	62			41	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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 15:48	08:15 16:45	15:34 (E14) 15:50 (E14)	07:11 17:47	07:37 (E10) 16:39 (E13)	06:49 19:53	05:32 20:55
2	08:50 15:49	08:13 16:47	15:35 (E14) 15:50 (E14)	07:08 17:50	07:36 (E10) 16:38 (E13)	06:46 19:55	20:53 20:57
3	08:50 15:51	08:11 16:50	15:37 (E14) 15:49 (E14)	07:06 17:52	07:37 (E10) 16:37 (E13)	06:43 19:57	05:28 20:59
4	08:50 15:52	08:09 16:52	15:40 (E14) 15:47 (E14)	07:03 17:54	07:37 (E10) 16:36 (E13)	06:41 19:59	05:26 21:01
5	08:49 15:53	08:07 16:54		07:00 17:56	07:37 (E10) 16:34 (E13)	06:38 20:01	05:23 21:04
6	08:49 15:55	08:05 16:56	08:34 (E11) 08:35 (E11)	06:58 17:58	07:39 (E10) 16:34 (E13)	06:35 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	08:32 (E11) 08:37 (E11)	06:55 18:00	07:40 (E10) 16:32 (E13)	06:33 20:05	05:19 21:08
8	08:47 15:58	08:00 17:01	08:30 (E11) 08:38 (E11)	06:53 18:03	16:10 (E13) 16:29 (E13)	06:30 20:07	05:17 21:10
9	08:47 15:59	07:58 17:03	08:27 (E11) 08:38 (E11)	06:50 18:05	16:13 (E13) 16:26 (E13)	06:27 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	08:25 (E11) 08:39 (E11)	06:47 18:07	06:25 20:12	05:13 21:14	14 17
11	08:45 16:03	07:54 17:08	08:23 (E11) 08:40 (E11)	06:45 18:09	06:22 20:14	05:10 21:16	20 20
12	08:44 16:04	07:52 17:10	08:23 (E11) 08:39 (E11)	06:42 18:11	06:20 20:16	05:08 21:18	21 21
13	08:43 16:06	07:49 17:12	08:24 (E11) 08:39 (E11)	06:39 18:13	06:17 20:18	05:06 21:20	23 23
14	08:42 16:08	07:47 17:14	08:24 (E11) 16:28 (E13)	06:37 18:15	06:14 20:20	05:04 21:22	24 24
15	08:41 16:10	07:45 17:17	08:25 (E11) 16:31 (E13)	06:34 18:17	06:12 20:22	05:02 21:23	26 26
16	08:40 16:12	07:43 17:19	08:26 (E11) 16:33 (E13)	06:31 18:20	06:09 20:24	05:01 21:25	27 27
17	08:39 16:14	07:40 17:21	16:09 (E13) 16:35 (E13)	06:29 18:22	06:07 20:26	04:59 21:27	27 27
18	08:37 16:16	15:35 (E14) 17:23	07:38 16:07 (E13)	06:26 18:24	06:04 20:28	04:57 21:29	28 28
19	08:36 16:18	15:33 (E14) 17:25	07:35 16:06 (E13)	06:23 18:26	06:02 20:30	04:55 21:31	28 27
20	08:35 16:20	15:33 (E14) 17:28	07:33 16:05 (E13)	06:21 18:28	06:00 20:32	04:53 21:33	27 28
21	08:33 16:22	15:32 (E14) 17:30	07:31 16:05 (E13)	06:18 18:30	06:00 20:35	04:52 21:35	28 28
22	08:32 16:24	15:32 (E14) 17:32	07:28 16:04 (E13)	06:15 18:32	06:00 20:37	04:50 21:36	28 28
23	08:30 16:26	15:31 (E14) 17:34	07:26 16:04 (E13)	06:13 18:34	06:00 20:39	04:48 21:38	27 27
24	08:29 16:28	15:31 (E14) 17:36	07:23 16:03 (E13)	06:10 18:36	06:00 20:41	04:47 21:40	27 28
25	08:27 16:30	15:32 (E14) 17:39	07:21 16:47 (E10)	06:07 18:38	06:00 20:43	04:45 21:42	27 27
26	08:25 16:32	15:32 (E14) 17:41	07:18 16:40 (E13)	06:05 18:40	06:00 20:45	04:44 21:43	27 27
27	08:24 16:34	15:32 (E14) 17:43	07:16 16:39 (E13)	06:02 18:43	06:00 20:47	04:42 21:45	26 26
28	08:22 16:36	15:32 (E14) 17:45	07:13 16:39 (E13)	05:59 18:45	06:00 20:49	04:41 21:46	26 26
29	08:20 16:39	15:33 (E14) 17:52 (E14)		06:57 19:47	07:38 (E9) 07:50 (E9)	05:37 20:51	04:39 21:48
30	08:18 16:41	15:33 (E14) 17:52 (E14)		06:54 19:49	07:40 (E9) 07:47 (E9)	05:35 20:53	04:38 21:50
31	08:17 16:43	15:33 (E14) 17:51 (E14)		06:51 19:51		04:37 21:51	05:11 (E6) 26
Potential sun hours	235	266	366	426	508	529	
Total, worst case	214	672	506		584	829	
Sun reduction	0.13	0.20	0.41		0.57	0.56	
Oper. time red.	0.98	0.98	0.98		0.98	0.98	
Wind dir. red.	0.65	0.66	0.66		0.67	0.67	
Total reduction	0.09	0.13	0.26		0.37	0.37	
Total, real	18	87	133		218	303	

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		05:07 (E6)	05:16		05:52 (E8)	06:17		07:17		07:22		07:55 (E11)	08:24				
	22:09	30	06:06 (E8)	21:28	21	06:13 (E8)	20:14		18:54		16:36	14	08:09 (E11)	15:45				
2	04:31		05:08 (E6)	05:17		05:54 (E8)	06:19		07:19		07:25		07:57 (E11)	08:26				
	22:08	30	06:07 (E8)	21:26	18	06:12 (E8)	20:11		18:51		16:34	11	08:08 (E11)	15:44				
3	04:32		05:09 (E6)	05:19		05:55 (E8)	06:21		07:21		07:27		08:00 (E11)	08:27				
	22:08	30	06:08 (E8)	21:24	16	06:11 (E8)	20:09		18:48		16:31	8	08:08 (E11)	15:43				
4	04:33		05:10 (E6)	05:21		05:57 (E8)	06:23		07:23		07:29		08:02 (E11)	08:29				
	22:07	30	06:09 (E8)	21:22	13	06:10 (E8)	20:06		18:46	8	17:01 (E13)	4	08:06 (E11)	15:42				
5	04:34		05:11 (E6)	05:23		06:00 (E8)	06:25		07:25		16:48 (E13)		08:04 (E11)	08:31				
	22:07	30	06:09 (E8)	21:19	5	06:05 (E8)	20:03		18:43	17	17:05 (E13)	1	08:05 (E11)	15:42				
6	04:35		05:12 (E6)	05:25			06:27		07:27		08:18 (E10)			08:32				
	22:06	30	06:10 (E8)	21:17			20:01		18:40	27	17:07 (E13)			15:41				
7	04:36		05:13 (E6)	05:27			06:29		07:29		08:15 (E10)		15:09 (E14)	08:34				
	22:05	30	06:11 (E8)	21:15			19:58		18:38	36	17:08 (E13)	8	15:17 (E14)	15:40				
8	04:37		05:14 (E6)	05:29			06:31		07:31		08:13 (E10)		15:08 (E14)	08:35				
	22:04	30	06:11 (E8)	21:13			19:55		18:35	42	17:09 (E13)	12	15:20 (E14)	15:40				
9	04:38		05:15 (E6)	05:31			06:33		07:34		08:11 (E10)		15:06 (E14)	08:36				
	22:03	29	06:12 (E8)	21:11			19:53		18:32	47	17:10 (E13)	15	15:21 (E14)	15:39				
10	04:39		05:16 (E6)	05:33			06:35		07:36		08:11 (E10)		15:05 (E14)	08:38				
	22:02	29	06:12 (E8)	21:08			19:50		18:30	49	17:11 (E13)	16	15:21 (E14)	15:39				
11	04:41		05:17 (E6)	05:35			06:37		07:38		08:11 (E10)		15:05 (E14)	08:39				
	22:01	28	06:13 (E8)	21:06			19:47		18:27	51	17:12 (E13)	18	15:23 (E14)	15:38				
12	04:42		05:19 (E6)	05:37			06:39		07:40		08:10 (E10)		15:04 (E14)	08:40				
	22:00	26	06:14 (E8)	21:04			19:45		18:25	53	17:12 (E13)	19	15:23 (E14)	15:38				
13	04:43		05:50 (E8)	05:39			06:41		07:42		08:11 (E10)		15:04 (E14)	08:41				
	21:59	24	06:14 (E8)	21:01			19:42	7	07:38 (E9)	52	17:12 (E13)	20	15:24 (E14)	15:38				
14	04:45		05:50 (E8)	05:41			06:43		07:28 (E9)		08:13 (E10)		15:04 (E14)	08:43				
	21:58	25	06:15 (E8)	20:59			19:39	12	07:40 (E9)	50	17:12 (E13)	20	15:24 (E14)	15:38				
15	04:46		05:49 (E8)	05:43			06:45		07:27 (E9)		08:16 (E10)		15:04 (E14)	08:44				
	21:56	26	06:15 (E8)	20:57			19:37	14	07:41 (E9)	47	17:12 (E13)	20	15:24 (E14)	15:38				
16	04:48		05:50 (E8)	05:45			06:47		07:25 (E9)		08:18 (E10)		15:05 (E14)	08:45				
	21:55	26	06:16 (E8)	20:54			19:34	17	07:42 (E9)	43	17:12 (E13)	19	15:24 (E14)	15:38				
17	04:49		05:49 (E8)	05:47			06:49		07:25 (E9)		08:20 (E10)		15:05 (E14)	08:45				
	21:54	27	06:16 (E8)	20:52			19:31	17	07:42 (E9)	39	17:11 (E13)	19	15:24 (E14)	15:38				
18	04:51		05:49 (E8)	05:49			06:51		07:24 (E9)		16:34 (E13)		15:05 (E14)	08:46				
	21:52	28	06:17 (E8)	20:49			19:28	18	07:42 (E9)	37	17:11 (E13)	19	15:24 (E14)	15:38				
19	04:52		05:49 (E8)	05:51			06:53		07:24 (E9)		16:34 (E13)		15:06 (E14)	08:47			13:45 (E15)	
	21:51	27	06:16 (E8)	20:47			19:26	18	07:42 (E9)	36	17:10 (E13)	17	15:23 (E14)	15:38	3		13:48 (E15)	
20	04:54		05:49 (E8)	05:53			06:55		07:24 (E9)		16:35 (E13)		15:07 (E14)	08:48			13:45 (E15)	
	21:49	28	06:17 (E8)	20:45			19:23	17	07:41 (E9)	35	17:10 (E13)	14	15:21 (E14)	15:39	4		13:49 (E15)	
21	04:56		05:49 (E8)	05:55			06:57		07:25 (E9)		16:35 (E13)		15:07 (E14)	08:48			13:46 (E15)	
	21:48	28	06:17 (E8)	20:42			19:20	15	07:40 (E9)	34	17:09 (E13)	12	15:19 (E14)	15:39	4		13:50 (E15)	
22	04:57		05:49 (E8)	05:57			06:59		07:27 (E9)		16:36 (E13)		15:09 (E14)	08:49			13:46 (E15)	
	21:46	28	06:17 (E8)	20:40			19:18	11	07:38 (E9)	32	17:08 (E13)	9	15:18 (E14)	15:39	4		13:50 (E15)	
23	04:59		05:49 (E8)	05:59			07:01		07:29 (E9)		16:37 (E13)		15:10 (E14)	08:49			13:46 (E15)	
	21:44	28	06:17 (E8)	20:37			19:15	8	07:37 (E9)	30	17:07 (E13)	6	15:16 (E14)	15:40	4		13:50 (E15)	
24	05:01		05:49 (E8)	06:01			07:03		07:31 (E9)		16:38 (E13)		15:12 (E14)	08:50			13:47 (E15)	
	21:43	28	06:17 (E8)	20:35			19:12	3	07:34 (E9)	28	17:06 (E13)	2	15:14 (E14)	15:40	4		13:51 (E15)	
25	05:03		05:49 (E8)	06:03			07:05		07:07		07:58 (E11)			08:50			13:48 (E15)	
	21:41	28	06:17 (E8)	20:32			19:10		16:52	30	16:04 (E13)			15:41	2		13:50 (E15)	
26	05:04		05:49 (E8)	06:05			07:07		07:09		07:56 (E11)			08:50				
	21:39	28	06:17 (E8)	20:29			19:07		16:50	32	16:03 (E13)			15:42				
27	05:06		05:50 (E8)	06:07			07:09		07:12		07:54 (E11)			08:51				
	21:37	27	06:17 (E8)	20:27			19:04		16:47	30	16:00 (E13)			15:43				
28	05:08		05:50 (E8)	06:09			07:11		07:14		07:53 (E11)			08:51				
	21:36	26	06:16 (E8)	20:24			19:02		16:45	25	15:56 (E13)			15:44				
29	05:10		05:51 (E8)	06:11			07:13		07:16		07:53 (E11)			08:51				
	21:34	25	06:16 (E8)	20:22			18:59		16:43	16	08:09 (E11)			15:45				
30	05:12		05:51 (E8)	06:13			07:15		07:18		07:52 (E11)			08:51				
	21:32	24	06:15 (E8)	20:19			18:56		16:40	17	08:09 (E11)			15:46				
31	05:14		05:52 (E8)	06:15					07:20		07:52 (E11)			08:51				
	21:30	23	06:15 (E8)	20:17					16:38	16	08:08 (E11)			15:47				
Potential sun hours		529		469			385		324		247		216					
Total, worst case		856			73		157		959		303			25				
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			0.67		0.65		0.66		0.65			0.65				
Total reduction		0.32			0.33		0.27		0.17		0.05			0.04				
Total, real		277			24		43		160		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	16:18 (E1) 16:47 (E1) 16:18 (E1)	06:48 19:53 06:46	05:32 20:55 05:30	04:35 21:52 04:34	04:29 22:09 04:30	05:15 21:28 05:17	06:17 20:14 06:19	07:17 18:53 07:19	07:22 16:35 07:24
2	15:49 08:50	16:47 08:10	17:49 07:05	16:46 (E1) 16:19 (E1)	19:55 06:43	20:57 05:27	21:54 04:33	22:08 04:31	21:25 05:19	20:11 06:21	18:50 07:21	16:33 07:27
3	15:50 08:49	16:49 08:08	17:51 07:03	16:44 (E1) 16:20 (E1)	19:57 06:40	20:59 05:25	21:55 04:32	22:08 04:32	21:23 05:21	20:08 06:23	18:48 07:23	16:31 07:29
4	15:51 08:49	16:51 08:06	17:54 07:00	16:43 (E1) 16:22 (E1)	19:59 06:38	21:01 05:23	21:56 04:31	22:07 04:33	21:21 05:23	20:06 06:25	18:45 07:25	16:29 07:31
5	15:53 08:48	16:54 08:04	17:56 06:57	16:41 (E1) 16:24 (E1)	20:01 06:35	21:03 05:21	21:58 04:30	22:06 04:34	21:19 05:25	20:03 06:27	18:43 07:27	16:27 07:33
6	15:54 08:48	16:56 08:02	17:58 06:55	16:38 (E1) 16:28 (E1)	20:03 06:32	21:05 05:18	21:59 04:29	22:06 04:35	21:17 05:27	20:00 06:29	18:40 07:29	16:25 17:01 (E1)
7	15:56 08:47	16:58 08:00	18:00 06:52	16:35 (E1) 06:30	20:05 05:16	21:07 05:16	22:00 04:29	22:05 04:36	21:15 05:29	19:58 06:31	18:37 07:31	16:23 17:13 (E1)
8	15:57 08:46	17:00 07:58	18:02 06:50	06:27	21:09 05:14	22:01 04:28	22:04 04:38	21:13 05:31	19:55 06:33	18:35 07:33	17:15 (E1) 16:56 (E1)	16:20 07:40
9	15:59 08:46	17:03 07:56	18:04 06:47	20:09 06:24	21:11 05:12	22:02 04:27	22:03 04:39	21:10 05:33	19:52 06:35	18:32 07:35	17:17 (E1) 16:54 (E1)	16:18 07:42
10	16:01 08:45	17:05 07:54	18:06 06:44	20:11 06:22	21:13 05:10	22:03 04:27	22:02 04:40	21:08 05:35	19:50 06:37	18:29 07:37	17:18 (E1) 16:52 (E1)	16:16 07:44
11	16:02 08:44	17:07 07:51	18:09 06:42	20:13 06:19	21:15 05:08	22:04 04:26	22:01 04:41	21:06 05:37	19:47 06:39	18:27 07:39	17:18 (E1) 16:52 (E1)	16:14 07:46
12	16:04 08:43	17:09 07:49	18:11 06:39	20:15 06:17	21:17 05:06	22:05 04:26	22:00 04:43	21:03 05:39	19:44 06:41	18:24 07:42	17:20 (E1) 16:51 (E1)	16:13 07:48
13	16:06 08:42	17:12 07:47	18:13 06:36	20:18 06:14	21:19 05:04	22:06 04:25	21:59 04:44	21:01 05:41	19:42 06:43	18:22 07:44	17:20 (E1) 16:50 (E1)	16:11 07:50
14	16:08 08:41	17:14 07:45	18:15 06:34	20:20 06:11	21:21 05:02	22:06 04:25	21:58 04:46	20:59 05:43	19:39 06:45	18:19 07:46	17:20 (E1) 16:49 (E1)	16:09 07:52
15	16:09 08:40	17:16 07:42	18:17 06:31	20:22 06:09	21:23 05:00	22:07 04:25	21:56 04:47	20:56 05:45	19:36 06:47	18:16 07:48	17:20 (E1) 16:48 (E1)	16:07 07:55
16	16:11 08:38	17:18 07:40	18:19 06:28	20:24 06:06	21:25 04:58	22:08 04:25	21:55 04:49	20:54 05:47	19:34 06:49	18:14 07:50	17:20 (E1) 16:49 (E1)	16:05 07:57
17	16:13 08:37	17:21 07:38	18:21 06:26	20:26 06:04	21:27 04:56	22:08 04:25	21:54 04:50	20:52 05:49	19:31 06:51	18:11 07:52	17:20 (E1) 16:49 (E1)	16:04 07:59
18	16:15 08:36	17:23 07:35	18:23 06:23	20:28 06:01	21:29 04:55	22:09 04:25	21:52 04:52	20:49 05:51	19:28 06:53	18:09 07:54	17:20 (E1) 16:49 (E1)	16:02 08:01
19	16:17 08:34	17:25 07:33	18:25 06:20	20:30 05:59	21:31 04:53	22:09 04:25	21:51 04:54	20:47 05:53	19:25 06:55	18:06 07:56	17:19 (E1) 16:49 (E1)	15:58 08:03
20	16:19 08:33	17:27 07:30	18:28 06:18	20:32 05:56	21:33 04:51	22:09 04:25	21:49 04:55	20:44 05:55	19:23 06:57	18:04 07:58	17:18 (E1) 16:50 (E1)	15:59 08:05
21	16:21 08:32	17:29 07:28	18:30 06:15	20:34 05:54	21:34 04:49	22:10 04:25	21:48 04:57	20:42 05:57	19:20 06:59	18:01 08:01	17:18 (E1) 16:50 (E1)	15:57 08:07
22	16:23 08:30	17:32 07:25	18:32 06:12	20:36 05:51	21:36 04:48	22:10 04:25	21:46 04:59	20:39 05:59	19:17 07:01	17:59 08:03	17:17 (E1) 16:51 (E1)	15:56 08:09
23	16:25 08:28	17:34 07:23	18:34 06:10	20:38 05:49	21:38 04:46	22:10 04:25	21:44 05:00	20:37 06:01	19:15 07:03	17:57 08:05	17:15 (E1) 16:52 (E1)	15:54 08:11
24	16:27 08:27	17:36 07:20	18:36 06:07	20:41 05:46	21:40 04:45	22:10 04:26	21:43 05:02	20:34 06:03	19:12 07:05	17:54 07:07	17:14 (E1) 16:54 (E1)	15:53 08:13
25	16:29 08:25	17:38 07:18	18:38 06:04	20:43 05:44	21:41 04:43	22:10 04:26	21:41 05:04	20:32 06:05	19:09 07:07	17:52 07:09	16:12 (E1) 15:55 (E1)	15:51 08:15
26	16:32 08:23	17:40 07:15	18:40 06:02	20:45 05:41	21:43 04:42	22:10 04:27	21:39 05:06	20:29 06:07	19:07 07:09	17:49 07:11	16:10 (E1) 16:00 (E1)	15:50 08:17
27	16:34 08:22	17:43 07:13	18:42 05:59	20:47 05:39	21:45 04:40	22:10 04:27	21:37 05:08	20:27 06:09	19:04 07:11	17:47 07:13	16:06 (E1)	15:49
28	16:36 08:20	17:45 07:06	18:44 06:56	20:49 05:37	21:46 04:39	22:10 04:28	21:35 05:09	20:24 06:11	19:01 07:13	17:45 07:16	15:48	15:43
29	16:38 08:18	17:46 07:04	18:46 06:54	20:51 05:34	21:48 04:38	22:09 04:29	21:33 05:11	20:21 06:13	18:59 07:15	17:42 07:18	15:47	15:44
30	16:40 08:16	17:48 07:02	18:48 06:51	20:53 05:30	21:49 04:36	22:09 04:25	21:31 05:13	20:19 06:15	18:56 07:20	17:40	15:45	15:45
31	16:42 Potential sun hours	266	366	426	508	529	529	469	385	324	247	216
Total, worst case												
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		48								87		

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:

25/06/2024 23:53/4.0.540

## 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		14:05 (E15)	08:15		15:44 (E14)	07:11		07:43 (E10)	06:49		05:32				04:36		05:30 (E8)
	15:48	11	14:16 (E15)	16:45	18	16:02 (E14)	17:47	51	16:51 (E13)	19:53		20:55				21:52	32	06:02 (E8)
2	08:50		14:06 (E15)	08:13		15:44 (E14)	07:08		07:43 (E10)	06:46		05:30				04:35		05:30 (E8)
	15:49	10	14:16 (E15)	16:47	18	16:02 (E14)	17:50	50	16:51 (E13)	19:55		20:57				21:54	32	06:02 (E8)
3	08:50		14:08 (E15)	08:11		08:41 (E11)	07:06		07:44 (E10)	06:43		05:28				04:34		05:30 (E8)
	15:51	8	14:16 (E15)	16:50	21	16:02 (E14)	17:52	48	16:51 (E13)	19:57		20:59				21:55	32	06:02 (E8)
4	08:50		14:09 (E15)	08:09		08:39 (E11)	07:03		07:44 (E10)	06:41		05:26				04:33		05:30 (E8)
	15:52	5	14:14 (E15)	16:52	23	16:02 (E14)	17:54	45	16:50 (E13)	19:59		21:01				21:56	32	06:02 (E8)
5	08:49			08:07		08:36 (E11)	07:00		07:45 (E10)	06:38		05:23				04:32		05:31 (E8)
	15:53			16:54	24	16:00 (E14)	17:56	40	16:48 (E13)	20:01		21:04				21:58	31	06:02 (E8)
6	08:49			08:05		08:34 (E11)	06:58		07:48 (E10)	06:35		05:21				04:31		05:31 (E8)
	15:55			16:56	24	15:59 (E14)	17:58	34	16:48 (E13)	20:03		21:06				21:59	31	06:02 (E8)
7	08:48			08:03		08:32 (E11)	06:55		16:22 (E13)	06:33		05:19				04:30		05:31 (E8)
	15:56			16:59	18	15:55 (E14)	18:00	24	16:46 (E13)	20:05		21:08				22:00	31	06:02 (E8)
8	08:47			08:00		08:31 (E11)	06:53		16:23 (E13)	06:30		05:17				04:29		05:32 (E8)
	15:58			17:01	18	08:49 (E11)	18:03	21	16:44 (E13)	20:07		21:10				22:01	31	06:03 (E8)
9	08:47			07:58		08:31 (E11)	06:50		16:26 (E13)	06:27		05:15				04:28		05:31 (E8)
	15:59			17:03	17	08:48 (E11)	18:05	16	16:42 (E13)	20:10		21:12				22:02	31	06:02 (E8)
10	08:46			07:56		08:32 (E11)	06:47		16:30 (E13)	06:25		05:13				04:28		05:32 (E8)
	16:01			17:05	16	08:48 (E11)	18:07	8	16:38 (E13)	20:12		21:14				22:03	31	06:03 (E8)
11	08:45			07:54		08:32 (E11)	06:45			06:22		05:10				04:27		05:32 (E8)
	16:03			17:08	15	08:47 (E11)	18:09			20:14		21:16				22:04	30	06:02 (E8)
12	08:44			07:52		08:33 (E11)	06:42			06:20		05:08				04:27		05:03 (E6)
	16:04			17:10	14	08:47 (E11)	18:11			20:16		21:18				22:05	31	06:03 (E8)
13	08:43			07:49		08:34 (E11)	06:39			06:17		05:06				04:26		05:03 (E6)
	16:06			17:12	12	08:46 (E11)	18:13			20:18		21:20				22:06	33	06:03 (E8)
14	08:42			07:47		08:36 (E11)	06:37			06:14		05:04		05:42 (E8)		04:26		05:02 (E6)
	16:08			17:14	8	08:44 (E11)	18:15			20:20		21:22	6	05:48 (E8)		22:07	34	06:03 (E8)
15	08:41			07:45			06:34			06:12		05:02		05:39 (E8)		04:26		05:02 (E6)
	16:10			17:16			18:17			20:22		21:23	12	05:51 (E8)		22:07	34	06:03 (E8)
16	08:40			07:42			06:31			06:09		05:01		05:36 (E8)		04:25		05:02 (E6)
	16:12			17:19			18:20			20:24		21:25	16	05:52 (E8)		22:08	35	06:03 (E8)
17	08:39			07:40		16:35 (E13)	06:29			06:07		04:59		05:36 (E8)		04:25		05:02 (E6)
	16:14			17:21	3	16:38 (E13)	18:22			20:26		21:27	18	05:54 (E8)		22:08	36	06:04 (E8)
18	08:37			07:38		16:29 (E13)	06:26			06:04		04:57		05:34 (E8)		04:25		05:02 (E6)
	16:16			17:23	14	16:43 (E13)	18:24			20:28		21:29	21	05:55 (E8)		22:09	36	06:04 (E8)
19	08:36			07:35		16:27 (E13)	06:23		06:49 (E9)	06:02		04:55		05:33 (E8)		04:25		05:02 (E6)
	16:18			17:25	19	16:46 (E13)	18:26	6	06:55 (E9)	20:30		21:31	23	05:56 (E8)		22:09	36	06:04 (E8)
20	08:35			07:33		16:25 (E13)	06:21		06:46 (E9)	05:59		04:53		05:32 (E8)		04:25		05:02 (E6)
	16:20			17:28	22	16:47 (E13)	18:28	11	06:57 (E9)	20:32		21:33	25	05:57 (E8)		22:10	36	06:04 (E8)
21	08:33			07:31		16:24 (E13)	06:18		06:43 (E9)	05:57		04:52		05:31 (E8)		04:25		05:03 (E6)
	16:22			17:30	25	16:49 (E13)	18:30	14	06:57 (E9)	20:35		21:35	26	05:57 (E8)		22:10	37	06:05 (E8)
22	08:32			07:28		16:22 (E13)	06:15		06:41 (E9)	05:54		04:50		05:31 (E8)		04:25		05:03 (E6)
	16:24			17:32	28	16:50 (E13)	18:32	18	06:59 (E9)	20:37		21:36	27	05:58 (E8)		22:10	37	06:05 (E8)
23	08:30		15:46 (E14)	07:26		07:53 (E10)	06:13		06:39 (E9)	05:52		04:48		05:30 (E8)		04:26		05:03 (E6)
	16:26	2	15:48 (E14)	17:34	35	16:51 (E13)	18:34	19	06:58 (E9)	20:39		21:38	28	05:58 (E8)		22:10	36	06:05 (E8)
24	08:29		15:45 (E14)	07:23		07:50 (E10)	06:10		06:38 (E9)	05:49		04:47		05:30 (E8)		04:26		05:03 (E6)
	16:28	5	15:50 (E14)	17:36	40	16:51 (E13)	18:36	20	06:58 (E9)	20:41		21:40	29	05:59 (E8)		22:10	36	06:05 (E8)
25	08:27		15:45 (E14)	07:21		07:47 (E10)	06:07		06:38 (E9)	05:47		04:45		05:30 (E8)		04:26		05:04 (E6)
	16:30	9	15:54 (E14)	17:39	45	16:51 (E13)	18:38	20	06:58 (E9)	20:43		21:42	30	06:00 (E8)		22:10	36	06:06 (E8)
26	08:25		15:44 (E14)	07:18		07:45 (E10)	06:05		06:38 (E9)	05:44		04:44		05:31 (E8)		04:27		05:04 (E6)
	16:32	12	15:56 (E14)	17:41	49	16:52 (E13)	18:40	20	06:58 (E9)	20:45		21:43	29	06:00 (E8)		22:10	34	06:05 (E8)
27	08:24		15:44 (E14)	07:16		07:43 (E10)	06:02		06:38 (E9)	05:42		04:42		05:30 (E8)		04:27		05:05 (E6)
	16:34	14	15:58 (E14)	17:43	51	16:51 (E13)	18:43	18	06:56 (E9)	20:47		21:45	30	06:00 (E8)		22:10	35	06:06 (E8)
28	08:22		15:44 (E14)	07:13		07:43 (E10)	05:59		06:38 (E9)	05:39		04:41		05:30 (E8)		04:28		05:05 (E6)
	16:36	17	16:01 (E14)	17:45	53	16:52 (E13)	18:45	17	06:55 (E9)	20:49		21:46	30	06:00 (E8)		22:10	34	06:06 (E8)
29	08:20		15:44 (E14)				06:57		07:40 (E9)	05:37		04:39		05:30 (E8)		04:28		05:06 (E6)
	16:39	18	16:02 (E14)				19:47	14	07:54 (E9)	20:51		21:48	31	06:01 (E8)		22:10	33	06:06 (E8)
30	08:18		15:44 (E14)				06:54		07:41 (E9)	05:35		04:38		05:30 (E8)		04:29		05:07 (E6)
	16:41	19	16:03 (E14)				19:49	10	07:51 (E9)	20:53		21:50	31	06:01 (E8)		22:09	32	06:07 (E8)
31	08:17		15:43 (E14)				06:51					04:37		05:30 (E8)				
	16:43	19	16:02 (E14)				19:51					21:51	31	06:01 (E8)				
Potential sun hours	235			266			366			426			508			529		
Total, worst case	149			630			524			443			1005					
Sun reduction	0.13			0.20			0.41			0.57			0.56					
Oper. time red.	0.98			0.98			0.98			0.98			0.98					
Wind dir. red.	0.66			0.65			0.66			0.67			0.67					
Total reduction	0.09			0.13			0.26			0.37			0.37					
Total, real	13			81			138			165			369					

Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E8)	05:16	06:17			07:17		07:22	08:01 (E11)	08:24				
	22:09	31	06:07 (E8)	21:28	20:14			18:54		16:36	17 08:18 (E11)	15:45				
2	04:31		05:36 (E8)	05:17	06:19			07:19		07:25	08:01 (E11)	08:26				
	22:08	31	06:07 (E8)	21:26	20:11			18:51		16:34	17 08:18 (E11)	15:44				
3	04:32		05:37 (E8)	05:19	06:21			07:21		07:27	08:01 (E11)	08:27				
	22:08	31	06:08 (E8)	21:24	20:09			18:48		16:31	18 08:19 (E11)	15:43				
4	04:33		05:37 (E8)	05:21	06:23			07:23		07:29	08:02 (E11)	08:29				
	22:07	31	06:08 (E8)	21:22	20:06			18:46	13	17:18 (E13)	16:29	15:42				
5	04:34		05:37 (E8)	05:23	06:25			07:25		07:31	08:04 (E11)	08:31				
	22:07	31	06:08 (E8)	21:19	20:03			18:43	19	17:20 (E13)	16:27	15:42				
6	04:35		05:37 (E8)	05:25	06:27			07:27		07:33	08:07 (E11)	08:32				
	22:06	32	06:09 (E8)	21:17	20:01			18:40	23	17:22 (E13)	16:25	15:41				
7	04:36		05:37 (E8)	05:27	06:29			07:29		07:36	08:09 (E11)	08:34				
	22:05	32	06:09 (E8)	21:15	19:58			18:38	25	17:22 (E13)	16:23	15:40				
8	04:37		05:38 (E8)	05:29	06:31			07:31		07:38	08:12 (E11)	08:35		13:57 (E15)		
	22:04	31	06:09 (E8)	21:13	19:55			18:35	36	17:23 (E13)	16:21	15:40	5	14:02 (E15)		
9	04:38		05:38 (E8)	05:31	06:33			07:34		07:40	15:15 (E14)	08:36		13:56 (E15)		
	22:03	31	06:09 (E8)	21:11	19:53			18:32	44	17:24 (E13)	16:19	15:39	8	14:04 (E15)		
10	04:39		05:38 (E8)	05:33	06:35			07:36		07:42	15:15 (E14)	08:38		13:56 (E15)		
	22:02	31	06:09 (E8)	21:08	19:50			18:30	47	17:25 (E13)	16:17	15:39	10	14:06 (E15)		
11	04:41		05:38 (E8)	05:35	06:37			07:38		07:44	15:15 (E14)	08:39		13:55 (E15)		
	22:01	31	06:09 (E8)	21:06	19:47			18:27	50	17:25 (E13)	16:15	15:38	11	14:06 (E15)		
12	04:42		05:39 (E8)	05:37	06:39			07:40		07:46	15:15 (E14)	08:40		13:55 (E15)		
	22:00	31	06:10 (E8)	21:04	19:45			18:25	51	17:25 (E13)	16:13	15:38	12	14:07 (E15)		
13	04:43		05:38 (E8)	05:39	06:41		07:33 (E9)	07:42		07:48	15:16 (E14)	08:41		13:56 (E15)		
	21:59	32	06:10 (E8)	21:01	19:42	9	07:42 (E9)	18:22	51	17:24 (E13)	16:11	15:38	13	14:09 (E15)		
14	04:45		05:38 (E8)	05:41	06:43		07:31 (E9)	07:44		07:51	15:16 (E14)	08:43		13:56 (E15)		
	21:58	31	06:09 (E8)	20:59	19:39	13	07:44 (E9)	18:19	53	17:24 (E13)	16:09	15:38	13	14:09 (E15)		
15	04:46		05:38 (E8)	05:43	06:45		07:29 (E9)	07:46		07:53	15:16 (E14)	08:44		13:56 (E15)		
	21:56	31	06:09 (E8)	20:57	19:37	16	07:45 (E9)	18:17	51	17:24 (E13)	16:07	15:38	14	14:10 (E15)		
16	04:48		05:39 (E8)	05:45	06:47		07:28 (E9)	07:48		07:55	15:17 (E14)	08:45		13:56 (E15)		
	21:55	31	06:10 (E8)	20:54	19:34	18	07:46 (E9)	18:14	48	17:24 (E13)	16:06	15:38	15	14:11 (E15)		
17	04:49		05:39 (E8)	05:47	06:49		07:27 (E9)	07:50		07:57	15:18 (E14)	08:45		13:56 (E15)		
	21:54	30	06:09 (E8)	20:52	19:31	19	07:46 (E9)	18:12	44	17:23 (E13)	16:04	15:38	15	14:11 (E15)		
18	04:51		05:40 (E8)	05:49	06:51		07:26 (E9)	07:52		07:59	15:19 (E14)	08:46		13:57 (E15)		
	21:52	30	06:10 (E8)	20:49	19:28	20	07:46 (E9)	18:09	39	17:22 (E13)	16:02	15:38	15	14:12 (E15)		
19	04:52		05:40 (E8)	05:51	06:53		07:26 (E9)	07:54		08:01	15:21 (E14)	08:47		13:56 (E15)		
	21:51	29	06:09 (E8)	20:47	19:26	20	07:46 (E9)	18:07	34	17:21 (E13)	16:01	15:38	16	14:12 (E15)		
20	04:54		05:41 (E8)	05:53	06:55		07:25 (E9)	07:57		08:03	15:23 (E14)	08:48		13:57 (E15)		
	21:49	28	06:09 (E8)	20:45	19:23	19	07:44 (E9)	18:04	26	17:20 (E13)	15:59	15:38	16	14:13 (E15)		
21	04:56		05:41 (E8)	05:55	06:57		07:25 (E9)	07:59		08:05		08:48		13:58 (E15)		
	21:48	27	06:08 (E8)	20:42	19:20	18	07:43 (E9)	18:02	25	17:19 (E13)	15:58	15:39	16	14:14 (E15)		
22	04:57		05:42 (E8)	05:57	06:59		07:27 (E9)	08:01		08:07		08:49		13:58 (E15)		
	21:46	26	06:08 (E8)	20:40	19:18	15	07:42 (E9)	17:59	22	17:17 (E13)	15:56	15:39	16	14:14 (E15)		
23	04:59		05:42 (E8)	05:59	07:01		07:29 (E9)	08:03		08:09		08:49		13:58 (E15)		
	21:44	25	06:07 (E8)	20:37	19:15	12	07:41 (E9)	17:57	18	17:16 (E13)	15:55	15:40	16	14:14 (E15)		
24	05:01		05:43 (E8)	06:01	07:03		07:31 (E9)	08:05		08:11		08:50		13:59 (E15)		
	21:43	24	06:07 (E8)	20:35	19:12	8	07:39 (E9)	17:55	12	17:12 (E13)	15:53	15:40	16	14:15 (E15)		
25	05:03		05:43 (E8)	06:03	07:05		07:33 (E9)	07:07		08:13		08:50		14:00 (E15)		
	21:41	23	06:06 (E8)	20:32	19:10	1	07:34 (E9)	16:52		15:52		15:41	15	14:15 (E15)		
26	05:04		05:45 (E8)	06:05	07:07			07:09		08:15		08:50		14:00 (E15)		
	21:39	20	06:05 (E8)	20:29	19:07			16:50		15:51		15:42	15	14:15 (E15)		
27	05:06		05:46 (E8)	06:07	07:09			07:12		08:17		08:51		14:01 (E15)		
	21:37	18	06:04 (E8)	20:27	19:04			16:47		15:49		15:43	15	14:16 (E15)		
28	05:08		05:47 (E8)	06:09	07:11			07:14		08:05 (E11)	08:19	08:51		14:01 (E15)		
	21:36	15	06:02 (E8)	20:24	19:02			16:45	9	08:14 (E11)	15:48	15:44	15	14:16 (E15)		
29	05:10		05:50 (E8)	06:11	07:13			07:16		08:04 (E11)	08:21	08:51		14:02 (E15)		
	21:34	10	06:00 (E8)	20:22	18:59			16:43	12	08:16 (E11)	15:47	15:44	14	14:16 (E15)		
30	05:12			06:13	07:15			07:18		08:02 (E11)	08:22	08:51		14:03 (E15)		
	21:32			20:19	18:56			16:40	15	08:17 (E11)	15:46	15:46	14	14:17 (E15)		
31	05:14			06:15				07:20		08:01 (E11)		08:51		14:03 (E15)		
	21:30			20:16				16:38	16	08:17 (E11)		15:47	13	14:16 (E15)		
Potential sun hours	529			469	385			324		247		216				
Total, worst case		804			188		783			314		328				
Sun reduction		0.49			0.43		0.26			0.08		0.07				
Oper. time red.		0.98			0.98		0.98			0.98		0.98				
Wind dir. red.		0.67			0.65		0.66			0.64		0.66				
Total reduction		0.32			0.27		0.17			0.05		0.05				
Total, real		261			51		130			16		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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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		07:39 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	17	07:56 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:38 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	17	07:55 (E13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:39 (E13)	06:44	05:28		04:34	
	15:51		16:50		17:52	16	07:55 (E13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:40 (E13)	06:41	05:26		04:33	
	15:52		16:52		17:54	13	07:53 (E13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:42 (E13)	06:38	05:24		04:32	
	15:53		16:54		17:56	10	07:52 (E13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:45 (E13)	06:36	05:21		04:31	
	15:55		16:56		17:58	3	07:48 (E13)	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		09:24 (E14)	07:58	06:50			06:28	05:15		04:29	
	16:00	1	09:25 (E14)	17:03	18:05			20:10	21:12		22:02	
10	08:46		09:23 (E14)	07:56	06:48			06:25	05:13		04:28	
	16:01	3	09:26 (E14)	17:05	18:07			20:12	21:14		22:03	
11	08:45		09:22 (E14)	07:54	06:45			06:22	05:11		04:27	
	16:03	5	09:27 (E14)	17:08	18:09			20:14	21:16		22:04	
12	08:44		09:21 (E14)	07:52	06:42			06:20	05:09		04:27	
	16:05	7	09:28 (E14)	17:10	18:11			20:16	21:18		22:05	
13	08:43		09:19 (E14)	07:50	06:40			06:17	05:07		04:26	
	16:06	9	09:28 (E14)	17:12	18:13			20:18	21:20		22:06	
14	08:42		09:18 (E14)	07:47	06:37			06:15	05:05		04:26	
	16:08	11	09:29 (E14)	17:14	18:16			20:20	21:22		22:07	
15	08:41		09:17 (E14)	07:45	06:34			06:12	05:03		04:26	
	16:10	13	09:30 (E14)	17:17	18:18			20:22	21:24		22:07	
16	08:40		09:15 (E14)	07:43	06:32			06:09	05:01		04:26	
	16:12	16	09:31 (E14)	17:19	18:20			20:24	21:26		22:08	
17	08:39		09:14 (E14)	07:40	06:29			06:07	04:59		04:25	
	16:14	18	09:32 (E14)	17:21	18:22			20:26	21:27		22:09	
18	08:38		09:13 (E14)	07:38	06:26			06:04	04:57		04:25	
	16:16	19	09:32 (E14)	17:23	18:24			20:28	21:29		22:09	
19	08:36		09:13 (E14)	07:36	06:24			06:02	04:55		04:25	
	16:18	18	09:31 (E14)	17:26	18:26			20:31	21:31		22:09	
20	08:35		09:14 (E14)	07:33	06:21			05:59	04:53		04:25	
	16:20	18	09:32 (E14)	17:28	18:28			20:33	21:33		22:10	
21	08:33		09:15 (E14)	07:31	06:18			05:57	04:52		04:25	
	16:22	17	09:32 (E14)	17:30	18:30			20:35	21:35		22:10	
22	08:32		09:15 (E14)	07:28	06:16			05:54	04:50		04:26	
	16:24	17	09:32 (E14)	17:32	18:32			20:37	21:37		22:10	
23	08:30		09:15 (E14)	07:26	06:13			05:52	04:48		04:26	
	16:26	17	09:32 (E14)	17:34	18:34			20:39	21:38		22:10	
24	08:29		09:17 (E14)	07:23	07:50 (E13)			05:49	04:47		04:26	
	16:28	15	09:32 (E14)	17:37	07:53 (E13)	3		20:41	21:40		22:11	
25	08:27		09:18 (E14)	07:21	07:48 (E13)			05:47	04:45		04:26	
	16:30	13	09:31 (E14)	17:39	07:55 (E13)	7		20:43	21:42		22:11	
26	08:26		09:20 (E14)	07:18	07:45 (E13)			05:44	04:44		04:27	
	16:32	10	09:30 (E14)	17:41	07:56 (E13)	11		20:45	21:43		22:10	
27	08:24		09:22 (E14)	07:16	07:42 (E13)			05:42	04:42		04:27	
	16:34	7	09:29 (E14)	17:43	07:56 (E13)	14		20:47	21:45		22:10	
28	08:22			07:13	07:40 (E13)			05:40	04:41		04:28	
	16:37			17:45	07:56 (E13)	16		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		234		51		76						
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		18		6		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51		07:25 16:34	5	09:09 (E14) 09:06 (E14)
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48		07:27 16:32	3	09:09 (E14) 09:08 (E14)
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46		07:29 16:29	1	09:09 (E14) 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	08:18 (E13) 08:26 (E13)		07:38 16:21
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	12	08:16 (E13) 08:28 (E13)		07:40 16:19
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	15	08:14 (E13) 08:29 (E13)		07:42 16:17
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	16	08:13 (E13) 08:29 (E13)		07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	17	08:12 (E13) 08:29 (E13)		07:47 16:13
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	18	08:11 (E13) 08:29 (E13)		07:49 16:11
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	15	08:14 (E13) 08:29 (E13)		07:51 16:09
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	13	08:16 (E13) 08:29 (E13)	8	08:54 (E14) 09:02 (E14)
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	9	08:18 (E13) 08:27 (E13)	11	08:52 (E14) 09:03 (E14)
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	6	08:20 (E13) 08:26 (E13)	13	08:51 (E14) 09:04 (E14)
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	2	08:22 (E13) 08:24 (E13)	15	08:51 (E14) 09:06 (E14)
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07		08:01 16:01	17	08:50 (E14) 09:07 (E14)
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04		08:03 15:59	17	08:50 (E14) 09:07 (E14)
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02		08:05 15:58	17	08:51 (E14) 09:08 (E14)
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00		08:07 15:56	18	08:50 (E14) 09:08 (E14)
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57		08:09 15:55	19	08:50 (E14) 09:09 (E14)
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55		08:11 15:53	19	08:50 (E14) 09:09 (E14)
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52		08:13 15:52	18	08:51 (E14) 09:09 (E14)
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50		08:15 15:51	16	08:54 (E14) 09:10 (E14)
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48		08:17 15:49	14	08:56 (E14) 09:10 (E14)
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45		08:19 15:48	11	08:58 (E14) 09:09 (E14)
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43		08:21 15:47	9	09:00 (E14) 09:09 (E14)
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41		08:23 15:46	7	09:02 (E14) 09:09 (E14)
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				131		229		9
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				21		11		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	04:36 21:52 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
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 (E14)
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	04:29 22:10 (E14)
30	08:18 16:41		06:54 19:49	05:35 20:53	04:39 21:50	04:30 22:09 (E14)
31	08:17 16:43		06:52 19:51		04:37 21:51	05:14 (E14)
Potential sun hours	235	266	366	426	508	528
Total, worst case				119		640
Sun reduction				0.50		0.56
Oper. time red.				0.98		0.98
Wind dir. red.				0.65		0.67
Total reduction				0.32		0.37
Total, real				38	63	235

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:

25/06/2024 23:53/4.0.540

## 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	05:20 (E14) 21:28	05:16 20:14	06:17 18:54	07:17 16:36	08:24 15:45
2	04:31 22:08	05:20 (E14) 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 (E14) 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 (E14) 21:22	06:23 20:06	07:23 18:46	07:29 16:30	08:29 15:43
5	04:34 22:07	05:21 (E14) 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:42
6	04:35 22:06	05:21 (E14) 21:17	06:27 20:01	07:28 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:21 (E14) 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:34 15:41
8	04:37 22:04	05:21 (E14) 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:21 (E14) 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:37 15:39
10	04:40 22:02	05:21 (E14) 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 15:39
11	04:41 22:01	05:22 (E14) 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:39
12	04:42 22:00	05:22 (E14) 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:40 15:38
13	04:44 21:59	05:22 (E14) 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:41 15:38
14	04:45 21:58	05:22 (E14) 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:43 15:38
15	04:47 21:57	05:23 (E14) 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:44 15:38
16	04:48 21:55	05:24 (E14) 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:45 15:38
17	04:50 21:54	05:26 (E14) 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	04:51 21:52	05:27 (E14) 20:50	06:51 19:29	07:52 18:10	07:59 16:03	08:46 15:38
19	04:53 21:51	05:28 (E14) 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:47 15:39
20	04:54 21:49	05:30 (E14) 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:48 15:39
21	04:56 21:48	05:31 (E14) 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:48 15:39
22	04:58 21:46	05:33 (E14) 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:49 15:40
23	04:59 21:45	05:35 (E14) 20:37	07:01 19:15	08:03 17:57	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 15:54	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	08:10 17:50	08:15 15:51	08:51 15:42
27	05:07 21:37	06:07 20:27	07:09 19:04	08:12 17:48	08:17 15:50	08:51 15:43
28	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	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	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	05:14 21:30	06:15 20:17		07:20 16:38		08:51 15:47
Potential sun hours	529	469	384	324	248	216
Total, worst case	425	121				
Sun reduction	0.49	0.50				
Oper. time red.	0.98	0.98				
Wind dir. red.	0.67	0.65				
Total reduction	0.32	0.32				
Total, real	138	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:56 (E14) 19 06:15 (E14)	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	05:55 (E14) 20 06:15 (E14)	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	05:55 (E14) 20 06:15 (E14)	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	05:56 (E14) 19 06:15 (E14)	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	05:57 (E14) 18 06:15 (E14)	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 (E14) 16 06:14 (E14)	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 (E14) 13 06:13 (E14)	06:29 19:58	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 (E14) 11 06:13 (E14)	06:31 19:56	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 (E14) 8 06:12 (E14)	06:33 19:53	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 (E14) 4 06:10 (E14)	06:35 19:50	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 22:04	04:41 22:01	05:35 21:06	06:07 (E14)	06:37 19:48	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	06:09 (E14)	06:39 19:45	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	06:11 (E14)	06:41 19:42	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	06:13 (E14)	06:43 19:39	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	06:15 (E14)	06:45 19:37	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	06:17 (E14)	06:47 19:34	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	06:19 (E14)	06:49 19:31	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 20:50	06:21 (E14)	06:51 19:29	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	06:23 (E14)	06:53 19:26	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	06:25 (E14)	06:55 19:23	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	06:27 (E14)	06:57 19:21	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	06:29 (E14)	06:59 19:18	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	06:31 (E14)	07:01 19:15	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	06:33 (E14)	07:03 19:13	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	06:35 (E14)	07:05 19:10	08:07 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	06:37 (E14)	07:07 19:07	08:10 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	06:07 20:27	06:39 (E14)	07:09 19:04	08:12 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	06:09 20:24	06:41 (E14)	07:11 19:02	08:14 16:45	08:19 15:48
29	08:20 16:39	07:11 17:47	06:57 18:45	05:37 20:49	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	06:43 (E14)	07:13 19:03	08:16 16:43	08:21 15:47
30	08:19 16:41	07:10 17:48	06:54 18:46	05:35 20:50	04:39 21:50	04:30 22:09	05:12 21:32	06:13 20:19	06:45 (E14)	07:15 18:56	08:18 16:41	08:22 15:46
31	08:17 16:43	07:08 17:51	06:52 18:51	05:33 20:51	04:37 21:51	05:14 21:30	05:14 21:30	06:15 (E14)	06:47 (E14)	07:20 16:38	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					247							
Sun reduction					0.57							
Oper. time red.					0.98							
Wind dir. red.					0.67							
Total reduction					0.37							
Total, real					92							

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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	06:49	07:40 (E15)	05:33
	15:48	16:45	17:48	19:53	07:48 (E15)	20:55
2	08:50	08:13	07:08	06:46		05:30
	15:50	16:48	17:50	19:55		20:57
3	08:50	08:11	07:06	06:43		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
	15:54	16:54	17:56	20:01		21:04
6	08:49	08:05	06:58	06:36		05:21
	15:55	16:57	17:58	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	08:47	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	07:16 (E16)	06:28	05:15
	16:00	17:03	18:05	07:18 (E16)	20:10	21:12
10	08:46	07:56	06:47	07:13 (E16)	06:25	05:13
	16:01	17:05	18:07	07:19 (E16)	20:12	21:14
11	08:45	07:54	06:45	07:10 (E16)	06:22	05:11
	16:03	17:08	18:09	07:19 (E16)	20:14	21:16
12	08:44	07:52	06:42	07:08 (E16)	06:20	05:09
	16:05	17:10	18:11	07:20 (E16)	20:16	21:18
13	08:43	07:50	06:40	07:05 (E16)	06:17	05:07
	16:06	17:12	18:13	07:20 (E16)	20:18	21:20
14	08:42	07:47	06:37	07:03 (E16)	06:15	05:05
	16:08	17:14	18:15	07:19 (E16)	20:20	21:22
15	08:41	07:45	06:34	07:04 (E16)	06:12	05:03
	16:10	17:17	18:18	07:19 (E16)	20:22	21:24
16	08:40	07:43	06:32	07:05 (E16)	06:09	05:01
	16:12	17:19	18:20	07:17 (E16)	20:24	21:25
17	08:39	07:40	06:29	07:06 (E16)	06:07	04:59
	16:14	17:21	18:22	07:15 (E16)	20:26	21:27
18	08:37	07:38	06:26	06:04	06:41 (E14)	04:57
	16:16	17:23	18:24	20:28	07:13 (E14)	21:29
19	08:36	07:36	06:24	06:49 (E15)	06:02	04:55
	16:18	17:26	18:26	06:51 (E15)	20:30	21:31
20	08:35	07:33	06:21	06:46 (E15)	05:59	06:40 (E14)
	16:20	17:28	18:28	06:54 (E15)	20:33	21:33
21	08:33	07:31	06:18	06:43 (E15)	05:57	06:39 (E14)
	16:22	17:30	18:30	06:55 (E15)	20:35	21:35
22	08:32	07:28	06:16	06:41 (E15)	05:54	06:38 (E14)
	16:24	17:32	18:32	06:57 (E15)	20:37	21:36
23	08:30	07:26	06:13	06:38 (E15)	05:52	06:37 (E14)
	16:26	17:34	18:34	06:57 (E15)	20:39	21:38
24	08:29	07:23	06:10	06:36 (E15)	05:49	06:37 (E14)
	16:28	17:37	18:36	06:57 (E15)	20:41	21:40
25	08:27	07:21	06:08	06:36 (E15)	05:47	06:37 (E14)
	16:30	17:39	18:39	06:57 (E15)	20:43	21:42
26	08:26	07:18	06:05	06:35 (E15)	05:44	06:36 (E14)
	16:32	17:41	18:41	06:57 (E15)	20:45	21:43
27	08:24	07:16	06:02	06:35 (E15)	05:42	06:36 (E14)
	16:34	17:43	18:43	06:56 (E15)	20:47	21:45
28	08:22	07:13	06:00	06:36 (E15)	05:40	06:37 (E14)
	16:37	17:45	18:45	06:56 (E15)	20:49	21:47
29	08:20		06:57	07:36 (E15)	05:37	06:37 (E14)
	16:39		19:47	07:54 (E15)	20:51	21:48
30	08:18		06:54	07:36 (E15)	05:35	06:37 (E14)
	16:41		19:49	07:53 (E15)	20:53	21:50
31	08:17		06:51	07:38 (E15)		04:37
	16:43		19:51	07:51 (E15)		21:51
Potential sun hours	235	266	366	426	508	528
Total, worst case			306	592	440	606
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			79	190	162	222

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:

25/06/2024 23:53/4.0.540

## 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		05:20 (E13)	05:16			06:17			07:17		07:46 (E16)	07:23		08:24			
	22:09	21	05:41 (E13)	21:28			20:14			18:54	13	07:59 (E16)	16:36		15:45			
2	04:31		05:20 (E13)	05:18		06:59 (E14)	06:19			07:19		07:48 (E16)	07:25		08:26			
	22:08	20	05:40 (E13)	21:26	9	07:08 (E14)	20:11			18:51	11	07:59 (E16)	16:34		15:44			
3	04:32		05:20 (E13)	05:20		06:56 (E14)	06:21			07:21		07:50 (E16)	07:27		08:28			
	22:08	21	05:41 (E13)	21:24	15	07:11 (E14)	20:09			18:48	8	07:58 (E16)	16:32		15:43			
4	04:33		05:20 (E13)	05:22		06:54 (E14)	06:23			07:23		07:52 (E16)	07:29		08:29			
	22:07	21	05:41 (E13)	21:22	20	07:14 (E14)	20:06			18:46	4	07:56 (E16)	16:30		15:43			
5	04:34		05:20 (E13)	05:24		06:53 (E14)	06:25			07:25			07:31		08:31			
	22:07	22	05:42 (E13)	21:19	23	07:16 (E14)	20:03			18:43			16:27		15:42			
6	04:35		05:20 (E13)	05:25		06:51 (E14)	06:27			07:28			07:33		08:32			
	22:06	22	05:42 (E13)	21:17	25	07:16 (E14)	20:01			18:40			16:25		15:41			
7	04:36		05:21 (E13)	05:27		06:50 (E14)	06:29			07:30			07:36		08:34			
	22:05	21	05:42 (E13)	21:15	27	07:17 (E14)	19:58			18:38			16:23		15:40			
8	04:37		05:21 (E13)	05:29		06:49 (E14)	06:31			07:32			07:38		08:35			
	22:04	21	05:42 (E13)	21:13	29	07:18 (E14)	19:56			18:35			16:21		15:40			
9	04:38		05:21 (E13)	05:31		06:48 (E14)	06:33			07:34			07:40		08:37			
	22:03	21	05:42 (E13)	21:11	31	07:19 (E14)	19:53			18:33			16:19		15:39			
10	04:40		05:21 (E13)	05:33		06:47 (E14)	06:35			07:36			07:42		08:38			
	22:02	21	05:42 (E13)	21:08	33	07:20 (E14)	19:50			18:30			16:17		15:39			
11	04:41		05:22 (E13)	05:35		06:47 (E14)	06:37		07:33 (E15)	07:38			07:44		08:39			
	22:01	21	05:43 (E13)	21:06	34	07:21 (E14)	19:47	7	07:40 (E15)	18:27			16:15		15:39			
12	04:42		05:22 (E13)	05:37		06:45 (E14)	06:39		07:30 (E15)	07:40			07:46		08:40			
	22:00	21	05:43 (E13)	21:04	35	07:20 (E14)	19:45	12	07:42 (E15)	18:25			16:13		15:38			
13	04:44		05:22 (E13)	05:39		06:45 (E14)	06:41		07:28 (E15)	07:42			07:49		08:42			
	21:59	21	05:43 (E13)	21:02	36	07:21 (E14)	19:42	16	07:44 (E15)	18:22			16:11		15:38			
14	04:45		05:22 (E13)	05:41		06:44 (E14)	06:43		07:26 (E15)	07:44			07:51		08:43			
	21:58	21	05:43 (E13)	20:59	37	07:21 (E14)	19:39	19	07:45 (E15)	18:20			16:10		15:38			
15	04:46		05:23 (E13)	05:43		06:44 (E14)	06:45		07:25 (E15)	07:46			07:53		08:44			
	21:57	20	05:43 (E13)	20:57	38	07:22 (E14)	19:37	20	07:45 (E15)	18:17			16:08		15:38			
16	04:48		05:24 (E13)	05:45		06:44 (E14)	06:47		07:24 (E15)	07:48			07:55		08:45			
	21:55	19	05:43 (E13)	20:54	38	07:22 (E14)	19:34	21	07:45 (E15)	18:15			16:06		15:38			
17	04:49		05:25 (E13)	05:47		06:44 (E14)	06:49		07:24 (E15)	07:50			07:57		08:46			
	21:54	17	05:42 (E13)	20:52	38	07:22 (E14)	19:31	21	07:45 (E15)	18:12			16:04		15:38			
18	04:51		05:27 (E13)	05:49		06:44 (E14)	06:51		07:23 (E15)	07:52			07:59		08:46			
	21:52	15	05:42 (E13)	20:50	38	07:22 (E14)	19:29	22	07:45 (E15)	18:09			16:03		15:38			
19	04:53		05:28 (E13)	05:51		06:43 (E14)	06:53		07:23 (E15)	07:55			08:01		08:47			
	21:51	14	05:42 (E13)	20:47	37	07:20 (E14)	19:26	21	07:44 (E15)	18:07			16:01		15:38			
20	04:54		05:30 (E13)	05:53		06:43 (E14)	06:55		07:24 (E15)	07:57			08:03		08:48			
	21:49	12	05:42 (E13)	20:45	37	07:20 (E14)	19:23	19	07:43 (E15)	18:04			15:59		15:39			
21	04:56		05:31 (E13)	05:55		06:43 (E14)	06:57		07:26 (E15)	07:59			08:05		08:48			
	21:48	9	05:40 (E13)	20:42	37	07:20 (E14)	19:21	16	07:42 (E15)	18:02			15:58		15:39			
22	04:58		05:33 (E13)	05:57		06:43 (E14)	06:59		07:28 (E15)	08:01			08:07		08:49			
	21:46	7	05:40 (E13)	20:40	36	07:19 (E14)	19:18	13	07:41 (E15)	18:00			15:56		15:40			
23	04:59		05:34 (E13)	05:59		06:44 (E14)	07:01		07:30 (E15)	08:03			08:09		08:49			
	21:45	4	05:38 (E13)	20:37	34	07:18 (E14)	19:15	9	07:39 (E15)	17:57			15:55		15:40			
24	05:01		05:36 (E13)	06:01		06:44 (E14)	07:03		07:32 (E15)	08:05			08:11		08:50			
	21:43	1	05:37 (E13)	20:35	33	07:17 (E14)	19:12	4	07:36 (E15)	17:55			15:53		15:41			
25	05:03			06:03		06:45 (E14)	07:05			07:07			08:13		08:50			
	21:41			20:32	31	07:16 (E14)	19:10			16:52			15:52		15:41			
26	05:05			06:05		06:46 (E14)	07:07		07:49 (E16)	07:10			08:15		08:51			
	21:39			20:30	29	07:15 (E14)	19:07	8	07:57 (E16)	16:50			15:51		15:42			
27	05:06			06:07		06:47 (E14)	07:09		07:47 (E16)	07:12			08:17		08:51			
	21:38			20:27	27	07:14 (E14)	19:04	11	07:58 (E16)	16:48			15:50		15:43			
28	05:08			06:09		06:48 (E14)	07:11		07:45 (E16)	07:14			08:19		08:51			
	21:36			20:24	23	07:11 (E14)	19:02	14	07:59 (E16)	16:45			15:48		15:44			
29	05:10			06:11		06:50 (E14)	07:13		07:44 (E16)	07:16			08:21		08:51			
	21:34			20:22	19	07:09 (E14)	18:59	16	08:00 (E16)	16:43			15:47		15:45			
30	05:12			06:13		06:52 (E14)	07:15		07:44 (E16)	07:18			08:22		08:51			
	21:32			20:19	13	07:05 (E14)	18:56	16	08:00 (E16)	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		413		862			285			36								
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			0.64			0.63								
Total reduction		0.32		0.32			0.27			0.16								
Total, real		134		276			77			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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	09:04 (E13) 17:48	07:11 19:53	06:49 20:55	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	09:05 (E13) 17:50	07:08 19:55	06:46 20:58	05:30 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	09:05 (E13) 17:52	07:06 19:57	06:43 21:00	05:28 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	09:07 (E13) 17:54	07:03 19:59	06:41 21:02	05:26 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	09:08 (E13) 17:56	07:01 20:01	06:38 21:04	05:23 21:58	04:32 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	09:09 (E13) 17:58	06:58 20:03	06:35 21:06	05:21 21:59	04:31 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 (E13) 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	08:34 15:40
8	08:48 15:58	08:01 17:01	09:20 (E13) 18:01	06:53 20:06	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	08:35 15:40
9	08:47 15:59	07:58 17:03	09:28 (E13) 18:05	06:50 20:10	06:28 21:12	05:15 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	09:35 (E13) 18:07	06:47 20:12	06:25 21:14	05:13 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	09:42 (E13) 18:09	06:45 20:14	06:22 21:16	05:11 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 16:05	07:52 17:10	09:49 (E13) 18:11	06:42 20:16	06:20 21:18	05:08 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	09:56 (E13) 18:13	06:40 20:18	06:17 21:20	05:06 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	10:02 (E13) 18:15	06:37 20:20	06:15 21:22	05:05 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	10:08 (E13) 18:18	06:34 20:22	06:12 21:24	05:03 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	10:14 (E13) 18:20	06:32 20:24	06:09 21:26	05:01 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	10:20 (E13) 18:22	06:29 20:26	06:07 21:27	04:59 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	10:26 (E13) 18:24	06:26 20:28	06:04 21:29	04:57 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	10:32 (E13) 18:26	06:24 20:31	06:02 21:31	04:55 22:09	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	10:38 (E13) 18:28	06:21 20:33	05:59 21:33	04:53 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	10:44 (E13) 18:30	06:18 20:35	05:57 21:35	04:52 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	10:50 (E13) 18:32	06:16 20:37	05:54 21:37	04:50 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 16:26	07:26 17:34	10:56 (E13) 18:34	06:13 20:39	05:52 21:38	04:48 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	11:02 (E13) 18:36	06:10 20:41	05:49 21:40	04:47 22:10	04:56 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	11:08 (E13) 18:38	06:08 20:43	05:47 21:42	04:45 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	11:14 (E13) 18:41	06:05 20:44	05:44 21:43	04:44 22:10	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	08:24 16:34	07:16 17:43	11:20 (E13) 18:43	06:02 20:42	05:42 21:45	04:42 22:10	05:06 21:38	06:07 20:27	07:09 19:04	08:11 17:47	08:17 15:49	08:51 15:43
28	08:22 16:36	07:13 17:45	11:26 (E13) 18:45	05:59 20:40	05:40 21:47	04:41 22:10	05:08 21:36	06:09 20:24	07:11 19:02	08:13 17:45	08:19 15:48	08:51 15:44
29	08:20 16:39	07:03 17:48	11:32 (E13) 18:47	05:57 20:37	05:37 21:48	04:40 22:10	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:43	08:21 15:47	08:51 15:45
30	08:19 16:41	07:04 17:50	11:38 (E13) 18:49	05:54 20:35	05:35 21:50	04:38 22:09	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	08:17 16:43	07:04 17:52	11:44 (E13) 18:51	05:51 20:37	05:37 21:51	04:37 22:10	05:14 21:30	06:15 20:17	07:17 18:48	08:19 17:38	08:25 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case	242	118									362	
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	18	14									17	

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:

25/06/2024 23:53/4.0.540

## 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 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
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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
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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	08:50 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	06:03 20:32	07:05 19:10	07:07 16:52	08:13 15:52	08:50 15:42
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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:

25/06/2024 23:53/4.0.540

## 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
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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
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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
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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
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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
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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
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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
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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:

25/06/2024 23:53/4.0.540

## 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		13:47 (E13)	08:15		14:04 (E13)	07:11		06:49				05:32		06:00 (E6)	04:36		
	15:48	48	14:35 (E14)	16:45	22	14:26 (E13)	17:47		19:53				20:55	8	06:08 (E6)	21:53		
2	08:50		13:48 (E13)	08:13		14:07 (E13)	07:08		06:46				05:30		05:58 (E6)	04:35		
	15:49	48	14:36 (E14)	16:47	18	14:25 (E13)	17:50		19:55				20:57	10	06:08 (E6)	21:54		
3	08:50		13:48 (E13)	08:11		14:11 (E13)	07:06		06:43				05:28		05:56 (E6)	04:34		
	15:51	47	14:35 (E14)	16:50	11	14:22 (E13)	17:52		19:57				20:59	13	06:09 (E6)	21:55		
4	08:50		13:47 (E13)	08:09			07:03		06:41				05:26		05:54 (E6)	04:33		
	15:52	48	14:35 (E14)	16:52			17:54		19:59				21:02	15	06:09 (E6)	21:57		
5	08:49		13:48 (E13)	08:07			07:00		06:38				05:23		05:52 (E6)	04:32		
	15:53	48	14:36 (E14)	16:54			17:56		20:01				21:04	17	06:09 (E6)	21:58		
6	08:49		13:48 (E13)	08:05			06:58		06:35				05:21		05:52 (E6)	04:31		
	15:55	47	14:35 (E14)	16:56			17:58		20:03				21:06	17	06:09 (E6)	21:59		
7	08:48		13:49 (E13)	08:03			06:55		06:33				05:19		05:52 (E6)	04:30		
	15:56	46	14:35 (E14)	16:59			18:00		20:05				21:08	17	06:09 (E6)	22:00		
8	08:47		13:49 (E13)	08:00			06:53		06:30				05:17		05:52 (E6)	04:29		
	15:58	45	14:34 (E14)	17:01			18:03		20:07	6	06:55 (E8)	05:17	21:10	17	06:09 (E6)	22:01		
9	08:47		13:49 (E13)	07:58			06:50		06:27		6	06:53 (E8)	05:15		05:52 (E6)	04:28		
	15:59	42	14:32 (E14)	17:03			18:05		20:10	11	07:04 (E8)	21:12	16		06:08 (E6)	22:02		
10	08:46		13:49 (E13)	07:56			06:47		06:25				05:13		05:53 (E6)	04:28		
	16:01	40	14:29 (E13)	17:05			18:07		20:12	15	07:05 (E8)	21:14	14		06:07 (E6)	22:03		
11	08:45		13:50 (E13)	07:54			06:45		06:22				05:10		05:54 (E6)	04:27		
	16:03	39	14:29 (E13)	17:08			18:09		20:14	18	07:06 (E8)	21:16	12		06:06 (E6)	22:04		
12	08:44		13:49 (E13)	07:52			06:42		06:20				05:08		05:55 (E6)	04:27		
	16:04	40	14:29 (E13)	17:10			18:11		20:16	20	07:06 (E8)	21:18	9		06:04 (E6)	22:05		
13	08:43		13:50 (E13)	07:49			06:39		06:17				05:06		05:57 (E6)	04:26		
	16:06	40	14:30 (E13)	17:12			18:13		20:18	22	07:07 (E8)	21:20	5		06:02 (E6)	22:06		
14	08:42		13:51 (E13)	07:47			06:37		06:14				05:04			04:26		
	16:08	40	14:31 (E13)	17:14			18:15		20:20	22	07:06 (E8)	21:22				22:07		
15	08:41		13:50 (E13)	07:45			06:34		06:12				05:02			04:26		
	16:10	40	14:30 (E13)	17:17			18:17		20:22	22	07:07 (E8)	21:24				22:07		
16	08:40		13:51 (E13)	07:43			06:31		06:09				05:01			04:25		
	16:12	40	14:31 (E13)	17:19			18:20		20:24	22	07:06 (E8)	21:25				22:08		
17	08:39		13:51 (E13)	07:40			06:29		06:07				04:59			04:25		
	16:14	40	14:31 (E13)	17:21			18:22		20:26	21	07:05 (E8)	21:27				22:08		
18	08:37		13:52 (E13)	07:38			06:26		06:04				04:57			04:25		
	16:16	40	14:32 (E13)	17:23			18:24		20:28	20	07:04 (E8)	21:29				22:09		
19	08:36		13:52 (E13)	07:35			06:23		06:02				04:55			04:25		
	16:18	40	14:32 (E13)	17:25			18:26		20:30	19	07:04 (E8)	21:31				22:09		
20	08:35		13:53 (E13)	07:33			06:21		05:59				04:53			04:25		
	16:20	40	14:33 (E13)	17:28			18:28		20:32	17	07:02 (E8)	21:33				22:10		
21	08:33		13:53 (E13)	07:31			06:18		05:57				04:52			04:25		
	16:22	39	14:32 (E13)	17:30			18:30		20:35	13	07:00 (E8)	21:35				22:10		
22	08:32		13:54 (E13)	07:28			06:15		05:54				04:50			04:25		
	16:24	38	14:32 (E13)	17:32			18:32		20:37	8	06:58 (E8)	21:36				22:10		
23	08:30		13:54 (E13)	07:26			06:13		05:52				04:48			04:26		
	16:26	38	14:32 (E13)	17:34			18:34		20:39				21:38			22:10		
24	08:29		13:55 (E13)	07:23			06:10		05:49				04:47			04:26		
	16:28	37	14:32 (E13)	17:37			18:36		20:41				21:40			22:10		
25	08:27		13:56 (E13)	07:21			06:07		05:47				04:45			04:26		
	16:30	36	14:32 (E13)	17:39			18:38		20:43				21:42			22:10		
26	08:25		13:57 (E13)	07:18			06:05		05:44				04:44			04:27		
	16:32	35	14:32 (E13)	17:41			18:40		20:45				21:43			22:10		
27	08:24		13:58 (E13)	07:16			06:02		05:42				04:42			04:27		
	16:34	34	14:32 (E13)	17:43			18:43		20:47				21:45			22:10		
28	08:22		13:59 (E13)	07:13			05:59		05:40				04:41			04:28		
	16:36	32	14:31 (E13)	17:45			18:45		20:49				21:47			22:10		
29	08:20		14:00 (E13)				06:57		05:37				06:05 (E6)		04:39	04:28		
	16:39	30	14:30 (E13)				19:47		20:51	1	06:06 (E6)	21:48				22:10		
30	08:18		14:02 (E13)				06:54		05:35				06:02 (E6)		04:38	04:29		
	16:41	28	14:30 (E13)				19:49		20:53	4	06:06 (E6)	21:50				22:09		
31	08:17		14:02 (E13)				06:51						04:37					
	16:43	26	14:28 (E13)				19:51						21:51					
Potential sun hours	235			266			366		426				508			529		
Total, worst case	1231			51					261				170					
Sun reduction	0.13			0.20					0.50				0.57					
Oper. time red.	0.98			0.98					0.98				0.98					
Wind dir. red.	0.66			0.66					0.66				0.67					
Total reduction	0.09			0.13					0.32				0.37					
Total, real	106			7					84				63					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	06:05 (E6)	06:17	06:47 (E8)	07:17	07:23	08:24	13:32 (E13)
	22:09	21:28	10 06:15 (E6)	20:14	18 07:05 (E8)	18:54	16:36	15:45	40 14:12 (E13)
2	04:31	05:17	06:04 (E6)	06:19	06:49 (E8)	07:19	07:25	08:26	13:33 (E13)
	22:08	21:26	13 06:17 (E6)	20:11	15 07:04 (E8)	18:51	16:34	15:44	39 14:12 (E13)
3	04:32	05:19	06:03 (E6)	06:21	06:51 (E8)	07:21	07:27	08:28	13:32 (E13)
	22:08	21:24	15 06:18 (E6)	20:09	11 07:02 (E8)	18:48	16:31	15:43	41 14:15 (E14)
4	04:33	05:21	06:03 (E6)	06:23	06:53 (E8)	07:23	07:29	08:29	13:33 (E13)
	22:07	21:22	15 06:18 (E6)	20:06	6 06:59 (E8)	18:46	16:29	15:42	45 14:18 (E14)
5	04:34	05:23	06:01 (E6)	06:25		07:25	07:31	08:31	13:34 (E13)
	22:07	21:19	17 06:18 (E6)	20:03		18:43	16:27	15:42	46 14:20 (E14)
6	04:35	05:25	06:01 (E6)	06:27		07:27	07:33	08:32	13:35 (E13)
	22:06	21:17	17 06:18 (E6)	20:01		18:40	16:25	15:41	46 14:21 (E14)
7	04:36	05:27	06:01 (E6)	06:29		07:29	07:36	08:34	13:35 (E13)
	22:05	21:15	18 06:19 (E6)	19:58		18:38	16:23	15:40	47 14:22 (E14)
8	04:37	05:29	06:02 (E6)	06:31		07:32	07:38	08:35	13:36 (E13)
	22:04	21:13	17 06:19 (E6)	19:55		18:35	16:21	13:41 (E13)	15:40 47 14:23 (E14)
9	04:38	05:31	06:04 (E6)	06:33		07:34	07:40	13:37 (E13)	08:37 13:36 (E13)
	22:03	21:11	15 06:19 (E6)	19:53		18:32	16:19	19 13:56 (E13)	15:39 47 14:23 (E14)
10	04:39	05:33	06:05 (E6)	06:35		07:36	07:42	13:35 (E13)	08:38 13:37 (E13)
	22:02	21:08	12 06:17 (E6)	19:50		18:30	16:17	22 13:57 (E13)	15:39 48 14:25 (E14)
11	04:41	05:35	06:07 (E6)	06:37		07:38	07:44	13:34 (E13)	08:39 13:37 (E13)
	22:01	21:06	10 06:17 (E6)	19:47		18:27	16:15	26 14:00 (E13)	15:38 48 14:25 (E14)
12	04:42	05:37	06:09 (E6)	06:39		07:40	07:46	13:32 (E13)	08:40 13:38 (E13)
	22:00	21:04	7 06:16 (E6)	19:45		18:25	16:13	29 14:01 (E13)	15:38 48 14:26 (E14)
13	04:43	05:39	06:11 (E6)	06:41		07:42	07:49	13:32 (E13)	08:42 13:39 (E13)
	21:59	21:01	4 06:15 (E6)	19:42		18:22	16:11	30 14:02 (E13)	15:38 48 14:27 (E14)
14	04:45	05:41		06:43		07:44	07:51	13:31 (E13)	08:43 13:39 (E13)
	21:58	20:59		19:39		18:19	16:09	32 14:03 (E13)	15:38 48 14:27 (E14)
15	04:46	05:43		06:45		07:46	07:53	13:30 (E13)	08:44 13:40 (E13)
	21:57	20:57		19:37		18:17	16:08	34 14:04 (E13)	15:38 48 14:28 (E14)
16	04:48	05:45		06:47		07:48	07:55	13:30 (E13)	08:45 13:40 (E13)
	21:55	20:54		19:34		18:14	16:06	35 14:05 (E13)	15:38 48 14:28 (E14)
17	04:49	05:47		06:49		07:50	07:57	13:29 (E13)	08:45 13:41 (E13)
	21:54	20:52		19:31		18:12	16:04	36 14:05 (E13)	15:38 48 14:29 (E14)
18	04:51	05:49		06:51		07:52	07:59	13:29 (E13)	08:46 13:42 (E13)
	21:52	20:49		19:29		18:09	16:02	37 14:06 (E13)	15:38 48 14:30 (E14)
19	04:52	05:51		06:53		07:54	08:01	13:29 (E13)	08:47 13:41 (E13)
	21:51	20:47		19:26		18:07	16:01	38 14:07 (E13)	15:38 49 14:30 (E14)
20	04:54	05:53		06:55		07:57	08:03	13:29 (E13)	08:48 13:42 (E13)
	21:49	20:45		19:23		18:04	15:59	38 14:07 (E13)	15:39 48 14:30 (E14)
21	04:56	05:55	06:54 (E8)	06:57		07:59	08:05	13:28 (E13)	08:48 13:43 (E13)
	21:48	20:42	9 07:03 (E8)	19:20		18:02	15:58	39 14:07 (E13)	15:39 48 14:31 (E14)
22	04:57	05:57	06:51 (E8)	06:59		08:01	08:07	13:29 (E13)	08:49 13:43 (E13)
	21:46	20:40	14 07:05 (E8)	19:18		17:59	15:56	40 14:09 (E13)	15:39 48 14:31 (E14)
23	04:59	05:59	06:50 (E8)	07:01		08:03	08:09	13:29 (E13)	08:49 13:44 (E13)
	21:45	20:37	16 07:06 (E8)	19:15		17:57	15:55	40 14:09 (E13)	15:40 48 14:32 (E14)
24	05:01	06:01	06:49 (E8)	07:03		08:05	08:11	13:29 (E13)	08:50 13:44 (E13)
	21:43	20:35	18 07:07 (E8)	19:12		17:55	15:53	40 14:09 (E13)	15:40 48 14:32 (E14)
25	05:03	06:03	06:48 (E8)	07:05		07:07	08:13	13:29 (E13)	08:50 13:44 (E13)
	21:41	20:32	20 07:08 (E8)	19:10		16:52	15:52	40 14:09 (E13)	15:41 49 14:33 (E14)
26	05:04	06:05	06:46 (E8)	07:07		07:09	08:15	13:29 (E13)	08:51 13:45 (E13)
	21:39	20:29	21 07:07 (E8)	19:07		16:50	15:51	40 14:09 (E13)	15:42 48 14:33 (E14)
27	05:06	06:07	06:46 (E8)	07:09		07:12	08:17	13:30 (E13)	08:51 13:45 (E13)
	21:37	20:27	21 07:07 (E8)	19:04		16:47	15:49	41 14:11 (E13)	15:43 48 14:33 (E14)
28	05:08	06:09	06:45 (E8)	07:11		07:14	08:19	13:31 (E13)	08:51 13:45 (E13)
	21:36	20:24	22 07:07 (E8)	19:02		16:45	15:48	40 14:11 (E13)	15:44 49 14:34 (E14)
29	05:10	06:11	06:45 (E8)	07:13		07:16	08:21	13:31 (E13)	08:51 13:46 (E13)
	21:34	20:22	22 07:07 (E8)	18:59		16:43	15:47	40 14:11 (E13)	15:45 48 14:34 (E14)
30	05:12	06:13	06:45 (E8)	07:15		07:18	08:22	13:31 (E13)	08:51 13:46 (E13)
	21:32	20:19	22 07:07 (E8)	18:56		16:40	15:46	40 14:11 (E13)	15:46 49 14:35 (E14)
31	05:14	06:15	06:46 (E8)			07:20		08:51	13:47 (E13)
	21:30	7 06:07 (E6)	20:17	20 07:06 (E8)		16:38		15:47	48 14:35 (E14)
Potential sun hours	529	7 06:14 (E6)	469			324	247	216	
Total, worst case		7	375		50		788		1458
Sun reduction	0.49		0.50		0.43		0.08		0.07
Oper. time red.	0.98		0.98		0.98		0.98		0.98
Wind dir. red.	0.67		0.66		0.66		0.66		0.66
Total reduction	0.32		0.32		0.27		0.05		0.05
Total, real	2		121		14		42		66

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:

25/06/2024 23:53/4.0.540

## 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
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
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
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
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
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
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 21:19	06:29 19:58	07:30 18:38	07:36 16:23
8	08:48 15:58	08:01 17:01	08:30 (E13) 4 08:34 (E13)	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
9	08:47 16:00	07:58 17:03	08:27 (E13) 7 08:34 (E13)	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
10	08:46 16:01	07:56 17:05	08:25 (E13) 10 08:35 (E13)	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
11	08:45 16:03	07:54 17:08	08:23 (E13) 13 08:36 (E13)	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
12	08:44 16:05	07:52 17:10	08:20 (E13) 15 08:35 (E13)	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
13	08:43 16:06	07:50 17:12	08:20 (E13) 16 08:36 (E13)	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
14	08:42 16:08	07:47 17:14	08:20 (E13) 15 08:35 (E13)	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
15	08:41 16:10	07:45 17:17	08:21 (E13) 13 08:34 (E13)	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
16	08:40 16:12	07:43 17:19	08:23 (E13) 11 08:34 (E13)	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
17	08:39 16:14	07:40 17:21	08:24 (E13) 7 08:31 (E13)	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
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
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
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
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
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
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
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
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
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	07:10 16:50	08:15 15:51
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
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	07:14 16:45	08:19 15:48
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
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
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	06:15 20:17	07:21 16:38	07:53 (E13) 12 08:05 (E13)	08:25 15:47
Potential sun hours	235	266		366	426	508	529	529	469	385	324	247
Total, worst case			111								91	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								14	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:

25/06/2024 23:53/4.0.540

## 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 (E14) 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 (E14) 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 (E14) 17:52	07:06 19:57	05:28 21:00	04:34 21:55
4	08:50 15:52	08:09 16:52	08:39 (E14) 17:54	07:03 19:59	05:26 21:02	04:33 21:57
5	08:49 15:53	08:07 16:54	08:37 (E14) 17:56	07:01 20:01	05:24 21:04	04:32 21:58
6	08:49 15:55	08:05 16:57	08:36 (E14) 17:58	06:58 20:04	05:21 21:06	04:31 21:59
7	08:48 15:56	08:03 16:59	08:37 (E14) 18:01	06:55 20:06	05:19 21:08	04:30 22:00
8	08:48 15:58	08:01 17:01	08:37 (E14) 18:03	06:53 20:08	05:17 21:10	04:29 22:01
9	08:47 16:00	07:58 17:03	08:37 (E14) 18:05	06:50 20:10	05:15 21:12	04:29 22:02
10	08:46 16:01	07:56 17:05	08:38 (E14) 18:07	06:48 20:12	05:13 21:14	04:28 22:03
11	08:45 16:03	07:54 17:08	08:40 (E14) 18:09	06:45 20:14	05:11 21:16	04:27 22:04
12	08:44 16:05	07:52 17:10	08:41 (E14) 18:11	06:42 20:16	05:09 21:18	04:27 22:05
13	08:43 16:06	07:50 17:12	08:50 (E14) 18:13	06:40 20:18	05:07 21:20	04:26 22:06
14	08:42 16:08	07:47 17:14	06:37 18:16	11 07:16 (E13) 20:20	06:15 21:22	05:05 22:07
15	08:41 16:10	07:45 17:17	06:34 18:18	14 07:16 (E13) 20:22	06:12 21:24	05:03 22:07
16	08:40 16:12	07:43 17:19	06:32 18:20	15 07:00 (E13) 20:24	06:09 21:26	05:01 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	14 07:00 (E13) 20:26	06:07 21:27	04:59 22:09
18	08:38 16:16	07:38 17:23	06:26 18:24	12 07:01 (E13) 20:28	06:04 21:29	04:57 22:09
19	08:36 16:18	07:36 17:26	06:24 18:26	12 07:13 (E13) 20:31	06:02 21:31	04:55 22:09
20	08:35 16:20	07:33 17:28	06:21 18:28	8 07:11 (E13) 20:33	05:59 21:33	04:53 22:10
21	08:33 16:22	07:31 17:30	06:18 18:30	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 22:10
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		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 (E14) 08:51 (E14)	06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case	3	173	103			
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	21	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E13) 16:36	08:08 (E14) 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:48 (E13) 16:34	08:07 (E14) 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:50 (E13) 16:32	08:07 (E14) 15:43
4	04:33 22:07	05:22 21:22	06:23 20:06	07:23 18:46	07:52 (E13) 16:30	08:06 (E14) 15:42
5	04:34 22:07	05:23 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:23 (E14) 15:42
6	04:35 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:25 (E14) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:25 (E14) 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:24 (E14) 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:25 (E14) 15:39
10	04:39 22:02	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:24 (E14) 15:39
11	04:41 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:23 (E14) 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:22 (E14) 15:38
13	04:44 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:22 (E14) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:22 (E14) 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 (E14) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:15	07:55 16:06	08:22 (E14) 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 (E14) 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:22 (E14) 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:22 (E14) 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04	08:03 15:59	08:22 (E14) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:22 (E14) 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:22 (E14) 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:22 (E14) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53	08:22 (E14) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 17:52	08:13 15:52	08:22 (E14) 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 17:50	08:15 15:51	08:22 (E14) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 17:48	08:17 15:50	08:22 (E14) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:13 17:46	08:19 15:48	08:22 (E14) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:15 17:43	08:21 15:47	08:22 (E14) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:17 17:41	08:23 15:46	08:22 (E14) 15:46
31	05:14 21:30	06:15 20:17		08:19 17:38	08:25 15:44	08:22 (E14) 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			89	40	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			24	6	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 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 15:43
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	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	04:29 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	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 16:13	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	07:41 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	7:52 17:25 (E1)	08:43 16:07
16	08:40 16:11	07:42 17:18	16:45 (E1) 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	8 17:27 (E1)	08:44 16:05
17	08:38 16:13	07:40 17:20	16:43 (E1) 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	13 17:28 (E1)	08:45 16:03
18	08:37 16:15	07:37 17:23	16:42 (E1) 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	14 17:29 (E1)	08:46 16:02
19	08:36 16:17	07:35 17:25	16:41 (E1) 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	17 17:29 (E1)	08:47 16:00
20	08:34 16:19	07:33 17:27	16:41 (E1) 18:28	06:20 20:32	05:59 21:33	04:24 22:09	04:53 21:49	05:53 20:44	06:55 19:23	07:56 18:04	18 17:29 (E1)	08:48 15:59
21	08:33 16:21	07:30 17:29	16:40 (E1) 18:30	06:18 20:34	05:56 21:34	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:58 18:01	18 17:29 (E1)	08:48 15:57
22	08:32 16:23	07:28 17:32	16:40 (E1) 18:32	06:15 20:36	05:54 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	15 17:26 (E1)	08:49 15:56
23	08:30 16:25	07:25 17:34	16:40 (E1) 18:34	06:12 20:38	05:51 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:56	12 17:23 (E1)	08:49 15:54
24	08:28 16:27	07:23 17:36	16:41 (E1) 18:36	06:10 20:40	05:49 21:40	04:25 22:10	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	10 17:22 (E1)	08:50 15:53
25	08:27 16:29	07:20 17:38	16:42 (E1) 18:38	06:07 20:43	05:46 21:41	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	08:07 16:52	6 16:19 (E1)	08:50 15:51
26	08:25 16:32	07:18 17:40	16:43 (E1) 18:40	06:04 20:45	05:44 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	08:09 16:49	1 16:16 (E1)	08:50 15:50
27	08:23 16:34	07:15 17:43	16:47 (E1) 18:42	06:02 20:47	05:41 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	08:11 16:47		08:50 15:42
28	08:22 16:36	07:13 17:45	16:51 (E1) 18:44	06:00 20:49	05:39 21:46	04:27 22:10	05:08 21:35	06:09 20:24	07:11 19:01	08:13 16:45		08:51 15:43
29	08:20 16:38		18:44 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		08:51 15:44
30	08:18 16:40		19:46 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		08:51 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		147							150			
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							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:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	06:49	05:33	06:01 (E13) 04:36
	15:48	16:45	17:48	19:53	20:55	22 06:23 (E13) 21:53
2	08:50	08:13	07:08	07:34 (E15) 06:46	05:30	06:01 (E13) 04:35
	15:50	16:48	17:50	4 07:38 (E15) 19:55	20:58	22 06:23 (E13) 21:54
3	08:50	08:11	07:06	07:32 (E15) 06:43	05:28	06:01 (E13) 04:34
	15:51	16:50	17:52	8 07:40 (E15) 19:57	21:00	22 06:23 (E13) 21:55
4	08:50	08:09	07:03	07:29 (E15) 06:41	05:26	06:01 (E13) 04:33
	15:52	16:52	17:54	11 07:40 (E15) 19:59	21:02	22 06:23 (E13) 21:57
5	08:49	08:07	07:01	07:26 (E15) 06:38	05:24	06:02 (E13) 04:32
	15:54	16:54	17:56	15 07:41 (E15) 20:01	21:04	20 06:22 (E13) 21:58
6	08:49	08:05	06:58	07:24 (E15) 06:36	05:21	06:02 (E13) 04:31
	15:55	16:57	17:58	17 07:41 (E15) 20:03	21:06	20 06:22 (E13) 21:59
7	08:48	08:03	06:55	07:21 (E15) 06:33	05:19	06:03 (E13) 04:30
	15:56	16:59	18:01	20 07:41 (E15) 20:06	21:08	18 06:21 (E13) 22:00
8	08:48	08:01	06:53	07:21 (E15) 06:30	05:17	06:04 (E13) 04:29
	15:58	17:01	18:03	19 07:40 (E15) 20:08	21:10	16 06:20 (E13) 22:01
9	08:47	07:58	06:50	07:21 (E14) 06:28	05:15	06:05 (E13) 04:29
	16:00	17:03	18:05	19 07:40 (E15) 20:10	21:12	13 06:18 (E13) 22:02
10	08:46	07:56	06:48	07:15 (E14) 06:25	05:13	06:07 (E13) 04:28
	16:01	17:05	18:07	24 07:39 (E15) 20:12	21:14	9 06:16 (E13) 22:03
11	08:45	07:54	06:45	07:12 (E14) 06:22	05:11	06:10 (E13) 04:27
	16:03	17:08	18:09	25 07:37 (E15) 20:14	21:16	2 06:12 (E13) 22:04
12	08:44	07:52	06:42	07:10 (E14) 06:20	05:09	04:27
	16:05	17:10	18:11	26 07:36 (E15) 20:16	21:18	22:05
13	08:43	07:50	06:40	07:08 (E14) 06:17	05:07	04:27
	16:06	17:12	18:13	27 07:35 (E14) 20:18	21:20	22:06
14	08:42	07:47	06:37	07:07 (E14) 06:15	05:05	04:26
	16:08	17:14	18:15	28 07:35 (E14) 20:20	21:22	22:07
15	08:41	07:45	06:34	07:06 (E14) 06:12	05:03	04:26
	16:10	17:17	18:18	30 07:36 (E14) 20:22	21:24	22:07
16	08:40	07:43	06:32	07:05 (E14) 06:09	05:01	04:26
	16:12	17:19	18:20	31 07:36 (E14) 20:24	21:25	22:08
17	08:39	07:40	06:29	07:04 (E14) 06:07	04:59	04:25
	16:14	17:21	18:22	32 07:36 (E14) 20:26	21:27	22:08
18	08:37	07:38	06:26	07:03 (E14) 06:04	04:57	04:25
	16:16	17:23	18:24	33 07:36 (E14) 20:28	21:29	22:09
19	08:36	07:36	06:24	07:03 (E14) 06:02	04:55	04:25
	16:18	17:26	18:26	33 07:36 (E14) 20:31	21:31	22:09
20	08:35	07:33	06:21	07:03 (E14) 05:59	04:53	04:25
	16:20	17:28	18:28	33 07:36 (E14) 20:33	21:33	22:10
21	08:33	07:31	06:18	07:02 (E14) 05:57	04:52	04:25
	16:22	17:30	18:30	33 07:35 (E14) 20:35	21:35	22:10
22	08:32	07:28	06:16	07:03 (E14) 05:54	04:50	04:26
	16:24	17:32	18:32	32 07:35 (E14) 20:37	21:37	22:10
23	08:30	07:26	06:13	07:03 (E14) 05:52	04:48	04:26
	16:26	17:34	18:34	31 07:34 (E14) 20:39	21:38	22:10
24	08:29	07:23	06:10	07:03 (E14) 05:49	06:16 (E13) 04:47	04:26
	16:28	17:37	18:36	30 07:33 (E14) 20:41	2 06:18 (E13) 21:40	22:10
25	08:27	07:21	06:08	07:04 (E14) 05:47	06:14 (E13) 04:45	04:27
	16:30	17:39	18:39	28 07:32 (E14) 20:43	7 06:21 (E13) 21:42	22:10
26	08:26	07:18	06:05	07:05 (E14) 05:44	06:11 (E13) 04:44	04:27
	16:32	17:41	18:41	25 07:30 (E14) 20:45	10 06:21 (E13) 21:43	22:10
27	08:24	07:16	06:02	07:05 (E14) 05:42	06:09 (E13) 04:42	04:27
	16:34	17:43	18:43	23 07:28 (E14) 20:47	13 06:22 (E13) 21:45	22:10
28	08:22	07:13	06:00	07:08 (E14) 05:40	06:07 (E13) 04:41	04:28
	16:37	17:45	18:45	18 07:26 (E14) 20:49	16 06:23 (E13) 21:47	22:10
29	08:20		06:57	08:10 (E14) 05:37	06:05 (E13) 04:40	04:29
	16:39		19:47	13 08:23 (E14) 20:51	18 06:23 (E13) 21:48	22:10
30	08:18		06:54		06:03 (E13) 04:38	04:29
	16:41		19:49		21 06:24 (E13) 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	528
Total, worst case			668	87	186	
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			168	28	68	

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	06:17	07:17	07:49 (E14)	07:23
	22:09	21:28	20:14	18:54	25	08:14 (E15)
2	04:31	05:18	06:19 (E13)	07:19	07:50 (E14)	07:25
	22:08	21:26	6	18:51	25	08:15 (E15)
3	04:32	05:20	06:16 (E13)	07:21	07:52 (E14)	07:27
	22:08	21:24	11	18:48	24	08:16 (E15)
4	04:33	05:22	06:15 (E13)	07:23	07:55 (E14)	07:29
	22:07	21:22	14	18:46	22	08:17 (E15)
5	04:34	05:24	06:14 (E13)	07:25	07:58 (E15)	07:31
	22:07	21:20	16	18:43	19	08:17 (E15)
6	04:35	05:25	06:12 (E13)	07:28	07:58 (E15)	07:33
	22:06	21:17	18	18:40	19	08:17 (E15)
7	04:36	05:27	06:12 (E13)	07:30	07:58 (E15)	07:36
	22:05	21:15	19	18:38	19	08:17 (E15)
8	04:37	05:29	06:11 (E13)	07:32	08:00 (E15)	07:38
	22:04	21:13	21	18:35	16	08:16 (E15)
9	04:38	05:31	06:11 (E13)	07:34	08:03 (E15)	07:40
	22:03	21:11	21	18:33	13	08:16 (E15)
10	04:40	05:33	06:11 (E13)	07:36	08:05 (E15)	07:42
	22:02	21:08	21	18:30	10	08:15 (E15)
11	04:41	05:35	06:11 (E13)	07:38	08:07 (E15)	07:44
	22:01	21:06	22	18:27	6	08:13 (E15)
12	04:42	05:37	06:10 (E13)	07:40	08:09 (E15)	07:46
	22:00	21:04	21	18:25	2	08:11 (E15)
13	04:44	05:39	06:11 (E13)	07:42		07:49
	21:59	21:02	20	18:22		16:11
14	04:45	05:41	06:13 (E13)	08:01 (E14)	07:44	15:38
	21:58	20:59	18	08:13 (E14)	18:20	16:10
15	04:46	05:43	06:15 (E13)	07:57 (E14)	07:46	15:38
	21:57	20:57	15	08:15 (E14)	18:17	16:08
16	04:48	05:45	06:17 (E13)	07:55 (E14)	07:48	15:38
	21:55	20:54	12	08:17 (E14)	18:15	16:06
17	04:49	05:47	06:19 (E13)	07:53 (E14)	07:50	15:38
	21:54	20:52	9	08:18 (E14)	18:12	16:04
18	04:51	05:49	06:21 (E13)	07:52 (E14)	07:52	15:38
	21:52	20:50	6	08:19 (E14)	18:09	16:03
19	04:53	05:51	06:22 (E13)	07:51 (E14)	07:55	15:38
	21:51	20:47	1	08:20 (E14)	18:07	16:01
20	04:54	05:53	06:55	07:50 (E14)	07:57	15:38
	21:49	20:45	19:23	08:20 (E14)	18:04	15:59
21	04:56	05:55	06:57	07:49 (E14)	07:59	15:39
	21:48	20:42	19:21	08:21 (E14)	18:02	15:58
22	04:58	05:57	06:59	07:48 (E14)	08:01	15:49
	21:46	20:40	19:18	08:21 (E14)	18:00	15:56
23	04:59	05:59	07:01	07:48 (E14)	08:03	15:50
	21:45	20:37	19:15	08:21 (E14)	17:57	15:55
24	05:01	06:01	07:03	07:47 (E14)	08:05	15:50
	21:43	20:35	19:12	08:20 (E14)	17:55	15:53
25	05:03	06:03	07:05	07:47 (E14)	07:07	15:50
	21:41	20:32	19:10	08:20 (E14)	16:52	15:52
26	05:05	06:05	07:07	07:47 (E14)	07:10	15:51
	21:39	20:30	19:07	08:19 (E14)	16:50	15:51
27	05:06	06:07	07:09	07:47 (E14)	07:12	15:51
	21:38	20:27	19:04	08:18 (E14)	16:48	15:50
28	05:08	06:09	07:11	07:47 (E14)	07:14	15:51
	21:36	20:24	19:02	08:17 (E14)	16:45	15:48
29	05:10	06:11	07:13	07:47 (E14)	07:16	15:51
	21:34	20:22	18:59	08:16 (E14)	16:43	15:47
30	05:12	06:13	07:15	07:48 (E14)	07:18	15:51
	21:32	20:19	18:56	08:15 (E14)	16:41	15:46
31	05:14	06:15			07:20	15:51
	21:30	20:17			16:38	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		271	476	200		
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		87	125	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:

25/06/2024 23:53/4.0.540

## 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		09:30 (E14)	08:15			07:11		07:57 (E13)	06:49		05:33		04:36				
	15:48	4	09:34 (E14)	16:45			17:48		08:02 (E13)	19:53		20:56		21:53				
2	08:51		09:30 (E14)	08:13			07:08			06:46		05:30		04:35				
	15:49	5	09:35 (E14)	16:48			17:50			19:55		20:58		21:54				
3	08:50		09:29 (E14)	08:11			07:06			06:44		05:28		04:34				
	15:51	7	09:36 (E14)	16:50			17:52			19:57		21:00		21:55				
4	08:50		09:28 (E14)	08:09			07:03			06:41		05:26		04:33				
	15:52	8	09:36 (E14)	16:52			17:54			19:59		21:02		21:57				
5	08:49		09:28 (E14)	08:07			07:01			06:38		05:23		04:32				
	15:53	9	09:37 (E14)	16:54			17:56			20:01		21:04		21:58				
6	08:49		09:27 (E14)	08:05			06:58			06:36		05:21		04:31				
	15:55	11	09:38 (E14)	16:56			17:58			20:03		21:06		21:59				
7	08:48		09:26 (E14)	08:03			06:55			06:33		05:19		04:30				
	15:56	12	09:38 (E14)	16:59			18:01			20:06		21:08		22:00				
8	08:48		09:25 (E14)	08:01			06:53			06:30		05:17		04:29				
	15:58	14	09:39 (E14)	17:01			18:03			20:08		21:10		22:01				
9	08:47		09:24 (E14)	07:58			06:50			06:28		05:15		04:29				
	16:00	16	09:40 (E14)	17:03			18:05			20:10		21:12		22:02				
10	08:46		09:23 (E14)	07:56			06:48			06:25		05:13		04:28				
	16:01	17	09:40 (E14)	17:05			18:07			20:12		21:14		22:03				
11	08:45		09:23 (E14)	07:54			06:45			06:22		05:11		04:27				
	16:03	18	09:41 (E14)	17:08			18:09			20:14		21:16		22:04				
12	08:44		09:24 (E14)	07:52			06:42			06:20		05:09		04:27				
	16:05	17	09:41 (E14)	17:10			18:11			20:16		21:18		22:05				
13	08:43		09:23 (E14)	07:50			06:40			06:17		05:07		04:26				
	16:06	18	09:41 (E14)	17:12			18:13			20:18		21:20		22:06				
14	08:42		09:24 (E14)	07:47			06:37			06:15		05:05		04:26				
	16:08	18	09:42 (E14)	17:14			18:15			20:20		21:22		22:07				
15	08:41		09:25 (E14)	07:45			06:34			06:12		05:03		04:26				
	16:10	17	09:42 (E14)	17:17			18:18			20:22		21:24		22:07				
16	08:40		09:25 (E14)	07:43			06:32			06:09		05:01		04:26				
	16:12	17	09:42 (E14)	17:19			18:20			20:24		21:26		22:08				
17	08:39		09:26 (E14)	07:40			06:29			06:07		04:59		04:25				
	16:14	16	09:42 (E14)	17:21			18:22			20:26		21:27		22:09				
18	08:38		09:27 (E14)	07:38			06:26			06:04		04:57		04:25				
	16:16	15	09:42 (E14)	17:23			18:24			20:28		21:29		22:09				
19	08:36		09:27 (E14)	07:36		08:03 (E13)	06:24			06:02		04:55		04:25				
	16:18	14	09:41 (E14)	17:26	3	08:06 (E13)	18:26			20:31		21:31		22:09				
20	08:35		09:29 (E14)	07:33		08:00 (E13)	06:21			05:59		04:53		04:25				
	16:20	12	09:41 (E14)	17:28	7	08:07 (E13)	18:28			20:33		21:33		22:10				
21	08:33		09:31 (E14)	07:31		07:58 (E13)	06:18			05:57		04:52		04:25				
	16:22	9	09:40 (E14)	17:30	11	08:09 (E13)	18:30			20:35		21:35		22:10				
22	08:32		09:33 (E14)	07:28		07:55 (E13)	06:16			05:54		04:50		04:26				
	16:24	4	09:37 (E14)	17:32	14	08:09 (E13)	18:32			20:37		21:37		22:10				
23	08:30			07:26		07:53 (E13)	06:13			05:52		04:48		04:26				
	16:26			17:34	16	08:09 (E13)	18:34			20:39		21:38		22:10				
24	08:29			07:23		07:51 (E13)	06:10			05:49		04:47		04:26				
	16:28			17:37	18	08:09 (E13)	18:36			20:41		21:40		22:11				
25	08:27			07:21		07:52 (E13)	06:08			05:47		04:45		04:26				
	16:30			17:39	17	08:09 (E13)	18:39			20:43		21:42		22:11				
26	08:26			07:18		07:52 (E13)	06:05			05:44		04:44		04:27				
	16:32			17:41	16	08:08 (E13)	18:41			20:45		21:43		22:10				
27	08:24			07:16		07:53 (E13)	06:02			05:42		04:42		04:27				
	16:34			17:43	14	08:07 (E13)	18:43			20:47		21:45		22:10				
28	08:22			07:13		07:54 (E13)	06:00			05:40		04:41		04:28				
	16:37			17:45	12	08:06 (E13)	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		278			128			5										
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		22			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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 18
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 17
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 16
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 14
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 13
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 11
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 10
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 8
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 7
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 5
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 4
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 3
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22 9	07:49 08:28 (E13) 16:11	08:42 15:38 2
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20 12	07:51 08:39 (E13) 16:09	08:43 15:38 1
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17 15	07:53 08:40 (E13) 16:08	08:44 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14 16	07:55 08:40 (E13) 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12 17	07:57 08:40 (E13) 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09 17	07:59 08:40 (E13) 16:02	08:46 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07 15	08:01 08:40 (E13) 16:01	08:47 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04 13	08:03 08:27 (E13) 15:59	08:48 09:08 (E14) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02 10	08:05 08:29 (E13) 15:58	08:49 09:07 (E14) 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00 6	08:07 08:38 (E13) 15:56	08:49 09:05 (E14) 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57 2	08:09 08:34 (E13) 15:55	08:50 09:04 (E14) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55 15	08:11 08:11 15:53	08:50 09:04 (E14) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52 16	08:13 08:13 15:52	08:50 09:03 (E14) 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50 17	08:15 15:51 17	08:51 09:04 (E14) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48 17	08:17 15:49 17	08:51 09:04 (E14) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45 18	08:19 15:48 18	08:51 09:04 (E14) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43 18	08:21 15:47 18	08:51 09:04 (E14) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41 17	08:23 15:46 17	08:51 09:05 (E14) 15:46
31	05:14 21:30	06:15 20:17	07:20 16:38	08:20 16:38	15:47	08:51 09:31 (E14) 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case				132	157	135
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				21	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:04 (E14) 15:45
2	08:51 15:50	08:13 16:48	08:43 (E14) 17:50	07:08 19:55	06:46 20:58	05:30 21:54	04:35 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:25 16:34	08:03 (E14) 15:44
3	08:50 15:51	08:11 16:50	08:41 (E14) 17:52	07:06 19:57	06:44 21:00	05:28 21:55	04:34 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:27 16:32	08:03 (E14) 15:43
4	08:50 15:52	08:09 16:52	08:39 (E14) 17:54	07:03 19:59	06:41 21:02	05:26 21:57	04:33 22:07	05:22 21:22	06:23 20:06	07:24 18:46	07:29 16:30	08:02 (E14) 15:43
5	08:49 15:54	08:07 16:54	08:37 (E14) 17:56	07:01 19:59	06:38 21:04	05:24 21:58	04:32 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:31 16:27	08:05 (E14) 15:42
6	08:49 15:55	08:05 16:57	08:34 (E14) 17:58	06:58 20:04	06:36 21:06	05:21 21:59	04:31 22:06	05:25 21:17	06:27 20:01	07:28 18:40	07:34 16:25	08:07 (E14) 15:41
7	08:48 15:56	08:03 16:59	08:33 (E14) 18:01	06:55 20:06	06:33 21:08	05:19 22:00	04:30 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:09 (E14) 15:40
8	08:48 15:58	08:01 17:01	08:33 (E14) 18:03	06:53 20:08	06:30 21:10	05:17 22:01	04:29 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:12 (E14) 15:40
9	08:47 16:00	07:58 17:03	08:33 (E14) 18:05	06:50 20:10	06:28 21:12	05:15 22:02	04:28 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:14 (E14) 15:39
10	08:46 16:01	07:56 17:06	08:48 (E14) 18:07	06:48 20:12	06:25 21:14	05:13 22:03	04:28 22:03	05:33 21:09	06:35 19:50	07:36 18:30	07:42 16:17	08:16 (E14) 15:39
11	08:45 16:03	07:54 17:08	08:36 (E14) 18:09	06:45 20:14	06:22 21:16	05:11 22:04	04:27 22:01	05:35 21:06	06:37 19:48	07:38 18:27	07:44 16:15	08:17 (E14) 15:39
12	08:44 16:05	07:52 17:10	08:38 (E14) 18:11	06:42 20:16	06:20 21:18	05:09 22:05	04:27 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:47 16:13	08:18 (E14) 15:38
13	08:43 16:06	07:50 17:12	08:44 (E14) 18:13	06:40 20:18	06:17 21:20	05:07 22:06	04:27 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:19 (E14) 15:38
14	08:42 16:08	07:47 17:14	08:47 (E14) 18:16	06:37 20:20	06:15 21:22	05:05 22:07	04:26 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:10	08:20 (E14) 15:38
15	08:41 16:10	07:45 17:17	08:47 (E14) 18:18	06:34 20:22	06:12 21:24	05:03 22:07	04:26 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:21 (E14) 15:38
16	08:40 16:12	07:43 17:19	08:48 (E14) 18:20	06:32 20:24	06:09 21:26	05:01 22:08	04:26 21:55	05:45 20:55	06:47 19:34	07:48 18:15	07:55 16:06	08:22 (E14) 15:38
17	08:39 16:14	07:40 17:21	08:49 (E14) 18:22	06:29 20:26	06:07 21:27	04:59 22:09	04:25 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:23 (E14) 15:38
18	08:38 16:16	07:38 17:23	08:50 (E14) 18:24	06:26 20:29	06:04 21:29	04:57 22:09	04:25 21:53	05:49 20:50	06:51 19:29	07:53 18:09	07:59 16:03	08:24 (E14) 15:38
19	08:36 16:18	07:36 17:26	08:51 (E14) 18:26	06:24 20:31	06:02 21:31	04:55 22:09	04:25 21:51	05:51 20:47	06:53 19:26	07:55 18:07	08:01 16:01	08:25 (E14) 15:38
20	08:35 16:20	07:33 17:28	08:52 (E14) 18:28	06:21 20:33	05:59 21:33	04:53 22:10	04:25 21:50	05:53 20:45	06:55 19:23	07:57 18:05	08:03 15:59	08:26 (E14) 15:39
21	08:33 16:22	07:31 17:30	08:53 (E14) 18:30	06:18 20:35	05:57 21:35	04:52 22:10	04:25 21:48	05:55 20:42	06:57 19:21	07:59 18:02	08:05 15:58	08:27 (E14) 15:39
22	08:32 16:24	07:28 17:32	08:54 (E14) 18:32	06:16 20:37	05:54 21:37	04:50 22:10	04:26 21:46	05:57 20:40	06:59 19:18	08:01 18:00	08:07 15:56	08:28 (E14) 15:40
23	08:30 16:26	07:26 17:35	08:55 (E14) 18:34	06:13 20:39	05:52 21:38	04:48 22:10	04:26 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:29 (E14) 15:40
24	08:29 16:28	07:23 17:37	08:56 (E14) 18:36	06:10 20:41	05:49 21:40	04:47 22:11	04:26 21:43	06:01 20:35	07:03 19:13	08:05 17:55	08:11 15:53	08:30 (E14) 15:41
25	08:27 16:30	07:21 17:39	08:57 (E14) 18:39	06:08 20:43	05:47 21:42	04:45 22:11	04:27 21:41	06:03 20:32	07:05 19:10	08:08 16:52	08:13 15:52	08:31 (E14) 15:41
26	08:26 16:32	07:18 17:41	08:58 (E14) 18:41	06:05 20:45	05:44 21:43	04:44 22:10	04:27 21:39	06:05 20:30	07:07 19:07	08:10 16:50	08:15 15:51	08:32 (E14) 15:42
27	08:24 16:34	07:16 17:43	08:59 (E14) 18:43	06:02 20:47	05:42 21:45	04:42 22:10	04:27 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17 15:50	08:33 (E14) 15:43
28	08:22 16:37	07:13 17:45	09:00 (E14) 18:45	06:00 20:49	05:40 21:47	04:41 22:10	04:28 21:36	06:09 20:25	07:11 19:02	08:14 16:45	08:19 15:48	08:34 (E14) 15:44
29	08:20 16:39	07:11 17:48	09:01 (E14) 18:47	05:57 20:51	05:37 21:48	04:40 22:10	04:29 21:34	06:11 20:22	07:13 18:59	08:15 16:43	08:21 15:47	08:35 (E14) 15:45
30	08:19 16:41	07:03 17:51	09:02 (E14) 18:48	05:54 20:53	05:35 21:50	04:38 22:10	04:29 21:32	06:13 20:19	07:15 18:56	08:16 16:41	08:23 15:46	08:36 (E14) 15:46
31	08:17 16:43	07:00 17:58	09:03 (E14) 18:49	05:52 20:54	05:37 21:51	04:37 22:10	04:30 21:30	06:15 20:17	07:21 18:38	08:17 16:38	08:25 15:47	08:37 (E14) 15:47
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Total, worst case		121								19	100	
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		15								3	5	

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:

25/06/2024 23:53/4.0.540

## 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	07:34 (E15)	06:46	05:30
	15:50	16:48	17:50	3 07:37 (E15)	19:55	20:58
3	08:50	08:11	07:06	07:32 (E15)	06:44	05:28
	15:51	16:50	17:52	7 07:39 (E15)	19:57	21:00
4	08:50	08:09	07:03	07:29 (E15)	06:41	05:26
	15:52	16:52	17:54	10 07:39 (E15)	19:59	21:02
5	08:49	08:07	07:01	07:26 (E15)	06:38	05:24
	15:54	16:54	17:56	12 07:38 (E15)	20:01	21:04
6	08:49	08:05	06:58	07:24 (E15)	06:36	05:21
	15:55	16:57	17:58	15 07:39 (E15)	20:03	21:06
7	08:48	08:03	06:55	07:21 (E14)	06:33	05:19
	15:56	16:59	18:01	17 07:38 (E15)	20:06	21:08
8	08:48	08:01	06:53	07:18 (E14)	06:30	05:17
	15:58	17:01	18:03	19 07:37 (E15)	20:08	21:10
9	08:47	07:58	06:50	07:16 (E14)	06:28	05:15
	16:00	17:03	18:05	20 07:36 (E15)	20:10	21:12
10	08:46	07:56	06:48	07:13 (E14)	06:25	05:13
	16:01	17:06	18:07	20 07:33 (E14)	20:12	21:14
11	08:45	07:54	06:45	07:10 (E14)	06:22	05:11
	16:03	17:08	18:09	24 07:34 (E14)	20:14	21:16
12	08:44	07:52	06:42	07:09 (E14)	06:20	05:09
	16:05	17:10	18:11	26 07:35 (E14)	20:16	21:18
13	08:43	07:50	06:40	07:09 (E14)	06:17	05:07
	16:06	17:12	18:13	25 07:34 (E14)	20:18	21:20
14	08:42	07:47	06:37	07:08 (E14)	06:15	05:05
	16:08	17:14	18:16	26 07:34 (E14)	20:20	21:22
15	08:41	07:45	06:34	07:08 (E14)	06:12	05:03
	16:10	17:17	18:18	26 07:34 (E14)	20:22	21:24
16	08:40	07:43	06:32	07:08 (E14)	06:09	05:01
	16:12	17:19	18:20	25 07:33 (E14)	20:24	21:26
17	08:39	07:40	06:29	07:08 (E14)	06:07	05:00
	16:14	17:21	18:22	24 07:32 (E14)	20:26	21:27
18	08:38	07:38	06:26	07:08 (E14)	06:04	05:00
	16:16	17:23	18:24	23 07:31 (E14)	20:28	21:29
19	08:36	07:36	06:24	07:09 (E14)	06:02	05:00
	16:18	17:26	18:26	21 07:30 (E14)	20:31	21:31
20	08:35	07:33	06:21	07:10 (E14)	05:59	05:00
	16:20	17:28	18:28	19 07:29 (E14)	20:33	21:33
21	08:33	07:31	06:18	07:11 (E14)	05:57	05:00
	16:22	17:30	18:30	15 07:26 (E14)	20:35	21:35
22	08:32	07:28	06:16	07:14 (E14)	05:54	05:00
	16:24	17:32	18:32	9 07:23 (E14)	20:37	21:37
23	08:30	07:26	06:13		05:52	05:00
	16:26	17:34	18:34		20:39	21:38
24	08:29	07:23	06:10		05:49	05:00
	16:28	17:37	18:36		20:41	21:40
25	08:27	07:21	06:08		05:47	05:00
	16:30	17:39	18:39		20:43	21:42
26	08:26	07:18	06:05		05:45	05:00
	16:32	17:41	18:41		20:45	21:43
27	08:24	07:16	06:02		05:42	05:00
	16:34	17:43	18:43		20:47	21:45
28	08:22	07:13	06:00		05:40	05:00
	16:37	17:45	18:45		20:49	21:47
29	08:20		06:57		05:37	05:00
	16:39		19:47		20:51	21:48
30	08:19		06:54		05:35	05:00
	16:41		19:49		20:53	21:50
31	08:17		06:52			05:00
	16:43		19:51			21:51
Potential sun hours	235	266	366	426	508	528
Total, worst case			386	157		
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			97	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)
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## 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 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 16:30	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	07:34 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 21:08	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 19:48	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	07:46 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 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 21:52	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	08:02 (E14) 18:02	07:59 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	07:57 (E14) 18:00	08:01 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	07:55 (E14) 18:03	08:03 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	07:53 (E14) 18:05	08:05 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	07:52 (E14) 18:07	08:13 15:52	08:51 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	07:51 (E14) 18:10	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	07:50 (E14) 18:12	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	07:49 (E14) 18:15	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	07:49 (E14) 18:15	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	07:48 (E14) 18:14	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		156	209	186		
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		49	54	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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 (E15)	06:44	05:28
	15:51	16:50	17:52	4 07:36 (E15)	19:57	21:00
4	08:50	08:09	07:03	07:29 (E15)	06:41	05:26
	15:52	16:52	17:54	7 07:36 (E15)	19:59	21:02
5	08:49	08:07	07:01	07:26 (E15)	06:38	05:24
	15:54	16:54	17:56	10 07:36 (E15)	20:01	21:04
6	08:49	08:05	06:58	07:24 (E15)	06:36	05:21
	15:55	16:57	17:58	13 07:37 (E15)	20:03	21:06
7	08:48	08:03	06:55	07:21 (E15)	06:33	05:19
	15:56	16:59	18:01	15 07:36 (E15)	20:06	21:08
8	08:48	08:01	06:53	07:18 (E14)	06:30	05:17
	15:58	17:01	18:03	17 07:35 (E15)	20:08	21:10
9	08:47	07:58	06:50	07:16 (E14)	06:28	05:15
	16:00	17:03	18:05	19 07:35 (E15)	20:10	21:12
10	08:46	07:56	06:48	07:13 (E14)	06:25	05:13
	16:01	17:06	18:07	20 07:33 (E15)	20:12	21:14
11	08:45	07:54	06:45	07:10 (E14)	06:22	05:11
	16:03	17:08	18:09	20 07:30 (E15)	20:14	21:16
12	08:44	07:52	06:42	07:08 (E14)	06:20	05:09
	16:05	17:10	18:11	22 07:30 (E14)	20:16	21:18
13	08:43	07:50	06:40	07:06 (E14)	06:17	05:07
	16:06	17:12	18:13	24 07:30 (E14)	20:18	21:20
14	08:42	07:47	06:37	07:05 (E14)	06:15	05:05
	16:08	17:14	18:16	25 07:30 (E14)	20:20	21:22
15	08:41	07:45	06:34	07:05 (E14)	06:12	05:03
	16:10	17:17	18:18	26 07:31 (E14)	20:22	21:24
16	08:40	07:43	06:32	07:05 (E14)	06:09	05:01
	16:12	17:19	18:20	25 07:30 (E14)	20:24	2 06:35 (E13)
17	08:39	07:40	06:29	07:04 (E14)	06:07	06:33 (E13)
	16:14	17:21	18:22	25 07:29 (E14)	20:26	6 06:39 (E13)
18	08:38	07:38	06:26	07:04 (E14)	06:04	06:30 (E13)
	16:16	17:23	18:24	24 07:28 (E14)	20:28	9 06:39 (E13)
19	08:36	07:36	06:24	07:05 (E14)	06:02	06:28 (E13)
	16:18	17:26	18:26	23 07:28 (E14)	20:31	12 06:40 (E13)
20	08:35	07:33	06:21	07:05 (E14)	05:59	06:26 (E13)
	16:20	17:28	18:28	22 07:27 (E14)	20:33	14 06:40 (E13)
21	08:33	07:31	06:18	07:06 (E14)	05:57	06:23 (E13)
	16:22	17:30	18:30	19 07:25 (E14)	20:35	16 06:39 (E13)
22	08:32	07:28	06:16	07:08 (E14)	05:54	06:21 (E13)
	16:24	17:32	18:32	15 07:23 (E14)	20:37	18 06:39 (E13)
23	08:30	07:26	06:13	07:10 (E14)	05:52	06:20 (E13)
	16:26	17:34	18:34	10 07:20 (E14)	20:39	18 06:38 (E13)
24	08:29	07:23	06:10		05:49	06:21 (E13)
	16:28	17:37	18:36		20:41	17 06:38 (E13)
25	08:27	07:21	06:08		05:47	06:22 (E13)
	16:30	17:39	18:39		20:43	15 06:37 (E13)
26	08:26	07:18	06:05		05:45	06:22 (E13)
	16:32	17:41	18:41		20:45	13 06:35 (E13)
27	08:24	07:16	06:02		05:42	06:24 (E13)
	16:34	17:43	18:43		20:47	10 06:34 (E13)
28	08:22	07:13	06:00		05:40	06:27 (E13)
	16:37	17:45	18:45		20:49	3 06:30 (E13)
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	528
Total, worst case			385	153		
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			97	49		

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)
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## 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 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 16:30	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	07:34 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 21:08	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 19:48	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	07:46 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 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 21:52	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	07:58 (E14) 08:05 (E14)	08:03 15:59	08:48 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 (E14) 08:08 (E14)	08:05 15:58	08:49 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 (E14) 08:10 (E14)	08:07 15:56	08:49 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 (E14) 08:11 (E14)	08:09 15:55	08:50 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 (E14) 08:12 (E14)	08:11 15:53	08:50 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 (E14) 08:12 (E14)	08:13 15:52	08:51 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:09 (E14) 08:12 (E14)	08:15 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:11 (E14) 08:12 (E14)	08:17 15:50	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 (E14) 08:12 (E14)	08:19 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 (E14) 08:11 (E14)	08:21 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 (E14) 08:11 (E14)	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		156	234	159		
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		49	61	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	09:34 (E14)	08:15	08:55 (E15)	07:11		06:49	05:33	04:36			
	15:48	20	09:54 (E14)	16:45	26	09:58 (E14)	17:48	19:53	20:55	21:53		
2	08:50	09:34 (E14)	08:13	08:56 (E15)	07:08		06:46	05:30	04:35			
	15:49	22	09:56 (E14)	16:48	16	09:12 (E15)	17:50	19:55	20:58	21:54		
3	08:50	09:34 (E14)	08:11	08:57 (E15)	07:06		06:43	05:28	04:34			
	15:51	22	09:56 (E14)	16:50	15	09:12 (E15)	17:52	19:57	21:00	21:55		
4	08:50	09:33 (E14)	08:09	08:58 (E15)	07:03		06:41	05:26	04:33			
	15:52	24	09:57 (E14)	16:52	13	09:11 (E15)	17:54	19:59	21:02	21:57		
5	08:49	09:34 (E14)	08:07	09:00 (E15)	07:01		06:38	05:23	04:32			
	15:53	24	09:58 (E14)	16:54	9	09:09 (E15)	17:56	20:01	21:04	21:58		
6	08:49	09:34 (E14)	08:05				06:58	06:36	05:21	04:31		
	15:55	25	09:59 (E14)	16:56			17:58	20:03	21:06	21:59		
7	08:48	09:34 (E14)	08:03				06:55	06:33	05:19	04:30		
	15:56	25	09:59 (E14)	16:59			18:01	20:06	21:08	22:00		
8	08:48	09:34 (E14)	08:01				06:53	06:30	05:17	04:29		
	15:58	26	10:00 (E14)	17:01			18:03	20:08	21:10	22:01		
9	08:47	09:34 (E14)	07:58				06:50	06:28	05:15	04:29		
	16:00	27	10:01 (E14)	17:03			18:05	20:10	21:12	22:02		
10	08:46	09:34 (E14)	07:56				06:47	06:25	05:13	04:28		
	16:01	28	10:02 (E14)	17:05			18:07	20:12	21:14	22:03		
11	08:45	09:35 (E14)	07:54				06:45	06:22	05:11	04:27		
	16:03	27	10:02 (E14)	17:08			18:09	20:14	21:16	22:04		
12	08:44	09:35 (E14)	07:52				06:42	06:20	05:09	04:27		
	16:05	28	10:03 (E14)	17:10			18:11	20:16	21:18	22:05		
13	08:43	09:34 (E14)	07:50				06:40	07:06 (E13)	06:17	05:07	04:26	
	16:06	29	10:03 (E14)	17:12			18:13	7	07:13 (E13)	20:18	21:20	22:06
14	08:42	09:35 (E14)	07:47				06:37	07:02 (E13)	06:15	05:05	04:26	
	16:08	29	10:04 (E14)	17:14			18:15	14	07:16 (E13)	20:20	21:22	22:07
15	08:41	09:35 (E14)	07:45				06:34	07:00 (E13)	06:12	05:03	04:26	
	16:10	30	10:05 (E14)	17:17			18:18	19	07:19 (E13)	20:22	21:24	22:07
16	08:40	09:35 (E14)	07:43				06:32	06:58 (E13)	06:09	05:01	04:26	
	16:12	30	10:05 (E14)	17:19			18:20	22	07:20 (E13)	20:24	21:26	22:08
17	08:39	09:36 (E14)	07:40				06:29	06:56 (E13)	06:07	04:59	04:25	
	16:14	30	10:06 (E14)	17:21			18:22	24	07:20 (E13)	20:26	21:27	22:08
18	08:38	09:36 (E14)	07:38				06:26	06:55 (E13)	06:04	04:57	04:25	
	16:16	30	10:06 (E14)	17:23			18:24	25	07:20 (E13)	20:28	21:29	22:09
19	08:36	09:36 (E14)	07:36				06:24	06:55 (E13)	06:02	04:55	04:25	
	16:18	30	10:06 (E14)	17:26			18:26	26	07:21 (E13)	20:31	21:31	22:09
20	08:35	09:37 (E14)	07:33				06:21	06:54 (E13)	05:59	04:53	04:25	
	16:20	30	10:07 (E14)	17:28			18:28	27	07:21 (E13)	20:33	21:33	22:10
21	08:33	09:37 (E14)	07:31				06:18	06:53 (E13)	05:57	04:52	04:25	
	16:22	30	10:07 (E14)	17:30			18:30	28	07:21 (E13)	20:35	21:35	22:10
22	08:32	09:05 (E15)	07:28				06:16	06:53 (E13)	05:54	04:50	04:26	
	16:24	33	10:07 (E14)	17:32			18:32	28	07:21 (E13)	20:37	21:37	22:10
23	08:30	09:03 (E15)	07:26				06:13	06:53 (E13)	05:52	04:48	04:26	
	16:26	35	10:06 (E14)	17:34			18:34	27	07:20 (E13)	20:39	21:38	22:10
24	08:29	09:02 (E15)	07:23				06:10	06:53 (E13)	05:49	04:47	04:26	
	16:28	37	10:07 (E14)	17:37			18:36	26	07:19 (E13)	20:41	21:40	22:10
25	08:27	09:00 (E15)	07:21				06:08	06:54 (E13)	05:47	04:45	04:26	
	16:30	38	10:07 (E14)	17:39			18:38	25	07:19 (E13)	20:43	21:42	22:10
26	08:26	08:58 (E15)	07:18				06:05	06:54 (E13)	05:44	04:44	04:27	
	16:32	40	10:06 (E14)	17:41			18:41	24	07:18 (E13)	20:45	21:43	22:10
27	08:24	08:56 (E15)	07:16				06:02	06:54 (E13)	05:42	04:42	04:27	
	16:34	42	10:06 (E14)	17:43			18:43	22	07:16 (E13)	20:47	21:45	22:10
28	08:22	08:54 (E15)	07:13				05:59	06:56 (E13)	05:40	04:41	04:28	
	16:37	42	10:05 (E14)	17:45			18:45	19	07:15 (E13)	20:49	21:47	22:10
29	08:20	08:54 (E15)					06:57	07:58 (E13)	05:37	04:40	04:29	
	16:39	40	10:04 (E14)				19:47	14	08:12 (E13)	20:51	21:48	22:10
30	08:19	08:54 (E15)					06:54	08:01 (E13)	05:35	04:38	04:29	
	16:41	37	10:03 (E14)				19:49	6	08:07 (E13)	20:53	21:50	22:09
31	08:17	08:55 (E15)					06:51			04:37		
	16:43	34	10:02 (E14)				19:51			21:51		
Potential sun hours	235		266				366		426	508	529	
Total, worst case	944		79				383					
Sun reduction	0.13		0.20				0.41					
Oper. time red.	0.98		0.98				0.98					
Wind dir. red.	0.61		0.59				0.64					
Total reduction	0.08		0.12				0.26					
Total, real	74		9				98					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:30 (E15) 15:41
7	04:36 22:05	05:27 21:15	06:29 19:58	07:30 18:38	07:36 16:23	08:33 (E15) 15:40
8	04:37 22:04	05:29 21:13	06:31 19:56	07:32 18:35	07:38 16:21	08:34 (E15) 15:40
9	04:38 22:03	05:31 21:11	06:33 19:53	07:34 18:33	07:40 16:19	08:35 (E15) 15:39
10	04:39 22:02	05:33 21:04	06:35 19:50	07:36 18:30	07:42 16:17	08:36 (E15) 15:39
11	04:41 22:01	05:35 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:37 (E15) 15:39
12	04:42 22:00	05:37 21:04	06:39 19:45	07:40 18:25	07:46 16:13	08:38 (E15) 15:38
13	04:43 21:59	05:39 21:02	06:41 19:42	07:42 18:22	07:49 16:11	08:39 (E15) 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20	07:51 16:09	08:40 (E15) 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17	07:53 16:08	08:41 (E15) 15:38
16	04:48 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:42 (E15) 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:43 (E15) 15:38
18	04:51 21:52	05:49 20:50	06:51 19:29	07:52 18:09	07:59 16:02	08:44 (E15) 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:45 (E15) 15:38
20	04:54 21:49	05:53 20:45	06:55 19:23	07:56 18:04	08:03 15:59	08:46 (E15) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:58 18:02	08:05 15:58	08:47 (E15) 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	07:59 18:00	08:07 15:56	08:48 (E15) 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:00 17:57	08:09 15:55	08:49 (E15) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:01 17:55	08:11 15:53	08:50 (E15) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:03 17:52	08:13 15:52	08:51 (E15) 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:05 17:50	08:15 15:51	08:52 (E15) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:07 17:48	08:17 15:49	08:53 (E15) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:09 17:46	08:19 15:48	08:54 (E15) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:11 17:43	08:21 15:47	08:55 (E15) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:13 17:41	08:22 15:46	08:56 (E15) 15:46
31	05:14 21:30	06:15 20:17		08:15 17:38	08:24 15:45	08:57 (E15) 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case			389		757	620
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			0.27		0.05	0.04
Total, real			103		37	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E13)	06:49	05:33		04:36	
	15:48		16:45		17:48	14	07:51 (E13)	19:53	20:56		21:53	
2	08:51		08:13		07:08		07:34 (E13)	06:46	05:30		04:35	
	15:49		16:48		17:50	16	07:50 (E13)	19:55	20:58		21:54	
3	08:50		08:11		07:06		07:35 (E13)	06:44	05:28		04:34	
	15:51		16:50		17:52	16	07:51 (E13)	19:57	21:00		21:55	
4	08:50		08:09		07:03		07:35 (E13)	06:41	05:26		04:33	
	15:52		16:52		17:54	15	07:50 (E13)	19:59	21:02		21:57	
5	08:49		08:07		07:01		07:36 (E13)	06:38	05:24		04:32	
	15:53		16:54		17:56	13	07:49 (E13)	20:01	21:04		21:58	
6	08:49		08:05		06:58		07:37 (E13)	06:36	05:21		04:31	
	15:55		16:56		17:58	10	07:47 (E13)	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		04:26	
	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	3	09:18 (E14)	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	5	09:19 (E14)	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	8	09:20 (E14)	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	10	09:20 (E14)	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	12	09:21 (E14)	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	15	09:22 (E14)	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	17	09:22 (E14)	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	09:22 (E14)	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	09:23 (E14)	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	09:23 (E14)	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	16	09:23 (E14)	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	14	09:22 (E14)	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	13	09:22 (E14)	17:45	18:45			20:49	21:47		22:10	
29	08:20		07:10		06:57			05:37	04:40		04:29	
	16:39	11	09:21 (E14)		19:47			20:51	21:48		22:10	
30	08:19		07:12		06:54			05:35	04:38		04:29	
	16:41	8	09:20 (E14)		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		183		23		84						
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		3		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		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	7	08:14 (E13)	07:36	08:34
	22:05	21:15	19:58	18:38		08:21 (E13)	16:23	15:40
8	04:37	05:29	06:31	07:32		08:12 (E13)	07:38	08:35
	22:04	21:13	19:56	18:35	12	08:24 (E13)	16:21	15:40
9	04:38	05:31	06:33	07:34		08:11 (E13)	07:40	08:37
	22:03	21:11	19:53	18:33	13	08:24 (E13)	16:19	15:39
10	04:39	05:33	06:35	07:36		08:09 (E13)	07:42	08:38
	22:02	21:09	19:50	18:30	16	08:25 (E13)	16:17	15:39
11	04:41	05:35	06:37	07:38		08:09 (E13)	07:44	08:39
	22:01	21:06	19:48	18:27	16	08:25 (E13)	16:15	15:39
12	04:42	05:37	06:39	07:40		08:09 (E13)	07:47	08:41
	22:00	21:04	19:45	18:25	15	08:24 (E13)	16:13	8 08:51 (E14) 15:38
13	04:43	05:39	06:41	07:42		08:11 (E13)	07:49	08:42 (E14) 08:42
	21:59	21:02	19:42	18:22	13	08:24 (E13)	16:11	11 08:53 (E14) 15:38
14	04:45	05:41	06:43	07:44		08:14 (E13)	07:51	08:40 (E14) 08:43
	21:58	20:59	19:39	18:20	10	08:24 (E13)	16:09	14 08:54 (E14) 15:38
15	04:46	05:43	06:45	07:46		08:16 (E13)	07:53	08:40 (E14) 08:44
	21:57	20:57	19:37	18:17	7	08:23 (E13)	16:08	15 08:55 (E14) 15:38
16	04:48	05:45	06:47	07:48		08:18 (E13)	07:55	08:40 (E14) 08:45
	21:55	20:54	19:34	18:15	3	08:21 (E13)	16:06	16 08:56 (E14) 15:38
17	04:49	05:47	06:49	07:50			07:57	08:39 (E14) 08:46
	21:54	20:52	19:31	18:12			16:04	17 08:56 (E14) 15:38
18	04:51	05:49	06:51	07:53			07:59	08:40 (E14) 08:46
	21:53	20:50	19:29	18:09			16:03	17 08:57 (E14) 15:38
19	04:53	05:51	06:53	07:55			08:01	08:40 (E14) 08:47
	21:51	20:47	19:26	18:07			16:01	17 08:57 (E14) 15:38
20	04:54	05:53	06:55	07:57			08:03	08:40 (E14) 08:48
	21:50	20:45	19:23	18:04			15:59	17 08:57 (E14) 15:39
21	04:56	05:55	06:57	07:59			08:05	08:43 (E14) 08:49
	21:48	20:42	19:21	18:02			15:58	15 08:58 (E14) 15:39
22	04:58	05:57	06:59	08:01			08:07	08:45 (E14) 08:49
	21:46	20:40	19:18	18:00			15:56	13 08:58 (E14) 15:40
23	04:59	05:59	07:01	08:03			08:09	08:47 (E14) 08:50
	21:45	20:37	19:15	17:57			15:55	10 08:57 (E14) 15:40
24	05:01	06:01	07:03	08:05			08:11	08:49 (E14) 08:50
	21:43	20:35	19:12	17:55			15:53	8 08:57 (E14) 15:41
25	05:03	06:03	07:05	07:07			08:13	08:51 (E14) 08:50
	21:41	20:32	19:10	16:52			15:52	5 08:56 (E14) 15:41
26	05:05	06:05	07:07	07:10			08:15	08:54 (E14) 08:51
	21:39	20:30	19:07	16:50			15:51	3 08:57 (E14) 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				112		186		
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		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	06:49	07:14 (E15)	05:33
	15:48	16:45	17:48	19:53	9 07:23 (E15)	20:55
2	08:50	08:13	07:08	06:46	07:11 (E15)	05:30
	15:50	16:48	17:50	19:55	13 07:24 (E15)	20:57
3	08:50	08:11	07:06	06:43	07:09 (E15)	05:28
	15:51	16:50	17:52	19:57	16 07:25 (E15)	21:00
4	08:50	08:09	07:03	06:41	07:06 (E15)	05:26
	15:52	16:52	17:54	19:59	20 07:26 (E15)	21:02
5	08:49	08:07	07:01	06:38	07:04 (E15)	05:24
	15:54	16:54	17:56	20:01	21 07:25 (E15)	21:04
6	08:49	08:05	06:58	06:36	07:04 (E15)	05:21
	15:55	16:57	17:58	20:03	22 07:26 (E15)	21:06
7	08:48	08:03	06:55	06:33	07:03 (E15)	05:19
	15:56	16:59	18:01	20:06	22 07:25 (E15)	21:08
8	08:47	08:01	06:53	06:30	07:04 (E15)	05:17
	15:58	17:01	18:03	20:08	22 07:26 (E15)	21:10
9	08:47	07:58	06:50	06:28	07:04 (E15)	05:15
	16:00	17:03	18:05	20:10	20 07:24 (E15)	21:12
10	08:46	07:56	06:47	06:25	07:03 (E15)	05:13
	16:01	17:05	18:07	20:12	20 07:23 (E15)	21:14
11	08:45	07:54	06:45	06:22	07:04 (E15)	05:11
	16:03	17:08	18:09	20:14	19 07:23 (E15)	21:16
12	08:44	07:52	06:42	06:20	07:05 (E15)	05:09
	16:05	17:10	18:11	20:16	16 07:21 (E15)	21:18
13	08:43	07:50	06:40	06:17	07:07 (E15)	05:07
	16:06	17:12	18:13	20:18	12 07:19 (E15)	21:20
14	08:42	07:47	06:37	06:15	07:09 (E15)	05:05
	16:08	17:14	18:15	20:20	6 07:15 (E15)	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		21:25
17	08:39	07:40	06:29	06:07		04:59
	16:14	17:21	18:22	20:26		21:27
18	08:37	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	20:30		21:31
20	08:35	07:33	06:21	06:00		04:54
	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		21:36
23	08:30	07:26	06:13	05:52		04:49
	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	18:38	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	08:18		06:54	05:35		04:38
	16:41		19:49	20:53		21:50
31	08:17		06:51	05:33		04:37
	16:43		19:51	07:17 (E15)		21:51
Potential sun hours	235	266	366	426	508	528
Total, worst case			108	238	855	1036
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	0.37
Total, real			28	77	318	378

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:08 (E13)	05:16		06:01 (E14)	06:17		07:03 (E15)	07:17		07:23	08:24					
	22:09	33	06:28 (E14)	21:28	30	06:31 (E14)	20:14	19	07:22 (E15)	18:54	16:36	15:45					
2	04:31	05:08 (E13)	05:18		06:01 (E14)	06:19		07:02 (E15)	07:19		07:25	08:26					
	22:08	33	06:28 (E14)	21:26	29	06:30 (E14)	20:11	20	07:22 (E15)	18:51	16:34	15:44					
3	04:32	05:57 (E14)	05:20		06:03 (E14)	06:21		07:02 (E15)	07:21		07:27	08:28					
	22:08	31	06:28 (E14)	21:24	26	06:29 (E14)	20:09	20	07:22 (E15)	18:48	16:32	15:43					
4	04:33	05:57 (E14)	05:22		06:04 (E14)	06:23		07:01 (E15)	07:23		07:29	08:29					
	22:07	32	06:29 (E14)	21:22	24	06:28 (E14)	20:06	22	07:23 (E15)	18:46	16:30	15:43					
5	04:34	05:57 (E14)	05:24		06:06 (E14)	06:25		07:01 (E15)	07:25		07:31	08:31					
	22:07	32	06:29 (E14)	21:19	20	06:26 (E14)	20:03	21	07:22 (E15)	18:43	16:27	15:42					
6	04:35	05:57 (E14)	05:25		06:07 (E14)	06:27		07:00 (E15)	07:28		07:33	08:32					
	22:06	33	06:30 (E14)	21:17	17	06:24 (E14)	20:01	22	07:22 (E15)	18:40	16:25	15:41					
7	04:36	05:57 (E14)	05:27		06:10 (E14)	06:29		06:59 (E15)	07:30		07:36	08:34					
	22:05	33	06:30 (E14)	21:15	11	06:21 (E14)	19:58	22	07:21 (E15)	18:38	16:23	15:40					
8	04:37	05:57 (E14)	05:29			06:31		07:00 (E15)	07:32		07:38	08:35					
	22:04	34	06:31 (E14)	21:13		19:55	20	07:20 (E15)	18:35		16:21	15:40					
9	04:38	05:57 (E14)	05:31			06:33		07:02 (E15)	07:34		07:40	08:37					
	22:03	34	06:31 (E14)	21:11		19:53	17	07:19 (E15)	18:33		16:19	15:39					
10	04:40	05:56 (E14)	05:33			06:35		07:04 (E15)	07:36		07:42	08:38					
	22:02	35	06:31 (E14)	21:08		19:50	13	07:17 (E15)	18:30		16:17	15:39					
11	04:41	05:57 (E14)	05:35			06:37		07:06 (E15)	07:38		07:44	08:39					
	22:01	35	06:32 (E14)	21:06		19:47	9	07:15 (E15)	18:27		16:15	15:39					
12	04:42	05:57 (E14)	05:37			06:39		07:08 (E15)	07:40		07:46	08:40					
	22:00	36	06:33 (E14)	21:04		19:45	4	07:12 (E15)	18:25		16:13	15:38					
13	04:44	05:57 (E14)	05:39			06:41			07:42		07:49	08:41					
	21:59	36	06:33 (E14)	21:02		19:42			18:22		16:11	15:38					
14	04:45	05:56 (E14)	05:41			06:43			07:44		07:51	08:43					
	21:58	37	06:33 (E14)	20:59		19:39			18:20		16:10	15:38					
15	04:46	05:57 (E14)	05:43			06:45			07:46		07:53	08:44					
	21:57	37	06:34 (E14)	20:57		19:37			18:17		16:08	15:38					
16	04:48	05:57 (E14)	05:45			06:47			07:48		07:55	08:45					
	21:55	37	06:34 (E14)	20:54		19:34			18:15		16:06	15:38					
17	04:49	05:56 (E14)	05:47			06:49		07:32 (E16)	07:50		07:57	08:45					
	21:54	37	06:33 (E14)	20:52		19:31	8	07:40 (E16)	18:12		16:04	15:38					
18	04:51	05:57 (E14)	05:49			06:51		07:29 (E16)	07:52		07:59	08:46					
	21:52	37	06:34 (E14)	20:50		19:29	13	07:42 (E16)	18:09		16:03	15:38					
19	04:53	05:56 (E14)	05:51			06:53		07:28 (E16)	07:55		08:01	08:47					
	21:51	38	06:34 (E14)	20:47		19:26	15	07:43 (E16)	18:07		16:01	15:38					
20	04:54	05:57 (E14)	05:53			06:55		07:27 (E16)	07:57		08:03	08:48					
	21:49	37	06:34 (E14)	20:45		19:23	16	07:43 (E16)	18:04		15:59	15:39					
21	04:56	05:57 (E14)	05:55			06:57		07:26 (E16)	07:59		08:05	08:48					
	21:48	37	06:34 (E14)	20:42		19:21	17	07:43 (E16)	18:02		15:58	15:39					
22	04:58	05:57 (E14)	05:57			06:59		07:28 (E16)	08:01		08:07	08:49					
	21:46	37	06:34 (E14)	20:40		19:18	15	07:43 (E16)	18:00		15:56	15:40					
23	04:59	05:57 (E14)	05:59			07:01		07:30 (E16)	08:03		08:09	08:49					
	21:45	37	06:34 (E14)	20:37		19:15	12	07:42 (E16)	17:57		15:55	15:40					
24	05:01	05:57 (E14)	06:01			07:03		07:32 (E16)	08:05		08:11	08:50					
	21:43	37	06:34 (E14)	20:35		19:12	9	07:41 (E16)	17:55		15:53	15:41					
25	05:03	05:58 (E14)	06:03			07:05		07:34 (E16)	07:07		08:13	08:50					
	21:41	36	06:34 (E14)	20:32		19:10	6	07:40 (E16)	16:52		15:52	15:41					
26	05:05	05:58 (E14)	06:05			07:07		07:36 (E16)	07:10		08:15	08:51					
	21:39	36	06:34 (E14)	20:30		19:07	2	07:38 (E16)	16:50		15:51	15:42					
27	05:06	05:58 (E14)	06:07			07:09			07:12		08:17	08:51					
	21:37	36	06:34 (E14)	20:27		19:04			16:48		15:50	15:43					
28	05:08	05:59 (E14)	06:09			07:11			07:14		08:19	08:51					
	21:36	35	06:34 (E14)	20:24		19:02			16:45		15:48	15:44					
29	05:10	05:59 (E14)	06:11		07:10 (E15)	07:13			07:16		08:21	08:51					
	21:34	33	06:32 (E14)	20:22	6	07:16 (E15)	18:59		16:43		15:47	15:45					
30	05:12	05:59 (E14)	06:13		07:07 (E15)	07:15			07:18		08:22	08:51					
	21:32	33	06:32 (E14)	20:19	12	07:19 (E15)	18:56		16:41		15:46	15:46					
31	05:14	06:00 (E14)	06:15		07:05 (E15)				07:20			08:51					
	21:30	32	06:32 (E14)	20:17	16	07:21 (E15)			16:38			15:47					
Potential sun hours	529		469			385			324		248	216					
Total, worst case	1086		191			322											
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	350		62			88											

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)
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Project:

Mezares\_AB211223

Licensed user:

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Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11		06:49	07:29 (E15)	05:33	06:22 (E14)	04:36	05:10 (E13)				
	15:48	16:45	17:48		19:53	20	07:49 (E15)	20:55	40	07:02 (E14)	21:52	13	05:23 (E13)	
2	08:50	08:13	07:08		06:46	07:29 (E15)	05:30	06:22 (E14)	04:35	05:09 (E13)				
	15:50	16:48	17:50		19:55	18	07:47 (E15)	20:57	40	07:02 (E14)	21:54	15	05:24 (E13)	
3	08:50	08:11	07:06		06:43	07:31 (E15)	05:28	06:22 (E14)	04:34	05:08 (E13)				
	15:51	16:50	17:52		19:57	15	07:46 (E15)	21:00	40	07:02 (E14)	21:55	16	05:24 (E13)	
4	08:50	08:09	07:03		06:41	07:33 (E15)	05:26	06:22 (E14)	04:33	05:08 (E13)				
	15:52	16:52	17:54		19:59	10	07:43 (E15)	21:02	40	07:02 (E14)	21:57	17	05:25 (E13)	
5	08:49	08:07	07:01		06:38			05:24		06:22 (E14)	04:32		05:07 (E13)	
	15:54	16:54	17:56		20:01			21:04	40	07:02 (E14)	21:58	18	05:25 (E13)	
6	08:49	08:05	06:58		06:36			05:21		06:22 (E14)	04:31		05:06 (E13)	
	15:55	16:57	17:58		20:03			21:06	40	07:02 (E14)	21:59	19	05:25 (E13)	
7	08:48	08:03	06:55		06:33			05:19		06:22 (E14)	04:30		05:06 (E13)	
	15:56	16:59	18:01		20:06			21:08	40	07:02 (E14)	22:00	20	05:26 (E13)	
8	08:47	08:01	06:53		06:30			05:17		06:22 (E14)	04:29		05:05 (E13)	
	15:58	17:01	18:03		20:08			21:10	39	07:01 (E14)	22:01	21	05:26 (E13)	
9	08:47	07:58	06:50		06:28			05:15		06:22 (E14)	04:29		05:05 (E13)	
	16:00	17:03	18:05		20:10			21:12	39	07:01 (E14)	22:02	21	05:26 (E13)	
10	08:46	07:56	06:47		06:25			05:13		06:22 (E14)	04:28		05:05 (E13)	
	16:01	17:05	18:07		20:12			21:14	38	07:00 (E14)	22:03	22	05:27 (E13)	
11	08:45	07:54	06:45	07:10 (E16)	06:22			05:11		06:23 (E14)	04:27		05:06 (E13)	
	16:03	17:08	18:09	5	07:15 (E16)	20:14		21:16	37	07:00 (E14)	22:04	22	05:28 (E13)	
12	08:44	07:52	06:42	07:08 (E16)	06:20			05:09		06:23 (E14)	04:27		05:05 (E13)	
	16:05	17:10	18:11	8	07:16 (E16)	20:16		21:18	36	06:59 (E14)	22:05	22	05:27 (E13)	
13	08:43	07:50	06:40	07:05 (E16)	06:17			05:07		06:24 (E14)	04:27		05:06 (E13)	
	16:06	17:12	18:13	11	07:16 (E16)	20:18		21:20	35	06:59 (E14)	22:06	22	05:28 (E13)	
14	08:42	07:47	06:37	07:02 (E16)	06:15			05:05		06:24 (E14)	04:26		05:06 (E13)	
	16:08	17:14	18:15	14	07:16 (E16)	20:20		21:22	34	06:58 (E14)	22:07	22	05:28 (E13)	
15	08:41	07:45	06:34	07:00 (E16)	06:12			05:03		06:25 (E14)	04:26		05:07 (E13)	
	16:10	17:17	18:18	16	07:16 (E16)	20:22		21:24	32	06:57 (E14)	22:07	22	05:29 (E13)	
16	08:40	07:43	06:32	06:59 (E16)	06:09			05:01		06:25 (E14)	04:26		05:06 (E13)	
	16:12	17:19	18:20	17	07:16 (E16)	20:24		21:25	31	06:56 (E14)	22:08	22	05:28 (E13)	
17	08:39	07:40	06:29	07:00 (E16)	06:07			04:59		06:27 (E14)	04:25		05:06 (E13)	
	16:14	17:21	18:22	14	07:14 (E16)	20:26		21:27	29	06:56 (E14)	22:08	22	05:28 (E13)	
18	08:37	07:38	06:26	07:00 (E16)	06:04			04:57		06:27 (E14)	04:25		05:06 (E13)	
	16:16	17:23	18:24	13	07:13 (E16)	20:28		21:29	27	06:54 (E14)	22:09	22	05:28 (E13)	
19	08:36	07:36	06:24	07:02 (E16)	06:02	06:44 (E14)	04:55	06:29 (E14)	04:25	05:07 (E13)				
	16:18	17:26	18:26	9	07:11 (E16)	20:30	1	06:45 (E14)	25	06:54 (E14)	22:09	22	05:29 (E13)	
20	08:35	07:33	06:21		05:59	06:37 (E14)	04:54	06:30 (E14)	04:25	05:08 (E13)				
	16:20	17:28	18:28		20:33	15	06:52 (E14)	21:33	22	06:52 (E14)	22:10	22	05:30 (E13)	
21	08:33	07:31	06:18		05:57	06:34 (E14)	04:52	06:32 (E14)	04:25	05:08 (E13)				
	16:22	17:30	18:30		20:35	20	06:54 (E14)	21:35	19	06:51 (E14)	22:10	22	05:30 (E13)	
22	08:32	07:28	06:16	06:41 (E15)	05:54	06:32 (E14)	04:50	06:33 (E14)	04:26	05:08 (E13)				
	16:24	17:32	18:32	5	06:46 (E15)	20:37	25	06:57 (E14)	21:36	16	06:49 (E14)	22:10	22	05:30 (E13)
23	08:30	07:26	06:13	06:38 (E15)	05:52	06:29 (E14)	04:48	06:36 (E14)	04:26	05:08 (E13)				
	16:26	17:34	18:34	10	06:48 (E15)	20:39	28	06:57 (E14)	21:38	11	06:47 (E14)	22:10	22	05:30 (E13)
24	08:29	07:23	06:10	06:35 (E15)	05:49	06:28 (E14)	04:47	06:39 (E14)	04:26	05:08 (E13)				
	16:28	17:37	18:36	14	06:49 (E15)	20:41	31	06:59 (E14)	21:40	4	06:43 (E14)	22:10	23	05:31 (E13)
25	08:27	07:21	06:08	06:33 (E15)	05:47	06:27 (E14)	04:45		04:27		05:08 (E13)			
	16:30	17:39	18:38	18	06:51 (E15)	20:43	33	07:00 (E14)	21:42		22:10	22	05:30 (E13)	
26	08:26	07:18	06:05	06:30 (E15)	05:44	06:26 (E14)	04:44		04:27		05:09 (E13)			
	16:32	17:41	18:41	21	06:51 (E15)	20:45	34	07:00 (E14)	21:43		22:10	22	05:31 (E13)	
27	08:24	07:16	06:02	06:29 (E15)	05:42	06:25 (E14)	04:42	05:16 (E13)	04:28	05:09 (E13)				
	16:34	17:43	18:43	22	06:51 (E15)	20:47	36	07:01 (E14)	21:45	3	05:19 (E13)	22:10	22	05:31 (E13)
28	08:22	07:13	06:00	06:29 (E15)	05:40	06:24 (E14)	04:41	05:14 (E13)	04:28	05:09 (E13)				
	16:37	17:45	18:45	22	06:51 (E15)	20:49	37	07:01 (E14)	21:47	6	05:20 (E13)	22:10	22	05:31 (E13)
29	08:20		06:57	07:29 (E15)	05:37	06:24 (E14)	04:40	05:13 (E13)	04:29	05:09 (E13)				
	16:39		19:47	22	07:51 (E15)	20:51	38	07:02 (E14)	21:48	8	05:21 (E13)	22:10	22	05:31 (E13)
30	08:18		06:54	07:28 (E15)	05:35	06:24 (E14)	04:38	05:12 (E13)	04:29	05:10 (E13)				
	16:41		19:49	22	07:50 (E15)	20:53	38	07:02 (E14)	21:50	10	05:22 (E13)	22:09	21	05:31 (E13)
31	08:17		06:51	07:29 (E15)			04:37	05:11 (E13)						
	16:43		19:51	21	07:50 (E15)		21:51	05:23 (E13)						
Potential sun hours	235	266	366		426		508		528					
Total, worst case			284		399		793		622					
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		0.37					
Total, real			74		127		287		227					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 22:09	05:10 (E13) 21:28	05:16 21:28	06:33 (E14) 20:14	06:17 20:14	07:17 18:54
2	04:31 22:08	05:10 (E13) 21:26	05:18 21:26	06:33 (E14) 20:11	06:19 20:11	07:19 18:51
3	04:32 22:08	05:31 (E13) 21:24	05:20 21:24	06:32 (E14) 20:09	06:21 20:09	07:21 18:48
4	04:33 22:07	05:10 (E13) 21:22	05:22 21:22	06:32 (E14) 20:06	06:23 20:06	07:23 18:46
5	04:34 22:07	05:11 (E13) 21:19	05:24 21:19	06:32 (E14) 20:03	06:25 20:03	07:25 18:43
6	04:35 22:06	05:12 (E13) 21:17	05:25 21:17	06:31 (E14) 20:01	06:27 20:01	07:28 18:40
7	04:36 22:05	05:13 (E13) 21:15	05:27 21:15	06:31 (E14) 19:58	06:29 19:58	07:30 18:38
8	04:37 22:04	05:14 (E13) 21:13	05:29 21:13	06:31 (E14) 19:55	06:31 19:55	07:32 18:35
9	04:38 22:03	05:15 (E13) 21:11	05:31 21:11	06:31 (E14) 19:53	06:33 19:53	07:34 18:33
10	04:40 22:02	05:16 (E13) 21:08	05:33 21:08	06:31 (E14) 19:50	06:35 19:50	07:36 18:30
11	04:41 22:01	05:18 (E13) 21:06	05:35 21:06	06:32 (E14) 19:47	06:37 19:47	07:38 18:27
12	04:42 22:00	05:19 (E13) 21:04	05:37 21:04	06:31 (E14) 19:45	06:39 19:45	07:40 18:25
13	04:44 21:59	05:20 (E13) 21:02	05:39 21:02	06:31 (E14) 19:42	06:41 19:42	07:42 18:22
14	04:45 21:58	05:21 (E13) 20:59	05:41 20:59	06:31 (E14) 19:39	06:43 19:39	07:44 18:20
15	04:46 21:57	05:23 (E13) 20:57	05:43 20:57	06:32 (E14) 19:37	06:45 19:37	07:46 18:17
16	04:48 21:55	05:24 (E13) 20:54	05:45 20:54	06:33 (E14) 19:34	06:47 19:34	07:48 18:15
17	04:49 21:54	05:25 (E13) 20:52	05:47 20:52	06:33 (E14) 19:31	06:49 19:31	07:50 18:12
18	04:51 21:52	05:27 (E13) 20:50	05:49 20:50	06:34 (E14) 19:29	06:51 19:29	07:52 18:09
19	04:53 21:51	05:28 (E13) 20:47	05:51 20:47	06:34 (E14) 19:26	06:53 19:26	07:55 18:07
20	04:54 21:49	06:47 (E14) 20:45	05:53 20:45	06:35 (E14) 19:23	06:55 19:23	07:57 18:04
21	04:56 21:48	06:44 (E14) 20:42	05:55 20:42	06:37 (E14) 19:21	06:57 19:21	07:59 18:02
22	04:58 21:46	06:42 (E14) 20:40	05:57 20:40	06:39 (E14) 19:18	06:59 19:18	08:01 18:00
23	04:59 21:45	06:40 (E14) 20:37	05:59 20:37	06:42 (E14) 19:15	07:01 19:15	08:03 17:57
24	05:01 21:43	06:40 (E14) 20:35	06:01 20:35	07:03 19:12	07:03 19:12	08:05 17:55
25	05:03 21:41	06:39 (E14) 20:32	06:03 20:32	07:05 19:10	07:05 19:10	08:07 17:52
26	05:05 21:39	06:37 (E14) 20:30	06:05 20:30	07:07 19:07	07:07 19:07	08:09 17:50
27	05:06 21:37	06:37 (E14) 20:27	06:07 20:27	07:09 19:04	07:09 19:04	08:11 17:48
28	05:08 21:36	06:36 (E14) 20:24	06:09 20:24	07:11 19:02	07:11 19:02	08:13 17:46
29	05:10 21:34	06:35 (E14) 20:22	06:11 20:22	07:13 18:59	07:13 18:59	08:15 17:44
30	05:12 21:32	06:35 (E14) 20:19	06:13 20:19	07:15 18:56	07:15 18:56	08:17 17:42
31	05:14 21:30	06:34 (E14) 20:17	06:15 20:17	07:17 18:54	07:17 18:54	08:19 17:40
Potential sun hours	529	469	385	324	247	216
Total, worst case	558	799	334	17		
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	0.63		
Total reduction	0.32	0.32	0.27	0.16		
Total, real	177	253	90	3		

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:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Viksnes - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (19)

Assumptions for shadow calculations

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Operational time

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441	466	538	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	08:49 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:

25/06/2024 23:53/4.0.540

## 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		10:25 (E13)	08:15		10:48 (E13)	07:11	06:49	05:32		06:00 (E7)	04:36
	15:48	39	11:04 (E13)	16:45	12	11:00 (E13)	17:48	19:53	20:55	2	06:02 (E7)	21:53
2	08:50		10:26 (E13)	08:13			07:08	06:46	05:30		05:58 (E7)	04:35
	15:49	39	11:05 (E13)	16:47			17:50	19:55	20:57	7	06:05 (E7)	21:54
3	08:50		10:26 (E13)	08:11			07:06	06:43	05:28		05:56 (E7)	04:34
	15:51	39	11:05 (E13)	16:50			17:52	19:57	21:00	10	06:06 (E7)	21:55
4	08:50		10:26 (E13)	08:09			07:03	06:41	05:26		05:54 (E7)	04:33
	15:52	40	11:06 (E13)	16:52			17:54	19:59	21:02	13	06:07 (E7)	21:57
5	08:49		10:27 (E13)	08:07			07:00	06:38	05:23		05:52 (E7)	04:32
	15:53	40	11:07 (E13)	16:54			17:56	20:01	21:04	16	06:08 (E7)	21:58
6	08:49		10:27 (E13)	08:05			06:58	06:35	05:21		05:50 (E7)	04:31
	15:55	40	11:07 (E13)	16:56			17:58	20:03	21:06	19	06:09 (E7)	21:59
7	08:48		10:27 (E13)	08:03			06:55	06:33	05:19		05:49 (E7)	04:30
	15:56	41	11:08 (E13)	16:59			18:00	20:05	21:08	20	06:09 (E7)	22:00
8	08:48		10:28 (E13)	08:01			06:53	06:30	05:17		05:49 (E7)	04:29
	15:58	40	11:08 (E13)	17:01			18:03	20:08	21:10	20	06:09 (E7)	22:01
9	08:47		10:28 (E13)	07:58			06:50	06:28	05:15		05:48 (E7)	04:28
	15:59	41	11:09 (E13)	17:03			18:05	20:10	21:12	21	06:09 (E7)	22:02
10	08:46		10:29 (E13)	07:56			06:47	06:25	05:13		05:48 (E7)	04:28
	16:01	40	11:09 (E13)	17:05			18:07	20:12	21:14	21	06:09 (E7)	22:03
11	08:45		10:29 (E13)	07:54			06:45	06:22	05:11		05:48 (E7)	04:27
	16:03	41	11:10 (E13)	17:08			18:09	20:14	21:16	21	06:09 (E7)	22:04
12	08:44		10:30 (E13)	07:52			06:42	06:20	05:08		05:48 (E7)	04:27
	16:04	40	11:10 (E13)	17:10			18:11	20:16	21:18	20	06:08 (E7)	22:05
13	08:43		10:29 (E13)	07:49			06:40	06:17	05:06		05:48 (E7)	04:26
	16:06	41	11:10 (E13)	17:12			18:13	20:18	21:20	20	06:08 (E7)	22:06
14	08:42		10:30 (E13)	07:47			06:37	06:14	05:04		05:50 (E7)	04:26
	16:08	41	11:11 (E13)	17:14			18:15	20:20	21:22	18	06:08 (E7)	22:07
15	08:41		10:30 (E13)	07:45			06:34	06:12	05:03		05:50 (E7)	04:26
	16:10	40	11:10 (E13)	17:17			18:18	20:22	21:24	17	06:07 (E7)	22:07
16	08:40		10:31 (E13)	07:43			06:32	06:09	05:01		05:50 (E7)	04:25
	16:12	40	11:11 (E13)	17:19			18:20	20:24	21:25	16	06:06 (E7)	22:08
17	08:39		10:32 (E13)	07:40			06:29	06:07	04:59		05:52 (E7)	04:25
	16:14	40	11:12 (E13)	17:21			18:22	20:26	21:27	14	06:06 (E7)	22:08
18	08:37		10:32 (E13)	07:38			06:26	06:04	04:57		05:53 (E7)	04:25
	16:16	40	11:12 (E13)	17:23			18:24	20:28	21:29	11	06:04 (E7)	22:09
19	08:36		10:32 (E13)	07:35			06:24	06:02	04:55		05:54 (E7)	04:25
	16:18	39	11:11 (E13)	17:26			18:26	20:30	21:31	8	06:02 (E7)	22:09
20	08:35		10:33 (E13)	07:33			06:21	05:59	04:53			04:25
	16:20	39	11:12 (E13)	17:28			18:28	20:33	21:33			22:10
21	08:33		10:34 (E13)	07:31			06:18	05:57	04:52			04:25
	16:22	38	11:12 (E13)	17:30			18:30	20:35	21:35			22:10
22	08:32		10:34 (E13)	07:28			06:16	05:54	04:50			04:25
	16:24	37	11:11 (E13)	17:32			18:32	20:37	21:37			22:10
23	08:30		10:35 (E13)	07:26			06:13	05:52	04:48			04:26
	16:26	36	11:11 (E13)	17:34			18:34	20:39	21:38			22:10
24	08:29		10:36 (E13)	07:23			06:10	05:49	04:47			04:26
	16:28	35	11:11 (E13)	17:37			18:36	20:41	21:40			22:10
25	08:27		10:37 (E13)	07:21			06:07	05:47	04:45			04:26
	16:30	34	11:11 (E13)	17:39			18:38	20:43	21:42			22:10
26	08:26		10:38 (E13)	07:18			06:05	05:44	04:44			04:27
	16:32	32	11:10 (E13)	17:41			18:41	20:45	21:43			22:10
27	08:24		10:39 (E13)	07:16			06:02	05:42	04:42			04:27
	16:34	30	11:09 (E13)	17:43			18:43	20:47	21:45			22:10
28	08:22		10:40 (E13)	07:13			05:59	05:40	04:41			04:28
	16:36	29	11:09 (E13)	17:45			18:45	20:49	21:47			22:10
29	08:20		10:42 (E13)				06:57	05:37	04:40			04:29
	16:39	25	11:07 (E13)				19:47	20:51	21:48			22:10
30	08:18		10:44 (E13)				06:54	05:35	04:38			04:29
	16:41	22	11:06 (E13)				19:49	20:53	21:50			22:09
31	08:17		10:46 (E13)				06:51		04:37			
	16:43	18	11:04 (E13)				19:51		21:51			
Potential sun hours	235			266			366	426	508			529
Total, worst case		1136			12					294		
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					0.37		
Total, real		90			1					109		

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:16	05:58 (E7)	06:17	07:17	07:23
	22:09	21:28	21	06:19 (E7)	20:14	18:54
2	04:31	05:18	05:58 (E7)	06:19	07:19	07:25
	22:09	21:26	21	06:19 (E7)	20:11	18:51
3	04:32	05:19	05:59 (E7)	06:21	07:21	07:27
	22:08	21:24	20	06:19 (E7)	20:09	18:48
4	04:33	05:21	05:59 (E7)	06:23	07:23	07:29
	22:07	21:22	20	06:19 (E7)	20:06	18:46
5	04:34	05:23	05:58 (E7)	06:25	07:25	07:31
	22:07	21:20	20	06:18 (E7)	20:03	18:43
6	04:35	05:25	05:58 (E7)	06:27	07:27	07:33
	22:06	21:17	20	06:18 (E7)	20:01	18:40
7	04:36	05:27	06:00 (E7)	06:29	07:30	07:36
	22:05	21:15	18	06:18 (E7)	19:58	18:38
8	04:37	05:29	06:02 (E7)	06:31	07:32	07:38
	22:04	21:13	15	06:17 (E7)	19:55	18:35
9	04:38	05:31	06:04 (E7)	06:33	07:34	07:40
	22:03	21:11	12	06:16 (E7)	19:53	18:32
10	04:39	05:33	06:06 (E7)	06:35	07:36	07:42
	22:02	21:08	9	06:15 (E7)	19:50	18:30
11	04:41	05:35	06:07 (E7)	06:37	07:38	07:44
	22:01	21:06	6	06:13 (E7)	19:47	18:27
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	18:19	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	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	20:50		19:29	18:09	16:02
19	04:52	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	04:57	05:57		06:59	08:01	08:07
	21:46	20:40		19:18	17:59	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	06:07 (E7)	06:01	07:03	08:05	08:11
	21:43	4	06:11 (E7)	20:35	19:12	17:55
25	05:03	06:05 (E7)	06:03	07:05	07:07	08:13
	21:41	9	06:14 (E7)	20:32	19:10	16:52
26	05:04	06:03 (E7)	06:05	07:07	07:10	08:15
	21:39	12	06:15 (E7)	20:30	19:07	16:50
27	05:06	06:02 (E7)	06:07	07:09	07:12	08:17
	21:38	15	06:17 (E7)	20:27	19:04	16:47
28	05:08	06:00 (E7)	06:09	07:11	07:14	08:19
	21:36	17	06:17 (E7)	20:24	19:02	16:45
29	05:10	06:00 (E7)	06:11	07:13	07:16	08:21
	21:34	18	06:18 (E7)	20:22	18:59	16:43
30	05:12	06:00 (E7)	06:13	07:15	07:18	08:22
	21:32	19	06:19 (E7)	20:19	18:56	16:40
31	05:14	05:59 (E7)	06:15		07:20	
	21:30	20	06:19 (E7)	20:17	16:38	
Potential sun hours	529		469		385	324
Total, worst case		114		182		709
Sun reduction		0.49		0.50		0.08
Oper. time red.		0.98		0.98		0.98
Wind dir. red.		0.67		0.67		0.61
Total reduction		0.32		0.33		0.05
Total, real		37		59		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		12:35 (E7)		08:15		09:12 (E6)		07:11		06:49		05:32		07:24 (E5)		04:36		07:38 (E5)			
2	15:48	32	13:07 (E7)		16:45	28	09:40 (E6)		17:47		19:53		20:55	80	08:44 (E5)		21:53	46	08:24 (E5)			
	08:50		12:37 (E7)		08:13		09:13 (E6)		07:08		06:46		05:30		07:24 (E5)		04:34		07:38 (E5)			
3	15:49	31	13:08 (E7)		16:47	27	09:40 (E6)		17:50		19:55		20:57	79	08:43 (E5)		21:54	46	08:24 (E5)			
	08:50		12:37 (E7)		08:11		09:14 (E6)		07:06		06:43		05:28		07:24 (E5)		04:33		07:39 (E5)			
4	15:50	30	13:07 (E7)		16:49	25	09:39 (E6)		17:52		19:57	16	08:03 (E5)		08:43 (E5)		21:55	44	08:23 (E5)			
	08:50		12:37 (E7)		08:09		09:14 (E6)		07:03		06:41		05:25		07:24 (E5)		04:32		07:40 (E5)			
5	15:52	30	13:07 (E7)		16:52	25	09:39 (E6)		17:54		19:59	27	08:25 (E5)		08:43 (E5)		21:57	42	08:22 (E5)			
	08:49		12:39 (E7)		08:07		09:16 (E6)		07:00		06:38		05:23		07:25 (E5)		04:31		07:41 (E5)			
6	15:53	29	13:08 (E7)		16:54	23	09:39 (E6)		17:56		20:01	34	08:28 (E5)		08:42 (E5)		21:58	41	08:22 (E5)			
	08:49		12:39 (E7)		08:05		09:16 (E6)		06:58		06:35		05:21		07:25 (E5)		04:31		07:42 (E5)			
7	15:55	29	13:08 (E7)		16:56	21	09:37 (E6)		17:58		20:03	40	08:31 (E5)		08:42 (E5)		21:59	39	08:21 (E5)			
	08:48		12:40 (E7)		08:03		09:18 (E6)		06:55		06:33		05:19		07:25 (E5)		04:30		07:42 (E5)			
8	15:56	28	13:08 (E7)		16:58	18	09:36 (E6)		18:00		20:05	45	08:33 (E5)		08:42 (E5)		22:00	38	08:20 (E5)			
	08:48		12:41 (E7)		08:00		09:20 (E6)		06:53		06:30		05:17		07:25 (E5)		04:29		07:44 (E5)			
9	15:58	26	13:07 (E7)		17:01	15	09:35 (E6)		18:02		20:07	49	08:34 (E5)		08:41 (E5)		22:01	36	08:20 (E5)			
	08:47		12:42 (E7)		07:58		09:22 (E6)		06:50		06:27		05:14		07:25 (E5)		04:28		07:44 (E5)			
10	15:59	25	13:07 (E7)		17:03	9	09:31 (E6)		18:05		20:10	52	08:36 (E5)		08:40 (E5)		22:02	35	08:19 (E5)			
	08:46		12:43 (E7)		07:56				06:47		06:25		05:12		07:25 (E5)		04:28		07:46 (E5)			
11	16:01	24	13:07 (E7)		17:05				18:07		20:12	56	08:37 (E5)		08:40 (E5)		22:03	33	08:19 (E5)			
	08:45		12:45 (E7)		07:54				06:45		06:22		05:10		07:25 (E5)		04:27		07:46 (E5)			
12	16:03	22	13:07 (E7)		17:07				18:09		20:14	59	08:39 (E5)		08:39 (E5)		22:04	32	08:18 (E5)			
	08:44		12:47 (E7)		07:52				06:42		06:20		05:08		07:25 (E5)		04:27		07:47 (E5)			
13	16:04	19	13:06 (E7)		17:10				18:11		20:16	62	08:40 (E5)		08:38 (E5)		22:05	31	08:18 (E5)			
	08:43		12:48 (E7)		07:49				06:39		06:17		05:06		07:26 (E5)		04:26		07:48 (E5)			
14	16:06	17	13:05 (E7)		17:12				18:13		20:18	64	08:41 (E5)		08:38 (E5)		22:06	29	08:17 (E5)			
	08:42		12:50 (E7)		07:47				06:37		06:14		05:04		07:26 (E5)		04:26		07:48 (E5)			
15	16:08	14	13:04 (E7)		17:14				18:15		20:20	66	08:41 (E5)		08:37 (E5)		22:07	28	08:16 (E5)			
	08:41		09:21 (E6)		07:45				06:34		06:12		05:02		07:27 (E5)		04:25		07:49 (E5)			
16	16:10	12	13:02 (E7)		17:16				18:17		20:22	69	08:43 (E5)		08:37 (E5)		22:07	27	08:16 (E5)			
	08:40		09:17 (E6)		07:43				06:31		06:09		05:00		07:27 (E5)		04:25		07:49 (E5)			
17	16:12	10	09:27 (E6)		17:19				18:19		20:24	70	08:43 (E5)		08:36 (E5)		22:08	27	08:16 (E5)			
	08:39		09:16 (E6)		07:40				06:29		06:07		04:59		07:27 (E5)		04:25		07:50 (E5)			
18	16:13	14	09:30 (E6)		17:21				18:22		20:26	72	08:44 (E5)		08:35 (E5)		22:08	26	08:16 (E5)			
	08:37		09:15 (E6)		07:38				06:26		06:04		04:57		07:28 (E5)		04:25		07:51 (E5)			
19	16:15	16	09:31 (E6)		17:23				18:24		20:28	72	08:43 (E5)		08:35 (E5)		22:09	25	08:16 (E5)			
	08:36		09:13 (E6)		07:35				06:23		06:02		04:55		07:28 (E5)		04:25		07:51 (E5)			
20	16:17	19	09:32 (E6)		17:25				18:26		20:30	74	08:44 (E5)		08:34 (E5)		22:09	25	08:16 (E5)			
	08:35		09:13 (E6)		07:33				06:21		05:59		04:53		07:29 (E5)		04:25		07:51 (E5)			
21	16:19	21	09:34 (E6)		17:28				18:28		20:32	75	08:44 (E5)		08:33 (E5)		22:10	25	08:16 (E5)			
	08:33		09:13 (E6)		07:31				06:18		05:56		04:51		07:29 (E5)		04:25		07:51 (E5)			
22	16:21	22	09:35 (E6)		17:30				18:30		20:35	76	08:45 (E5)		08:32 (E5)		22:10	25	08:16 (E5)			
	08:32		09:12 (E6)		07:28				06:15		05:54		04:50		07:31 (E5)		04:25		07:52 (E5)			
23	16:23	23	09:35 (E6)		17:32				18:32		20:37	77	08:44 (E5)		08:32 (E5)		22:10	25	08:17 (E5)			
	08:30		09:12 (E6)		07:26				06:13		05:52		04:48		07:31 (E5)		04:25		07:52 (E5)			
24	16:26	24	09:36 (E6)		17:34				18:34		20:39	77	08:44 (E5)		08:31 (E5)		22:10	25	08:17 (E5)			
	08:29		09:12 (E6)		07:23				06:10		05:49		04:46		07:32 (E5)		04:26		07:52 (E5)			
25	16:28	26	09:38 (E6)		17:36				18:36		20:41	78	08:45 (E5)		08:30 (E5)		22:10	25	08:17 (E5)			
	08:27		09:12 (E6)		07:21				06:07		05:47		04:45		07:33 (E5)		04:26		07:52 (E5)			
26	16:30	26	09:38 (E6)		17:39				18:38		20:43	78	08:44 (E5)		08:30 (E5)		22:10	26	08:18 (E5)			
	08:25		09:12 (E6)		07:18				06:05		05:44		04:43		07:33 (E5)		04:27		07:52 (E5)			
27	16:32	27	09:39 (E6)		17:41				18:40		20:45	79	08:44 (E5)		08:28 (E5)		22:10	26	08:18 (E5)			
	08:24		09:12 (E6)		07:16				06:02		05:42		04:42		07:33 (E5)		04:27		07:52 (E5)			
28	16:34	27	09:39 (E6)		17:43				18:42		20:47	80	08:45 (E5)		08:28 (E5)		22:10	27	08:19 (E5)			
	08:22		09:12 (E6)		07:13				05:59		05:39		04:41		07:34 (E5)		04:28		07:51 (E5)			
29	16:36	28	09:40 (E6)		17:45				18:45		20:49	80	08:45 (E5)		08:27 (E5)		22:10	28	08:19 (E5)			
	08:20		09:12 (E6)						06:57		05:37		04:39		07:35 (E5)		04:28		07:51 (E5)			
30	16:38	28	09:40 (E6)						19:47		20:51	80	08:44 (E5)		08:27 (E5)		22:10	29	08:20 (E5)			
	08:18		09:12 (E6)						06:54		05:35		04:38		07:36 (E5)		04:29		07:50 (E5)			
31	16:41	28	09:40 (E6)						19:49		20:53	80	08:44 (E5)		08:26 (E5)		22:09	31	08:21 (E5)			
	08:17		09:13 (E6)						06:51						04:37							
	16:43	27	09:40 (E6)						19:51					21:51	48	08:25 (E5)						
Potential sun hours	235				266				366		426		508		529							
Total, worst case		734				191					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				0.12					0.32		0.36				0.36					
Total, real		59				22					569		753				335					

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E5)	05:15		07:36 (E5)	06:17		07:39 (E5)	07:17		07:22			08:24	12:27 (E7)	
	22:09	32	08:22 (E5)	21:28	73	08:49 (E5)	20:14	59	08:38 (E5)	18:53		16:36			15:45	22	12:49 (E7)
2	04:31		07:50 (E5)	05:17		07:35 (E5)	06:19		07:40 (E5)	07:19		07:25		08:51 (E6)	08:26	12:27 (E7)	
	22:09	33	08:23 (E5)	21:26	75	08:50 (E5)	20:11	56	08:36 (E5)	18:51		16:34	11	09:02 (E6)	15:44	23	12:50 (E7)
3	04:31		07:50 (E5)	05:19		07:35 (E5)	06:21		07:42 (E5)	07:21		07:27		08:49 (E6)	08:28	12:25 (E7)	
	22:08	34	08:24 (E5)	21:24	75	08:50 (E5)	20:09	53	08:35 (E5)	18:48		16:31	16	09:05 (E6)	15:43	25	12:50 (E7)
4	04:32		07:49 (E5)	05:21		07:34 (E5)	06:23		07:42 (E5)	07:23		07:29		08:47 (E6)	08:29	12:25 (E7)	
	22:07	36	08:25 (E5)	21:22	76	08:50 (E5)	20:06	49	08:31 (E5)	18:45		16:29	19	09:06 (E6)	15:42	26	12:51 (E7)
5	04:33		07:49 (E5)	05:23		07:34 (E5)	06:25		07:44 (E5)	07:25		07:31		08:45 (E6)	08:31	12:25 (E7)	
	22:07	37	08:26 (E5)	21:19	77	08:51 (E5)	20:03	45	08:29 (E5)	18:43		16:27	22	09:07 (E6)	15:41	28	12:53 (E7)
6	04:34		07:49 (E5)	05:25		07:34 (E5)	06:27		07:46 (E5)	07:27		07:33		08:45 (E6)	08:32	12:26 (E7)	
	22:06	38	08:27 (E5)	21:17	77	08:51 (E5)	20:01	40	08:26 (E5)	18:40		16:25	24	09:09 (E6)	15:41	28	12:54 (E7)
7	04:35		07:48 (E5)	05:27		07:34 (E5)	06:29		07:49 (E5)	07:29		07:36		08:44 (E6)	08:34	12:25 (E7)	
	22:05	40	08:28 (E5)	21:15	78	08:52 (E5)	19:58	34	08:23 (E5)	18:38		16:23	25	09:09 (E6)	15:40	29	12:54 (E7)
8	04:37		07:48 (E5)	05:29		07:34 (E5)	06:31		07:52 (E5)	07:31		07:38		08:44 (E6)	08:35	12:25 (E7)	
	22:04	41	08:29 (E5)	21:13	78	08:52 (E5)	19:55	27	08:19 (E5)	18:35		16:21	26	09:10 (E6)	15:39	30	12:55 (E7)
9	04:38		07:47 (E5)	05:31		07:34 (E5)	06:33		07:57 (E5)	07:34		07:40		08:43 (E6)	08:37	12:25 (E7)	
	22:03	43	08:30 (E5)	21:11	78	08:52 (E5)	19:53	17	08:14 (E5)	18:32		16:19	27	09:10 (E6)	15:39	30	12:55 (E7)
10	04:39		07:46 (E5)	05:33		07:33 (E5)	06:35			07:36		07:42		08:43 (E6)	08:38	12:26 (E7)	
	22:02	45	08:31 (E5)	21:08	79	08:52 (E5)	19:50			18:30		16:17	27	09:10 (E6)	15:39	31	12:57 (E7)
11	04:40		07:46 (E5)	05:35		07:33 (E5)	06:37			07:38		07:44		08:43 (E6)	08:39	12:25 (E7)	
	22:01	45	08:31 (E5)	21:06	79	08:52 (E5)	19:47			18:27		16:15	28	09:11 (E6)	15:38	32	12:57 (E7)
12	04:42		07:45 (E5)	05:37		07:33 (E5)	06:39			07:40		07:46		08:43 (E6)	08:40	12:26 (E7)	
	22:00	47	08:32 (E5)	21:04	79	08:52 (E5)	19:45			18:24		16:13	28	09:11 (E6)	15:38	32	12:58 (E7)
13	04:43		07:45 (E5)	05:39		07:33 (E5)	06:41			07:42		07:49		08:44 (E6)	08:42	12:26 (E7)	
	21:59	49	08:34 (E5)	21:01	79	08:52 (E5)	19:42			18:22		16:11	28	09:12 (E6)	15:38	33	12:59 (E7)
14	04:45		07:44 (E5)	05:41		07:33 (E5)	06:43			07:44		07:51		08:44 (E6)	08:43	12:27 (E7)	
	21:58	51	08:35 (E5)	20:59	79	08:52 (E5)	19:39			18:19		16:09	28	09:12 (E6)	15:38	32	12:59 (E7)
15	04:46		07:43 (E5)	05:43		07:33 (E5)	06:45			07:46		07:53		08:44 (E6)	08:44	10:34 (E8)	
	21:57	52	08:35 (E5)	20:57	79	08:52 (E5)	19:37			18:17		16:07	27	09:11 (E6)	15:38	37	13:00 (E7)
16	04:47		07:43 (E5)	05:45		07:32 (E5)	06:47			07:48		07:55		08:45 (E6)	08:45	10:33 (E8)	
	21:55	54	08:37 (E5)	20:54	79	08:51 (E5)	19:34			18:14		16:06	27	09:12 (E6)	15:38	39	13:00 (E7)
17	04:49		07:43 (E5)	05:47		07:32 (E5)	06:49			07:50		07:57		08:45 (E6)	08:46	10:33 (E8)	
	21:54	54	08:37 (E5)	20:52	79	08:51 (E5)	19:31			18:12		16:04	26	09:11 (E6)	15:38	40	13:01 (E7)
18	04:51		07:42 (E5)	05:49		07:32 (E5)	06:51			07:52		07:59		08:46 (E6)	08:46	10:33 (E8)	
	21:52	56	08:38 (E5)	20:49	79	08:51 (E5)	19:28			18:09		16:02	26	09:12 (E6)	15:38	41	13:01 (E7)
19	04:52		07:42 (E5)	05:51		07:32 (E5)	06:53			07:54		08:01		08:47 (E6)	08:47	10:34 (E8)	
	21:51	57	08:39 (E5)	20:47	78	08:50 (E5)	19:26			18:07		16:01	24	09:11 (E6)	15:38	41	13:02 (E7)
20	04:54		07:41 (E5)	05:53		07:33 (E5)	06:55			07:57		08:03		08:47 (E6)	08:48	10:33 (E8)	
	21:49	59	08:40 (E5)	20:45	77	08:50 (E5)	19:23			18:04		15:59	23	09:10 (E6)	15:38	42	13:02 (E7)
21	04:56		07:41 (E5)	05:55		07:33 (E5)	06:57			07:59		08:05		08:48 (E6)	08:48	10:34 (E8)	
	21:48	60	08:41 (E5)	20:42	77	08:50 (E5)	19:20			18:02		15:57	22	09:10 (E6)	15:39	42	13:03 (E7)
22	04:57		07:41 (E5)	05:57		07:33 (E5)	06:59			08:01		08:07		08:50 (E6)	08:49	10:34 (E8)	
	21:46	62	08:43 (E5)	20:40	76	08:49 (E5)	19:18			17:59		15:56	20	09:10 (E6)	15:39	42	13:03 (E7)
23	04:59		07:39 (E5)	05:59		07:34 (E5)	07:01			08:03		08:09		08:50 (E6)	08:50	10:35 (E8)	
	21:45	64	08:43 (E5)	20:37	75	08:49 (E5)	19:15			17:57		15:54	19	09:09 (E6)	15:40	42	13:04 (E7)
24	05:01		07:39 (E5)	06:01		07:34 (E5)	07:03			08:05		08:11		08:52 (E6)	08:50	10:36 (E8)	
	21:43	65	08:44 (E5)	20:35	74	08:48 (E5)	19:12			17:54		15:53	16	09:08 (E6)	15:40	41	13:04 (E7)
25	05:02		07:38 (E5)	06:03		07:34 (E5)	07:05			07:07		08:13		08:53 (E6)	08:50	10:36 (E8)	
	21:41	66	08:44 (E5)	20:32	72	08:46 (E5)	19:10			16:52		15:52	14	09:07 (E6)	15:41	41	13:04 (E7)
26	05:04		07:38 (E5)	06:05		07:34 (E5)	07:07			07:09		08:15		08:55 (E6)	08:51	10:37 (E8)	
	21:39	67	08:45 (E5)	20:29	71	08:45 (E5)	19:07			16:50		15:50	10	09:05 (E6)	15:42	41	13:05 (E7)
27	05:06		07:38 (E5)	06:07		07:35 (E5)	07:09			07:12		08:17		08:59 (E6)	08:51	10:38 (E8)	
	21:38	68	08:46 (E5)	20:27	69	08:44 (E5)	19:04			16:47		15:49	12	12:41 (E7)	15:42	39	13:05 (E7)
28	05:08		07:37 (E5)	06:09		07:35 (E5)	07:11			07:14		08:19		12:30 (E7)	08:51	10:39 (E8)	
	21:36	69	08:46 (E5)	20:24	68	08:43 (E5)	19:01			16:45		15:48	14	12:44 (E7)	15:43	37	13:05 (E7)
29	05:10		07:37 (E5)	06:11		07:36 (E5)	07:13			07:16		08:21		12:29 (E7)	08:51	10:42 (E8)	
	21:34	70	08:47 (E5)	20:22	66	08:42 (E5)	18:59			16:43		15:47	17	12:46 (E7)	15:44	34	13:06 (E7)
30	05:12		07:37 (E5)	06:13		07:37 (E5)	07:15			07:18		08:22		12:28 (E7)	08:51	12:34 (E7)	
	21:32	71	08:48 (E5)	20:19	64	08:41 (E5)	18:56			16:40		15:46	19	12:47 (E7)	15:45	32	13:06 (E7)
31	05:14		07:36 (E5)	06:15		07:38 (E5)				07:20					08:51	12:35 (E7)	
	21:30	72	08:48 (E5)	20:17	62	08:40 (E5)				16:38					15:46	32	13:07 (E7)
Potential sun hours	529			469				385		324		247			216		
Total, worst case		1637			2327			380				625				1064	
Sun reduction		0.49			0.50			0.43				0.08				0.07	
Oper. time red.		0.98			0.98			0.98				0.98				0.98	
Wind dir. red.		0.65			0.65			0.65				0.60				0.64	
Total reduction		0.31			0.32			0.27				0.05				0.04	
Total, real		514			738			103				30				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:

25/06/2024 23:53/4.0.540

## 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	05:55 (E16) 17 06:12 (E16)	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 20:57	04:35 21:54	04:31 22:08	05:18 21:26	05:54 (E16) 18 06:12 (E16)	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	06:43 19:57	05:28 20:59	04:34 21:55	04:32 22:08	05:20 21:24	05:54 (E16) 18 06:12 (E16)	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 21:56	04:33 22:07	05:22 21:22	05:55 (E16) 17 06:12 (E16)	06:23 20:06	07:23 18:46	07:29 16:30
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 (E16) 15 06:12 (E16)	06:25 20:03	07:25 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 (E16) 13 06:11 (E16)	06:27 20:01	07:27 18:40	07:33 16:25
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:05	05:19 21:08	04:30 22:00	04:36 22:05	05:27 21:15	06:00 (E16) 10 06:10 (E16)	06:29 19:58	07:30 18:38	07:36 16:23
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	04:37 22:04	05:29 21:13	06:02 (E16) 8 06:10 (E16)	06:31 19:55	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 (E16) 5 06:09 (E16)	06:33 19:53	07:34 18:33	07:40 16:19
10	08:46 16:01	07:56 17:06	06:47 18:07	06:25 20:12	05:13 21:14	04:28 22:03	04:40 22:02	05:33 21:08	06:06 (E16) 1 06:07 (E16)	06:35 19:50	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 22:04	04:41 22:01	05:35 21:06	06:07 (E16)	06:37 19:47	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	06:09 (E16)	06:39 19:45	07:40 18:25	07:46 16:13
13	08:43 16:06	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	06:11 (E16)	06:41 19:42	07:42 18:22	07:48 16:11
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	04:26 22:06	04:45 21:58	05:41 20:59	06:13 (E16)	06:43 19:39	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 21:23	04:26 22:07	04:47 21:56	05:43 20:57	06:15 (E16)	06:45 19:37	07:46 18:17	07:53 16:08
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	04:48 21:55	05:45 20:54	06:17 (E16)	06:47 19:34	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	06:19 (E16)	06:49 19:31	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 20:49	06:21 (E16)	06:51 19:29	07:52 18:09	07:59 16:03
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	06:23 (E16)	06:53 19:26	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	06:25 (E16)	06:55 19:23	07:57 18:04	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	06:27 (E16)	06:57 19:21	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	06:29 (E16)	06:59 19:18	08:01 18:00	08:07 15:56
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	06:31 (E16)	07:01 19:15	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	06:33 (E16)	07:03 19:12	08:05 17:55	08:11 15:53
25	08:27 16:30	07:21 17:39	06:08 18:38	05:47 20:43	04:45 21:42	04:27 22:10	05:03 21:41	06:03 20:32	06:35 (E16)	07:05 19:10	08:07 16:52	08:13 15:52
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 20:29	06:37 (E16)	07:07 19:07	08:10 16:50	08:15 15:51
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	05:07 21:37	06:07 20:27	06:39 (E16)	07:09 19:04	08:12 16:48	08:17 15:50
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	06:41 (E16)	07:11 19:02	08:14 16:45	08:19 15:48
29	08:20 16:39	07:11 17:47	06:57 18:47	05:37 20:51	04:40 21:48	04:29 22:10	05:10 21:34	06:11 20:22	06:43 (E16)	07:13 18:59	08:16 16:43	08:21 15:47
30	08:18 16:41	07:04 17:49	06:54 18:49	05:35 20:53	04:38 21:49	04:30 22:09	05:12 21:32	06:13 20:19	06:45 (E16)	07:15 18:56	08:18 16:41	08:22 15:46
31	08:17 16:43	07:03 17:51	06:51 18:51	05:33 20:51	04:37 21:51	05:14 21:30	05:55 (E16) 17 06:12 (E16)	06:15 20:17	06:47 (E16)	07:20 16:38	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					194		76	122				
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		25	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:

25/06/2024 23:53/4.0.540

## 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	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 20:54	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:

25/06/2024 23:53/4.0.540

## 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	18	20:52 (E12) 21:10 (E12)	04:30 22:08	13	21:00 (E12) 21:13 (E12)	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	18	20:52 (E12) 21:10 (E12)	04:31 22:08	14	21:00 (E12) 21:14 (E12)	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	04:33 21:55	18	20:52 (E12) 21:10 (E12)	04:32 22:07	15	21:00 (E12) 21:15 (E12)	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	04:32 21:56	18	20:52 (E12) 21:10 (E12)	04:32 22:07	15	21:00 (E12) 21:15 (E12)	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	16	20:54 (E12) 21:10 (E12)	04:33 22:06	16	21:00 (E12) 21:16 (E12)	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	16	20:54 (E12) 21:10 (E12)	04:35 22:05	16	21:00 (E12) 21:16 (E12)	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	06:32 20:05	05:19 21:07	04:30 22:00	16	20:54 (E12) 21:10 (E12)	04:36 22:05	17	21:00 (E12) 21:17 (E12)	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	15	20:55 (E12) 21:10 (E12)	04:37 22:04	17	21:00 (E12) 21:17 (E12)	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	05:14 21:11	04:28 22:02	15	20:55 (E12) 21:10 (E12)	04:38 22:03	17	21:00 (E12) 21:17 (E12)	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	14	20:56 (E12) 21:10 (E12)	04:39 22:02	17	21:00 (E12) 21:17 (E12)	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	14	20:55 (E12) 21:09 (E12)	04:40 22:01	18	20:59 (E12) 21:17 (E12)	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	14	20:56 (E12) 21:10 (E12)	04:42 22:00	19	20:59 (E12) 21:18 (E12)	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	13	20:57 (E12) 21:10 (E12)	04:43 21:59	18	21:00 (E12) 21:18 (E12)	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	12	20:57 (E12) 21:09 (E12)	04:45 21:57	18	21:00 (E12) 21:18 (E12)	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	12	20:57 (E12) 21:09 (E12)	04:46 21:56	18	21:00 (E12) 21:18 (E12)	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	11	20:58 (E12) 21:09 (E12)	04:48 21:55	16	21:01 (E12) 21:17 (E12)	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	11	20:58 (E12) 21:09 (E12)	04:49 21:53	16	21:00 (E12) 21:16 (E12)	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	10	20:59 (E12) 21:09 (E12)	04:51 21:52	14	21:00 (E12) 21:14 (E12)	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	11	20:59 (E12) 21:10 (E12)	04:52 21:50	12	21:01 (E12) 21:13 (E12)	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	20:55 (E12) 22:09	11	20:59 (E12) 21:10 (E12)	04:54 21:49	10	21:01 (E12) 21:11 (E12)	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	20:53 (E12) 22:09	11	20:59 (E12) 21:10 (E12)	04:56 21:47	9	21:02 (E12) 21:11 (E12)	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	20:53 (E12) 22:10	11	21:00 (E12) 21:11 (E12)	04:57 21:46	7	21:03 (E12) 21:10 (E12)	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	20:52 (E12) 22:10	11	21:00 (E12) 21:11 (E12)	04:59 21:44	4	21:04 (E12) 21:08 (E12)	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	20:52 (E12) 22:10	11	21:00 (E12) 21:11 (E12)	05:01 21:42	2	21:05 (E12) 21:07 (E12)	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	20:52 (E12) 22:10	10	21:01 (E12) 21:10 (E12)	05:02 21:41			06:03 20:32	07:05 19:09	08:07 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	20:51 (E12) 22:10	11	21:00 (E12) 21:11 (E12)	05:04 21:39			06:05 20:29	07:07 19:07	08:09 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	20:51 (E12) 22:10	11	21:01 (E12) 21:12 (E12)	05:06 21:37			06:07 20:27	07:09 19:04	08:16 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	20:51 (E12) 22:09	12	21:00 (E12) 21:12 (E12)	05:08 21:35			06:09 20:24	07:11 19:01	08:18 16:45	08:18 15:48	08:50 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	20:51 (E12) 22:09	13	21:00 (E12) 21:13 (E12)	05:10 21:33			06:11 20:21	07:13 18:59	08:20 16:43	08:50 15:47	08:50 15:44
30	08:18 16:41		06:54 19:48	05:35 20:53	04:38 21:49	20:52 (E12) 22:09	13	21:01 (E12) 21:14 (E12)	05:12 21:31			06:13 20:19	07:15 18:56	08:22 16:40	08:50 15:46	08:50 15:45
31	08:16 16:43		06:51 19:51		04:37 21:51	20:52 (E12) 21:10 (E12)			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					150			397		338						
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			0.34		0.30						
Total, real					51			133		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:

25/06/2024 23:53/4.0.540

## 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	09:50 (E13)	08:15	07:11	06:49		05:33	04:36
	15:48	28 10:18 (E13)	16:45	17:48	19:53		20:55	21:53
2	08:51	09:51 (E13)	08:13	07:08	06:46		05:30	04:35
	15:49	28 10:19 (E13)	16:47	17:50	19:55		20:58	21:54
3	08:50	09:51 (E13)	08:11	07:06	06:43		05:28	04:34
	15:51	28 10:19 (E13)	16:50	17:52	19:57		21:00	21:55
4	08:50	09:51 (E13)	08:09	07:03	06:41		05:26	04:33
	15:52	29 10:20 (E13)	16:52	17:54	19:59		21:02	21:57
5	08:49	09:52 (E13)	08:07	07:01	06:38		05:23	04:32
	15:53	29 10:21 (E13)	16:54	17:56	20:01		21:04	21:58
6	08:49	09:52 (E13)	08:05	06:58	06:35		05:21	04:31
	15:55	29 10:21 (E13)	16:56	17:58	20:03		21:06	21:59
7	08:48	09:52 (E13)	08:03	06:55	06:33		05:19	04:30
	15:56	30 10:22 (E13)	16:59	18:01	20:05		21:08	22:00
8	08:48	09:52 (E13)	08:01	06:53	06:30		05:17	04:29
	15:58	30 10:22 (E13)	17:01	18:03	20:08		21:10	22:01
9	08:47	09:53 (E13)	07:58	06:50	06:28		05:15	04:28
	15:59	30 10:23 (E13)	17:03	18:05	20:10		21:12	22:02
10	08:46	09:53 (E13)	07:56	06:47	06:25		05:13	04:28
	16:01	30 10:23 (E13)	17:05	18:07	20:12		21:14	22:03
11	08:45	09:53 (E13)	07:54	06:45	06:22		05:11	04:27
	16:03	31 10:24 (E13)	17:08	18:09	20:14		21:16	22:04
12	08:44	09:54 (E13)	07:52	06:42	06:20		05:08	04:27
	16:04	31 10:25 (E13)	17:10	18:11	20:16		21:18	22:05
13	08:43	09:54 (E13)	07:50	06:40	06:17		05:06	04:26
	16:06	30 10:24 (E13)	17:12	18:13	20:18		21:20	22:06
14	08:42	09:54 (E13)	07:47	06:37	06:15		05:04	04:26
	16:08	31 10:25 (E13)	17:14	18:15	20:20		21:22	22:07
15	08:41	09:55 (E13)	07:45	06:34	06:12		05:03	04:26
	16:10	31 10:26 (E13)	17:17	18:18	20:22		21:24	22:07
16	08:40	09:55 (E13)	07:43	06:32	06:09		05:01	04:25
	16:12	31 10:26 (E13)	17:19	18:20	20:24		21:26	22:08
17	08:39	09:56 (E13)	07:40	06:29	06:07	06:33 (E7)	04:59	04:25
	16:14	30 10:26 (E13)	17:21	18:22	20:26	2 06:35 (E7)	21:27	22:09
18	08:38	09:56 (E13)	07:38	06:26	06:04	06:30 (E7)	04:57	04:25
	16:16	30 10:26 (E13)	17:23	18:24	20:28	7 06:37 (E7)	21:29	22:09
19	08:36	09:56 (E13)	07:36	06:24	06:02	06:28 (E7)	04:55	04:25
	16:18	30 10:26 (E13)	17:26	18:26	20:30	10 06:38 (E7)	21:31	22:09
20	08:35	09:58 (E13)	07:33	06:21	05:59	06:25 (E7)	04:53	04:25
	16:20	28 10:26 (E13)	17:28	18:28	20:33	13 06:38 (E7)	21:33	22:10
21	08:33	09:58 (E13)	07:31	06:18	05:57	06:23 (E7)	04:52	04:25
	16:22	28 10:26 (E13)	17:30	18:30	20:35	16 06:39 (E7)	21:35	22:10
22	08:32	09:59 (E13)	07:28	06:16	05:54	06:21 (E7)	04:50	04:25
	16:24	26 10:25 (E13)	17:32	18:32	20:37	18 06:39 (E7)	21:37	22:10
23	08:30	09:59 (E13)	07:26	06:13	05:52	06:20 (E7)	04:48	04:26
	16:26	26 10:25 (E13)	17:34	18:34	20:39	18 06:38 (E7)	21:38	22:10
24	08:29	10:01 (E13)	07:23	06:10	05:49	06:20 (E7)	04:47	04:26
	16:28	24 10:25 (E13)	17:37	18:36	20:41	18 06:38 (E7)	21:40	22:10
25	08:27	10:02 (E13)	07:21	06:07	05:47	06:21 (E7)	04:45	04:26
	16:30	22 10:24 (E13)	17:39	18:38	20:43	17 06:38 (E7)	21:42	22:10
26	08:26	10:03 (E13)	07:18	06:05	05:44	06:21 (E7)	04:44	04:27
	16:32	21 10:24 (E13)	17:41	18:41	20:45	16 06:37 (E7)	21:43	22:10
27	08:24	10:05 (E13)	07:16	06:02	05:42	06:21 (E7)	04:42	04:27
	16:34	17 10:22 (E13)	17:43	18:43	20:47	15 06:36 (E7)	21:45	22:10
28	08:22	10:07 (E13)	07:13	05:59	05:40	06:23 (E7)	04:41	04:28
	16:36	13 10:20 (E13)	17:45	18:45	20:49	11 06:34 (E7)	21:47	22:10
29	08:20	10:11 (E13)		06:57	05:37	06:25 (E7)	04:40	04:29
	16:39	6 10:17 (E13)		19:47	20:51	7 06:32 (E7)	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		777				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				0.32		
Total, real		62				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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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
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	05:19 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 21:52	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	08:49 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 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:13 16:52	08:19 15:52	08:50 15:41
26	05:04 21:39	06:05 20:30	07:07 19:07	08:15 16:50	08:21 15:51	08:51 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:17 16:47	08:23 15:49	08:51 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:19 16:45	08:25 15:48	08:51 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:21 16:43	08:27 15:47	08:51 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:23 16:41	08:29 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		169			456	842
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		0.32			0.05	0.04
Total, real		54			23	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	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 (E15)	06:44	05:28
	15:51	16:50	17:52	1 07:33 (E15)	19:57	21:00
4	08:50	08:09	07:03	07:29 (E15)	06:41	05:26
	15:52	16:52	17:54	4 07:33 (E15)	19:59	21:02
5	08:49	08:07	07:01	07:26 (E15)	06:38	05:24
	15:54	16:54	17:56	7 07:33 (E15)	20:01	21:04
6	08:49	08:05	06:58	07:24 (E15)	06:36	05:21
	15:55	16:57	17:58	10 07:34 (E15)	20:03	21:06
7	08:48	08:03	06:55	07:21 (E15)	06:33	05:19
	15:56	16:59	18:01	13 07:34 (E15)	20:06	21:08
8	08:48	08:01	06:53	07:18 (E15)	06:30	05:17
	15:58	17:01	18:03	15 07:33 (E15)	20:08	21:10
9	08:47	07:58	06:50	07:16 (E14)	06:28	05:15
	16:00	17:03	18:05	17 07:33 (E15)	20:10	21:12
10	08:46	07:56	06:48	07:13 (E14)	06:25	05:13
	16:01	17:06	18:07	19 07:32 (E15)	20:12	21:14
11	08:45	07:54	06:45	07:10 (E14)	06:22	05:11
	16:03	17:08	18:09	20 07:30 (E15)	20:14	21:16
12	08:44	07:52	06:42	07:08 (E14)	06:20	05:09
	16:05	17:10	18:11	19 07:27 (E15)	20:16	21:18
13	08:43	07:50	06:40	07:05 (E14)	06:17	05:07
	16:06	17:12	18:13	21 07:26 (E14)	20:18	21:20
14	08:42	07:47	06:37	07:02 (E14)	06:15	05:05
	16:08	17:14	18:16	25 07:27 (E14)	20:20	21:22
15	08:41	07:45	06:34	07:02 (E14)	06:12	05:03
	16:10	17:17	18:18	25 07:27 (E14)	20:22	21:24
16	08:40	07:43	06:32	07:02 (E14)	06:09	05:01
	16:12	17:19	18:20	25 07:27 (E14)	20:24	21:26
17	08:39	07:40	06:29	07:01 (E14)	06:07	06:33 (E13)
	16:14	17:21	18:22	25 07:26 (E14)	20:26	4 06:37 (E13)
18	08:38	07:38	06:26	07:01 (E14)	06:04	06:30 (E13)
	16:16	17:23	18:24	25 07:26 (E14)	20:28	7 06:37 (E13)
19	08:36	07:36	06:24	07:01 (E14)	06:02	06:28 (E13)
	16:18	17:26	18:26	25 07:26 (E14)	20:31	10 06:38 (E13)
20	08:35	07:33	06:21	07:02 (E14)	05:59	06:26 (E13)
	16:20	17:28	18:28	22 07:24 (E14)	20:33	13 06:39 (E13)
21	08:33	07:31	06:18	07:02 (E14)	05:57	06:23 (E13)
	16:22	17:30	18:30	21 07:23 (E14)	20:35	15 06:38 (E13)
22	08:32	07:28	06:16	07:03 (E14)	05:54	06:21 (E13)
	16:24	17:32	18:32	19 07:22 (E14)	20:37	17 06:38 (E13)
23	08:30	07:26	06:13	07:05 (E14)	05:52	06:19 (E13)
	16:26	17:35	18:34	14 07:19 (E14)	20:39	18 06:37 (E13)
24	08:29	07:23	06:10	07:07 (E14)	05:49	06:20 (E13)
	16:28	17:37	18:36	9 07:16 (E14)	20:41	17 06:37 (E13)
25	08:27	07:21	06:08		05:47	06:21 (E13)
	16:30	17:39	18:39		20:43	15 06:36 (E13)
26	08:26	07:18	06:05		05:45	06:21 (E13)
	16:32	17:41	18:41		20:45	13 06:34 (E13)
27	08:24	07:16	06:02		05:42	06:22 (E13)
	16:34	17:43	18:43		20:47	11 06:33 (E13)
28	08:22	07:13	06:00		05:40	06:25 (E13)
	16:37	17:45	18:45		20:49	6 06:31 (E13)
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	528
Total, worst case			381	146		
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			96	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 22:09	05:16 21:28	06:17 20:14	07:17 18:54	07:46 (E14) 16:36	08:24 15:45
2	04:31 22:09	05:18 21:26	06:19 20:11	07:19 18:51	07:48 (E14) 16:34	08:26 15:44
3	04:32 22:08	05:20 21:24	06:21 20:09	07:21 18:48	07:50 (E14) 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 (E14) 16:30	08:29 15:43
5	04:34 22:07	05:24 21:20	06:25 20:04	07:26 18:43	07:54 (E15) 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 (E15) 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 (E15) 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 (E15) 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 (E15) 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 (E15) 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	07:46 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 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 21:52	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 18:05	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 19:12	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 17:52	08:13 15:52	08:51 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 17:42	08:22 15:46	08:51 15:46
31	05:14 21:30	06:15 20:17		08:19 17:40	08:24 15:45	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		150	251	136		
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		47	66	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	05:36 (E12) 20:29 (E16)	04:30 22:09	20:04 (E16) 21:28	05:16 20:51 (E15)	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	05:37 (E12) 20:29 (E16)	04:31 22:08	20:04 (E16) 21:26	05:18 20:51 (E15)	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	05:37 (E12) 20:29 (E16)	04:32 22:08	20:04 (E16) 21:23	05:19 20:49 (E15)	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	05:38 (E12) 20:28 (E16)	04:33 22:07	20:04 (E16) 21:21	05:21 20:48 (E15)	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 21:58	05:40 (E12) 20:29 (E16)	04:34 22:06	05:49 (E12) 20:34 (E16)	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	05:41 (E12) 20:28 (E16)	04:35 22:06	05:48 (E12) 20:35 (E16)	05:25 21:17	06:27 20:43 (E14)	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 21:57	05:42 (E12) 20:28 (E16)	04:36 22:05	05:47 (E12) 20:35 (E16)	05:27 21:15	06:29 20:41 (E14)	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	05:46 (E12) 20:28 (E16)	04:37 22:04	05:46 (E12) 20:35 (E16)	05:29 21:13	06:31 20:45 (E14)	07:31 18:35	07:38 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	04:29 22:02	05:45 (E12) 20:28 (E16)	04:38 22:03	05:45 (E12) 20:36 (E16)	05:31 21:10	06:33 20:38 (E14)	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	05:42 (E12) 20:28 (E16)	04:39 22:02	05:44 (E12) 20:36 (E16)	05:33 21:08	06:35 20:35 (E14)	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	05:10 21:15	04:27 22:04	05:44 (E12) 20:27 (E16)	04:41 22:01	05:44 (E12) 20:36 (E16)	05:35 21:06	06:37 19:47	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	05:08 21:17	04:27 22:05	05:38 (E12) 20:28 (E16)	04:42 22:00	05:44 (E12) 20:38 (E16)	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	05:36 (E12) 20:28 (E16)	04:43 21:59	05:43 (E12) 20:42 (E15)	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	05:35 (E12) 20:28 (E16)	04:45 21:58	05:43 (E12) 20:44 (E15)	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	05:33 (E12) 20:27 (E16)	04:46 21:56	05:42 (E12) 20:45 (E15)	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	04:25 22:08	05:32 (E12) 20:28 (E16)	04:48 21:55	05:43 (E12) 20:47 (E15)	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	05:32 (E12) 20:28 (E16)	04:49 21:54	05:42 (E12) 20:48 (E15)	05:47 20:52	06:49 19:31	07:49 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	05:32 (E12) 20:28 (E16)	04:51 21:52	05:42 (E12) 20:49 (E15)	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	05:31 (E12) 20:28 (E16)	04:52 21:51	05:42 (E12) 20:49 (E15)	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	05:32 (E12) 20:28 (E16)	04:54 21:49	05:42 (E12) 20:50 (E15)	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	05:31 (E12) 20:29 (E16)	04:56 21:48	05:42 (E12) 20:50 (E15)	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:58	08:49 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	05:32 (E12) 20:29 (E16)	04:57 21:46	05:42 (E12) 20:51 (E15)	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	05:32 (E12) 20:29 (E16)	04:59 21:44	05:41 (E12) 20:51 (E15)	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	05:32 (E12) 20:29 (E16)	05:01 21:43	05:42 (E12) 20:52 (E15)	06:01 20:34	07:03 19:12	08:05 17:55	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 21:41	04:26 22:10	05:32 (E12) 20:29 (E16)	05:03 21:41	05:42 (E12) 20:52 (E15)	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	05:33 (E12) 20:29 (E16)	05:04 21:39	05:42 (E12) 20:52 (E15)	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	05:33 (E12) 20:29 (E16)	05:06 21:37	05:43 (E12) 20:52 (E15)	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	05:33 (E12) 20:30 (E16)	05:08 21:35	05:43 (E12) 20:52 (E15)	06:09 20:24	07:11 19:01	08:14 17:45	08:19 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	04:29 22:09	05:34 (E12) 20:30 (E16)	05:10 21:33	05:44 (E12) 20:52 (E15)	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	07:04 17:54	05:54 18:54	05:35 20:53	04:38 21:49	04:29 22:09	05:35 (E12) 20:30 (E16)	05:12 21:32	05:46 (E12) 20:52 (E15)	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	07:01 17:51	05:51 18:51	05:37 20:51	04:37 21:51	04:29 22:10	05:35 (E12) 20:32 (E15)	05:14 21:30	05:48 (E12) 20:52 (E15)	06:15 20:16	07:20 16:38	08:21 17:38	08:22 15:47	08:51 15:47
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216		
Total, worst case					1651	908	1751	348						
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	0.63						
Total reduction					0.35	0.34	0.31	0.31						
Total, real					583	313	538	106						

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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)

## 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	08:15	07:11		06:49		05:32		06:25 (E7)	04:36				
	15:48	16:45	17:47		19:53		20:55	37	07:02 (E7)	21:53				
2	08:50	08:13	07:08		06:46		05:30		06:25 (E7)	04:35				
	15:49	16:47	17:50		19:55		20:57	37	07:02 (E7)	21:54				
3	08:50	08:11	07:06		06:43		05:28		06:25 (E7)	04:34				
	15:51	16:50	17:52		19:57		21:00	37	07:02 (E7)	21:55				
4	08:50	08:09	07:03		06:41		05:26		06:25 (E7)	04:33				
	15:52	16:52	17:54		19:59		21:02	37	07:02 (E7)	21:57				
5	08:49	08:07	07:00		06:38		05:23		06:25 (E7)	04:32				
	15:53	16:54	17:56		20:01		21:04	37	07:02 (E7)	21:58				
6	08:49	08:05	06:58		06:35		05:21		06:26 (E7)	04:31				
	15:55	16:56	17:58		20:03		21:06	35	07:01 (E7)	21:59				
7	08:48	08:03	06:55		06:33		05:19		06:26 (E7)	04:30				
	15:56	16:59	18:00		20:05	2	07:00 (E6)	21:08	35	07:01 (E7)	22:00	2	05:07 (E5)	
8	08:48	08:00	06:53		06:30		06:55 (E6)	05:17		06:26 (E7)	04:29		05:05 (E5)	
	15:58	17:01	18:03		20:08	6	07:01 (E6)	21:10	34	07:00 (E7)	22:01	3	05:08 (E5)	
9	08:47	07:58	06:50		06:27		06:53 (E6)	05:15		06:27 (E7)	04:28		05:04 (E5)	
	15:59	17:03	18:05		20:10	10	07:03 (E6)	21:12	33	07:00 (E7)	22:02	5	05:09 (E5)	
10	08:46	07:56	06:47		06:25		06:50 (E6)	05:13		06:27 (E7)	04:28		05:04 (E5)	
	16:01	17:05	18:07		20:12	13	07:03 (E6)	21:14	32	06:59 (E7)	22:03	6	05:10 (E5)	
11	08:45	07:54	06:45		06:22		06:48 (E6)	05:10		06:28 (E7)	04:27		05:03 (E5)	
	16:03	17:08	18:09		20:14	16	07:04 (E6)	21:16	30	06:58 (E7)	22:04	7	05:10 (E5)	
12	08:44	07:52	06:42		06:20		06:45 (E6)	05:08		06:28 (E7)	04:27		05:03 (E5)	
	16:04	17:10	18:11		20:16	18	07:03 (E6)	21:18	29	06:57 (E7)	22:05	8	05:11 (E5)	
13	08:43	07:49	06:39		06:17		06:46 (E6)	05:06		06:29 (E7)	04:26		05:03 (E5)	
	16:06	17:12	18:13		20:18	17	07:03 (E6)	21:20	27	06:56 (E7)	22:06	8	05:11 (E5)	
14	08:42	07:47	06:37		06:14		06:45 (E6)	05:04		06:31 (E7)	04:26		05:02 (E5)	
	16:08	17:14	18:15	6	07:08 (E8)	20:20	17	07:02 (E6)	21:22	24	06:55 (E7)	22:07	9	05:11 (E5)
15	08:41	07:45	06:34		06:12		06:46 (E6)	05:02		06:32 (E7)	04:26		05:02 (E5)	
	16:10	17:17	18:17	11	07:10 (E8)	20:22	16	07:02 (E6)	21:24	22	06:54 (E7)	22:07	10	05:12 (E5)
16	08:40	07:43	06:32		06:09		06:46 (E6)	05:01		06:33 (E7)	04:25		05:02 (E5)	
	16:12	17:19	18:20	15	07:12 (E8)	20:24	14	07:00 (E6)	21:25	19	06:52 (E7)	22:08	10	05:12 (E5)
17	08:39	07:40	06:29		06:07		06:48 (E6)	04:59		06:35 (E7)	04:25		05:02 (E5)	
	16:14	17:21	18:22	18	07:12 (E8)	20:26	11	06:59 (E6)	21:27	16	06:51 (E7)	22:08	10	05:12 (E5)
18	08:37	07:38	06:26		06:04		06:49 (E6)	04:57		06:37 (E7)	04:25		05:02 (E5)	
	16:16	17:23	18:24	20	07:12 (E8)	20:28	7	06:56 (E6)	21:29	11	06:48 (E7)	22:09	11	05:13 (E5)
19	08:36	07:35	06:23		06:02		06:39 (E7)	04:55		04:25			05:02 (E5)	
	16:18	17:25	18:26	21	07:13 (E8)	20:30	14	06:53 (E7)	21:31		22:09	11	05:13 (E5)	
20	08:35	07:33	06:21		06:52 (E8)	05:59		06:36 (E7)	04:53		04:25		05:02 (E5)	
	16:20	17:28	18:28	20	07:12 (E8)	20:33	19	06:55 (E7)	21:33		22:10	11	05:13 (E5)	
21	08:33	07:31	06:18		06:51 (E8)	05:57		06:34 (E7)	04:52		04:25		05:02 (E5)	
	16:22	17:30	18:30	21	07:12 (E8)	20:35	23	06:57 (E7)	21:35		22:10	11	05:13 (E5)	
22	08:32	07:28	06:15		06:52 (E8)	05:54		06:33 (E7)	04:50		04:25		05:03 (E5)	
	16:24	17:32	18:32	20	07:12 (E8)	20:37	26	06:59 (E7)	21:36		22:10	11	05:14 (E5)	
23	08:30	07:26	06:13		06:52 (E8)	05:52		06:31 (E7)	04:48		04:26		05:03 (E5)	
	16:26	17:34	18:34	18	07:10 (E8)	20:39	29	07:00 (E7)	21:38		22:10	11	05:14 (E5)	
24	08:29	07:23	06:10		06:52 (E8)	05:49		06:30 (E7)	04:47		04:26		05:03 (E5)	
	16:28	17:37	18:36	17	07:09 (E8)	20:41	31	07:01 (E7)	21:40		22:10	11	05:14 (E5)	
25	08:27	07:21	06:07		06:53 (E8)	05:47		06:29 (E7)	04:45		04:26		05:04 (E5)	
	16:30	17:39	18:38	13	07:06 (E8)	20:43	33	07:02 (E7)	21:42		22:10	11	05:15 (E5)	
26	08:26	07:18	06:05		06:56 (E8)	05:44		06:27 (E7)	04:44		04:27		05:04 (E5)	
	16:32	17:41	18:40	8	07:04 (E8)	20:45	34	07:01 (E7)	21:43		22:10	10	05:14 (E5)	
27	08:24	07:16	06:02		05:42		06:27 (E7)	04:42			04:27		05:05 (E5)	
	16:34	17:43	18:43		20:47	35	07:02 (E7)	21:45			22:10	10	05:15 (E5)	
28	08:22	07:13	05:59		05:39		06:27 (E7)	04:41			04:28		05:05 (E5)	
	16:36	17:45	18:45		20:49	36	07:03 (E7)	21:47			22:10	9	05:14 (E5)	
29	08:20		06:57		05:37		06:26 (E7)	04:39			04:28		05:06 (E5)	
	16:39		19:47		20:51	37	07:03 (E7)	21:48			22:10	9	05:15 (E5)	
30	08:18		06:54		05:35		06:25 (E7)	04:38			04:29		05:07 (E5)	
	16:41		19:49		20:53	37	07:02 (E7)	21:50			22:09	8	05:15 (E5)	
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				208	501		532		212					
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		0.66					
Total reduction				0.26	0.32		0.36		0.36					
Total, real				53	160		193		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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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 (E5)	05:16	06:38 (E7)	06:17	06:47 (E6)	07:17	07:23	08:24			
	22:09	7 05:14 (E5)	21:28	30 07:08 (E7)	20:14	16 07:03 (E6)	18:54	16:36	15:45			
2	04:31	05:08 (E5)	05:17	06:38 (E7)	06:19	06:49 (E6)	07:19	07:25	08:26			
	22:09	6 05:14 (E5)	21:26	31 07:09 (E7)	20:11	13 07:02 (E6)	18:51	16:34	15:44			
3	04:32	05:09 (E5)	05:19	06:37 (E7)	06:21	06:51 (E6)	07:21	07:27	08:28			
	22:08	5 05:14 (E5)	21:24	32 07:09 (E7)	20:09	10 07:01 (E6)	18:48	16:31	15:43			
4	04:33	05:10 (E5)	05:21	06:37 (E7)	06:23	06:53 (E6)	07:23	07:29	08:29			
	22:07	4 05:14 (E5)	21:22	33 07:10 (E7)	20:06	6 06:59 (E6)	18:46	16:29	15:42			
5	04:34	05:11 (E5)	05:23	06:35 (E7)	06:25	06:54 (E6)	07:25	07:31	08:31			
	22:07	3 05:14 (E5)	21:19	35 07:10 (E7)	20:03	2 06:56 (E6)	18:43	16:27	15:42			
6	04:35	05:12 (E5)	05:25	06:35 (E7)	06:27		07:27	07:33	08:32			
	22:06	1 05:13 (E5)	21:17	35 07:10 (E7)	20:01		18:40	16:25	15:41			
7	04:36		05:27	06:35 (E7)	06:29		07:29	07:36	08:34			
	22:05		21:15	36 07:11 (E7)	19:58		18:38	16:23	15:40			
8	04:37		05:29	06:35 (E7)	06:31		07:32	07:38	08:35			
	22:04		21:13	36 07:11 (E7)	19:55		18:35	16:21	15:40			
9	04:38		05:31	06:35 (E7)	06:33		07:34	07:40	08:37			
	22:03		21:11	37 07:12 (E7)	19:53		18:32	16:19	15:39			
10	04:39		05:33	06:34 (E7)	06:35		07:36	07:42	08:38			
	22:02		21:08	37 07:11 (E7)	19:50		18:30	16:17	15:39			
11	04:41		05:35	06:34 (E7)	06:37		07:38	07:44	08:39			
	22:01		21:06	37 07:11 (E7)	19:47		18:27	16:15	15:38			
12	04:42		05:37	06:34 (E7)	06:39		07:40	07:46	08:40		13:08 (E13)	
	22:00		21:04	37 07:11 (E7)	19:45		18:25	16:13	15:38	4	13:12 (E13)	
13	04:43		05:39	06:34 (E7)	06:41		07:42	07:49	08:42		13:06 (E13)	
	21:59		21:01	37 07:11 (E7)	19:42		18:22	16:11	15:38	7	13:13 (E13)	
14	04:45		05:41	06:34 (E7)	06:43		07:44	07:51	08:43		13:06 (E13)	
	21:58		20:59	36 07:10 (E7)	19:39		18:19	16:09	15:38	9	13:15 (E13)	
15	04:46		05:43	06:34 (E7)	06:45		07:46	07:53	08:44		13:05 (E13)	
	21:57		20:57	36 07:10 (E7)	19:37		18:17	16:07	15:38	11	13:16 (E13)	
16	04:48		05:45	06:35 (E7)	06:47		07:48	07:55	08:45		13:05 (E13)	
	21:55		20:54	34 07:09 (E7)	19:34		18:14	16:06	15:38	12	13:17 (E13)	
17	04:49		05:47	06:34 (E7)	06:49		07:50	07:57	08:46		13:05 (E13)	
	21:54		20:52	34 07:08 (E7)	19:31	6 07:52 (E8)	18:12	16:04	15:38	13	13:18 (E13)	
18	04:51		05:49	06:35 (E7)	06:51		07:52	07:59	08:46		13:06 (E13)	
	21:52		20:50	32 07:07 (E7)	19:29	13 07:55 (E8)	18:09	16:02	15:38	13	13:19 (E13)	
19	04:52		05:51	06:35 (E7)	06:53		07:55	08:01	08:47		13:05 (E13)	
	21:51		20:47	31 07:06 (E7)	19:26	16 07:56 (E8)	18:07	16:01	15:38	14	13:19 (E13)	
20	04:54		05:53	06:36 (E7)	06:55		07:57	08:03	08:48		13:06 (E13)	
	21:49		20:45	29 07:05 (E7)	19:23	18 07:57 (E8)	18:04	15:59	15:38	13	13:19 (E13)	
21	04:56		05:55	06:38 (E7)	06:57		07:58	08:05	08:48		13:07 (E13)	
	21:48		20:42	26 07:04 (E7)	19:20	19 07:57 (E8)	18:02	15:58	15:39	13	13:20 (E13)	
22	04:57		05:57	06:39 (E7)	06:59		07:59	08:07	08:49		13:07 (E13)	
	21:46		20:40	23 07:02 (E7)	19:18	20 07:56 (E8)	17:59	15:56	15:39	13	13:20 (E13)	
23	04:59		05:59	06:41 (E7)	07:01		08:03	08:09	08:50		13:08 (E13)	
	21:45		20:37	19 07:00 (E7)	19:15	21 07:56 (E8)	17:57	15:55	15:40	13	13:21 (E13)	
24	05:01		06:01	06:44 (E7)	07:03		08:05	08:11	08:50		13:08 (E13)	
	21:43		20:35	13 06:57 (E7)	19:12	21 07:56 (E8)	17:55	15:53	15:40	13	13:21 (E13)	
25	05:03		06:03	06:53 (E6)	07:05		08:07	08:13	08:50		13:09 (E13)	
	21:41	7 06:56 (E7)	20:32	7 07:00 (E6)	19:10	20 07:55 (E8)	16:52	15:52	15:41	13	13:22 (E13)	
26	05:04	06:46 (E7)	06:05	06:49 (E6)	07:07		07:36 (E8)	07:10	08:15		13:09 (E13)	
	21:39	14 07:00 (E7)	20:29	12 07:01 (E6)	19:07	19 07:55 (E8)	16:50	15:51	15:42	13	13:22 (E13)	
27	05:06	06:45 (E7)	06:07	06:48 (E6)	07:09		07:38 (E8)	07:12	08:17		13:10 (E13)	
	21:38	17 07:02 (E7)	20:27	14 07:02 (E6)	19:04	16 07:54 (E8)	16:47	15:49	15:43	12	13:22 (E13)	
28	05:08	06:42 (E7)	06:09	06:47 (E6)	07:11		07:40 (E8)	07:14	08:19		13:11 (E13)	
	21:36	21 07:03 (E7)	20:24	16 07:03 (E6)	19:02	12 07:52 (E8)	16:45	15:48	15:44	11	13:22 (E13)	
29	05:10	06:41 (E7)	06:11	06:46 (E6)	07:13		07:42 (E8)	07:16	08:21		13:12 (E13)	
	21:34	24 07:05 (E7)	20:22	17 07:03 (E6)	18:59	8 07:50 (E8)	16:43	15:47	15:44	10	13:22 (E13)	
30	05:12	06:41 (E7)	06:13	06:46 (E6)	07:15		07:44 (E8)	07:18	08:22		13:14 (E13)	
	21:32	25 07:06 (E7)	20:19	17 07:03 (E6)	18:56	2 07:46 (E8)	16:40	15:46	15:45	8	13:22 (E13)	
31	05:14	06:40 (E7)	06:15	06:45 (E6)			07:20		08:51		13:16 (E13)	
	21:30	27 07:07 (E7)	20:17	18 07:03 (E6)			16:38		15:47	5	13:21 (E13)	
Potential sun hours	529		469		385		324		247		216	
Total, worst case	161		867		258						220	
Sun reduction	0.49		0.50		0.43						0.07	
Oper. time red.	0.98		0.98		0.98						0.98	
Wind dir. red.	0.65		0.65		0.64						0.63	
Total reduction	0.32		0.32		0.27						0.04	
Total, real	51		276		69						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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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 15:48	08:15 16:45	07:11 17:48	06:49 19:53	05:33 20:56	04:36 21:53
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
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	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	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 17:34	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	04:26 22:11
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 22:10
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	187	102				
Sun reduction	0.13	0.20				
Oper. time red.	0.98	0.98				
Wind dir. red.	0.60	0.63				
Total reduction	0.08	0.12				
Total, real	15	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:

25/06/2024 23:53/4.0.540

## 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 7 09:04 (E14)
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 5 09:11 (E14)
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 09:12 (E14)
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 2 09:11 (E14)
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	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 6	07:49 08:27 (E13) 16:11	08:42 15:38
14	04:45 21:58	05:41 20:59	06:43 19:39	07:44 18:20 11	07:51 08:36 (E13) 16:09	08:43 15:38
15	04:46 21:57	05:43 20:57	06:45 19:37	07:46 18:17 14	07:53 08:37 (E13) 16:08	08:44 15:38
16	04:48 21:55	05:45 20:55	06:47 19:34	07:48 18:15 15	07:55 08:37 (E13) 16:06	08:45 15:38
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12 16	07:57 08:37 (E13) 16:04	08:46 15:38
18	04:51 21:53	05:49 20:50	06:51 19:29	07:53 18:09 15	07:59 08:37 (E13) 16:03 7	08:47 09:04 (E14) 15:38
19	04:53 21:51	05:51 20:47	06:53 19:26	07:55 18:07 12	08:01 08:25 (E13) 16:01 10	08:47 09:05 (E14) 15:38
20	04:54 21:50	05:53 20:45	06:55 19:23	07:57 18:04 9	08:03 08:36 (E13) 15:59 12	08:48 09:06 (E14) 15:39
21	04:56 21:48	05:55 20:42	06:57 19:21	07:59 18:02 6	08:05 08:29 (E13) 15:58 14	08:49 09:08 (E14) 15:39
22	04:58 21:46	05:57 20:40	06:59 19:18	08:01 18:00 3	08:07 08:32 (E13) 15:56 15	08:49 09:09 (E14) 15:40
23	04:59 21:45	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55 16	08:50 09:09 (E14) 15:40
24	05:01 21:43	06:01 20:35	07:03 19:12	08:05 17:55	08:11 15:53 16	08:50 09:09 (E14) 15:41
25	05:03 21:41	06:03 20:32	07:05 19:10	08:07 16:52	08:13 15:52 17	08:50 09:10 (E14) 15:41
26	05:05 21:39	06:05 20:30	07:07 19:07	08:10 16:50	08:15 15:51 17	08:51 09:11 (E14) 15:42
27	05:06 21:38	06:07 20:27	07:09 19:04	08:12 16:48	08:17 15:49 15	08:51 09:11 (E14) 15:43
28	05:08 21:36	06:09 20:24	07:11 19:02	08:14 16:45	08:19 15:48 13	08:51 09:11 (E14) 15:44
29	05:10 21:34	06:11 20:22	07:13 18:59	08:16 16:43	08:21 15:47 11	08:51 09:11 (E14) 15:45
30	05:12 21:32	06:13 20:19	07:15 18:56	08:18 16:41	08:23 15:46 9	08:51 09:02 (E14) 15:46
31	05:14 21:30	06:15 20:17	07:20 16:38	08:20	15:47	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case				107	172	18
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				17	8	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## SHADOW - Calendar

Shadow receptor: Arsmeniki (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	08:51 15:44
29	08:20 16:38	07:11 17:46	05:56 18:46	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	07:04 17:48	05:54 18:48	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	07:01 17:51	05:51 18:51	05:31 21:51	04:37 21:51	04:29 21:51	05:14 21:29	06:15 20:16	07:20 16:38	07:20 15:47	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:

25/06/2024 23:53/4.0.540

## 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
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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
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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:

25/06/2024 23:53/4.0.540

## 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	24	17:53 (E1) 18:17 (E1)	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	23	17:53 (E1) 18:16 (E1)	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	21	17:54 (E1) 18:15 (E1)	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	19	17:55 (E1) 18:14 (E1)	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	16	17:56 (E1) 18:12 (E1)	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	11	17:58 (E1) 18:09 (E1)	07:33 16:25	08:32 15:40
7	08:48 15:56	08:02 16:58	06:55 18:00	8	17:24 (E1) 17:32 (E1)	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	14	17:20 (E1) 17:34 (E1)	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	18	17:18 (E1) 17:36 (E1)	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	20	17:17 (E1) 17:37 (E1)	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	22	17:16 (E1) 17:38 (E1)	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	24	17:14 (E1) 17:38 (E1)	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	23	17:14 (E1) 17:37 (E1)	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	24	17:14 (E1) 17:38 (E1)	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	24	17:13 (E1) 17:37 (E1)	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	23	17:13 (E1) 17:36 (E1)	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	22	17:14 (E1) 17:36 (E1)	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	21	17:14 (E1) 17:35 (E1)	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	18	17:15 (E1) 17:33 (E1)	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	15	17:17 (E1) 17:32 (E1)	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	10	17:19 (E1) 17:29 (E1)	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	06:15 21:36	04:49 22:10	04:25 21:46	05:57 20:39	06:59 19:17		18:04 (E1) 18:13 (E1)	9	08:01 17:59 (E1)	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	06:12 21:38	04:48 22:10	04:25 21:44	05:59 20:37	07:01 19:15		18:01 (E1) 18:15 (E1)	08:03 17:59 (E1)	08:08 17:56 (E1)	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	06:10 21:40	04:46 22:10	04:25 21:43	06:01 20:34	07:03 19:12	14	17:59 (E1) 18:17 (E1)	08:05 17:57 (E1)	08:11 17:54 (E1)	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	06:07 21:41	04:45 22:10	04:26 21:41	06:03 20:32	07:05 19:09	18	17:57 (E1) 18:17 (E1)	07:07 17:56 (E1)	08:13 17:52 (E1)	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	06:04 21:43	04:43 22:10	04:26 21:39	06:05 20:29	07:07 19:07	20	17:56 (E1) 18:18 (E1)	07:09 17:55 (E1)	08:15 17:51 (E1)	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	06:02 21:45	04:42 22:10	04:27 21:37	06:07 20:27	07:09 19:04	22	17:55 (E1) 18:18 (E1)	07:11 17:54 (E1)	08:17 17:48 (E1)	08:17 15:45	08:50 15:41
28	08:22 16:36	07:13 17:45	05:59 18:44		05:39 20:49	06:00 21:46	04:40 22:10	04:27 21:35	06:09 20:24	07:11 19:01	23	17:54 (E1) 18:18 (E1)	07:13 17:51 (E1)	08:18 17:46 (E1)	08:18 15:44	08:51 15:44
29	08:20 16:38		06:56 19:46		05:37 20:51	06:00 21:48	04:38 22:09	04:28 21:33	05:09 20:21	06:11 18:58	24	17:54 (E1) 18:18 (E1)	07:16 17:53 (E1)	08:20 17:48 (E1)	08:20 15:45	08:51 15:45
30	08:18 16:40		06:54 19:48		05:34 20:53	06:00 21:49	04:38 22:09	04:29 21:31	05:11 20:19	06:13 18:56	24	17:53 (E1) 18:17 (E1)	07:18 17:48 (E1)	08:22 17:45 (E1)	08:22 15:45	08:51 15:45
31	08:16 16:42		06:51 19:50			06:36 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				286							178		114			
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				75							49		19			

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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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 15:48	08:15 16:45	07:11 17:48	07:42 (E14) 08:08 (E14)	06:49 19:53	05:33 20:55
2	08:51 15:50	08:13 16:48	07:08 17:50	07:41 (E14) 08:08 (E14)	06:46 19:55	05:30 20:58
3	08:50 15:51	08:11 16:50	07:06 17:52	07:42 (E14) 08:08 (E14)	06:44 19:57	05:28 21:00
4	08:50 15:52	08:09 16:52	07:03 17:54	07:41 (E14) 08:07 (E14)	06:41 19:59	05:26 21:02
5	08:49 15:54	08:07 16:54	07:01 17:56	07:41 (E14) 08:06 (E14)	06:38 20:01	05:24 21:04
6	08:49 15:55	08:05 16:57	06:58 17:58	07:42 (E14) 08:06 (E14)	06:36 20:03	05:21 21:06
7	08:48 15:56	08:03 16:59	06:55 18:01	07:43 (E14) 08:05 (E14)	06:33 20:06	05:19 21:08
8	08:48 15:58	08:01 17:01	06:53 18:03	07:43 (E14) 08:03 (E14)	06:30 20:08	05:17 21:10
9	08:47 16:00	07:58 17:03	06:50 18:05	07:45 (E14) 08:02 (E14)	06:28 20:10	05:15 21:12
10	08:46 16:01	07:56 17:05	06:48 18:07	07:47 (E14) 07:58 (E14)	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	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	04:27 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 21:26	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 22:08
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	04:53 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 22:10
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		06:52 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Total, worst case		121	224	178		
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	56	57		

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:

25/06/2024 23:53/4.0.540

## 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	05:16	06:17	06:47 (E13)	07:17	07:23
	22:09	21:28	20:14	14 07:01 (E13)	18:54	16:36
2	04:31	05:18	06:19	06:49 (E13)	07:19	07:25
	22:09	21:26	20:11	12 07:01 (E13)	18:51	16:34
3	04:32	05:20	06:21	06:51 (E13)	07:21	08:27 (E14)
	22:08	21:24	20:09	8 06:59 (E13)	18:48	8 08:35 (E14)
4	04:33	05:22	06:23	06:53 (E13)	07:23	08:24 (E14)
	22:07	21:22	20:06	5 06:58 (E13)	18:46	14 08:38 (E14)
5	04:34	05:24	06:25	07:25	08:21 (E14)	07:31
	22:07	21:20	20:04	18 08:39 (E14)	16:27	15:42
6	04:35	05:25	06:27	07:28	08:19 (E14)	07:34
	22:06	21:17	20:01	21 08:40 (E14)	16:25	15:41
7	04:36	05:27	06:29	07:30	08:18 (E14)	07:36
	22:05	21:15	19:58	23 08:41 (E14)	16:23	15:40
8	04:37	05:29	06:31	07:32	08:17 (E14)	07:38
	22:04	21:13	19:56	24 08:41 (E14)	16:21	15:40
9	04:38	05:31	06:33	07:34	08:17 (E14)	07:40
	22:03	21:11	19:53	26 08:43 (E14)	16:19	15:39
10	04:40	05:33	06:35	07:36	08:16 (E14)	07:42
	22:02	21:08	19:50	26 08:42 (E14)	16:17	15:39
11	04:41	05:35	06:37	07:38	08:16 (E14)	07:44
	22:01	21:06	19:48	26 08:42 (E14)	16:15	15:39
12	04:42	05:37	06:39	07:40	08:15 (E14)	07:46
	22:00	21:04	19:45	27 08:42 (E14)	16:13	15:38
13	04:44	05:39	06:41	07:42	08:15 (E14)	07:49
	21:59	21:02	19:42	26 08:41 (E14)	16:11	15:38
14	04:45	05:41	06:43	07:44	08:15 (E14)	07:51
	21:58	20:59	19:39	25 08:40 (E14)	16:10	15:38
15	04:46	05:43	06:45	07:46	08:16 (E14)	07:53
	21:57	20:57	19:37	24 08:40 (E14)	16:08	15:38
16	04:48	05:45	06:47	07:48	08:18 (E14)	07:55
	21:55	20:54	19:34	21 08:39 (E14)	16:06	15:38
17	04:49	05:47	06:49	07:50	08:20 (E14)	07:57
	21:54	20:52	19:31	17 08:37 (E14)	16:04	15:38
18	04:51	05:49	06:51	07:53	08:22 (E14)	07:59
	21:52	20:50	19:29	14 08:36 (E14)	16:03	15:38
19	04:53	05:51	06:53	07:55	08:25 (E14)	08:01
	21:51	20:47	19:26	9 08:34 (E14)	16:01	15:38
20	04:54	05:53	06:55	07:57	08:27 (E14)	08:03
	21:49	20:45	19:23	3 08:30 (E14)	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	06:52 (E13)	07:01	08:03	08:09
	21:45	20:37	5 06:57 (E13)	19:15	17:57	15:55
24	05:01	06:01	06:49 (E13)	07:03	08:05	08:11
	21:43	20:35	11 07:00 (E13)	19:12	17:55	15:53
25	05:03	06:03	06:47 (E13)	07:05	07:07	08:13
	21:41	20:32	14 07:01 (E13)	19:10	16:52	15:52
26	05:05	06:05	06:46 (E13)	07:07	07:10	08:15
	21:39	20:30	16 07:02 (E13)	19:07	16:50	15:51
27	05:06	06:07	06:45 (E13)	07:09	07:12	08:17
	21:38	20:27	18 07:03 (E13)	19:04	16:48	15:50
28	05:08	06:09	06:43 (E13)	07:11	07:14	08:19
	21:36	20:24	19 07:02 (E13)	19:02	16:45	15:48
29	05:10	06:11	06:43 (E13)	07:13	07:16	08:21
	21:34	20:22	20 07:03 (E13)	18:59	16:43	15:47
30	05:12	06:13	06:43 (E13)	07:15	07:18	08:22
	21:32	20:19	19 07:02 (E13)	18:56	16:41	15:46
31	05:14	06:15	06:45 (E13)	07:17	07:20	08:23
	21:30	20:17	17 07:02 (E13)	16:38	16:38	15:47
Potential sun hours	529	469	385	324	247	216
Total, worst case		139	39	352		
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		45	11	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:15	07:11	07:37 (E14)	06:49	05:33
	15:48	16:45	17:48	21 07:58 (E14)	19:53	20:55
2	08:50	08:13	07:08	07:34 (E14)	06:46	05:30
	15:50	16:48	17:50	25 07:59 (E14)	19:55	20:58
3	08:50	08:11	07:06	07:34 (E14)	06:44	05:28
	15:51	16:50	17:52	26 08:00 (E14)	19:57	21:00
4	08:50	08:09	07:03	07:33 (E14)	06:41	05:26
	15:52	16:52	17:54	27 08:00 (E14)	19:59	21:02
5	08:49	08:07	07:01	07:32 (E14)	06:38	05:24
	15:54	16:54	17:56	28 08:00 (E14)	20:01	21:04
6	08:49	08:05	06:58	07:32 (E14)	06:36	05:21
	15:55	16:57	17:58	29 08:01 (E14)	20:03	21:06
7	08:48	08:03	06:55	07:31 (E14)	06:33	05:19
	15:56	16:59	18:01	30 08:01 (E14)	20:06	21:08
8	08:48	08:01	06:53	07:30 (E14)	06:30	05:17
	15:58	17:01	18:03	30 08:00 (E14)	20:08	21:10
9	08:47	07:58	06:50	07:31 (E14)	06:28	05:15
	16:00	17:03	18:05	29 08:00 (E14)	20:10	21:12
10	08:46	07:56	06:48	07:31 (E14)	06:25	05:13
	16:01	17:05	18:07	28 07:59 (E14)	20:12	21:14
11	08:45	07:54	06:45	07:31 (E14)	06:22	05:11
	16:03	17:08	18:09	27 07:58 (E14)	20:14	21:16
12	08:44	07:52	06:42	07:32 (E14)	06:20	05:09
	16:05	17:10	18:11	26 07:58 (E14)	20:16	21:18
13	08:43	07:50	06:40	07:32 (E14)	06:17	05:07
	16:06	17:12	18:13	24 07:56 (E14)	20:18	21:20
14	08:42	07:47	06:37	07:33 (E14)	06:15	05:05
	16:08	17:14	18:15	21 07:54 (E14)	20:20	21:22
15	08:41	07:45	06:34	07:35 (E14)	06:12	05:03
	16:10	17:17	18:18	18 07:53 (E14)	20:22	21:24
16	08:40	07:43	06:32	07:37 (E14)	06:09	05:01
	16:12	17:19	18:20	13 07:50 (E14)	20:24	21:25
17	08:39	07:40	06:29	06:07	06:33 (E13)	04:59
	16:14	17:21	18:22	20:26	14 06:47 (E13)	21:27
18	08:38	07:38	06:26	06:04	06:30 (E13)	04:57
	16:16	17:23	18:24	20:28	17 06:47 (E13)	21:29
19	08:36	07:36	06:24	06:02	06:28 (E13)	04:55
	16:18	17:26	18:26	20:31	20 06:48 (E13)	21:31
20	08:35	07:33	06:21	05:59	06:27 (E13)	04:53
	16:20	17:28	18:28	20:33	21 06:48 (E13)	21:33
21	08:33	07:31	06:18	05:57	06:26 (E13)	04:52
	16:22	17:30	18:30	20:35	21 06:47 (E13)	21:35
22	08:32	07:28	06:16	05:54	06:26 (E13)	04:50
	16:24	17:32	18:32	20:37	21 06:47 (E13)	21:37
23	08:30	07:26	06:13	05:52	06:26 (E13)	04:48
	16:26	17:34	18:34	20:39	20 06:46 (E13)	21:38
24	08:29	07:23	06:10	05:49	06:27 (E13)	04:47
	16:28	17:37	3 07:53 (E15)	18:36	18 06:45 (E13)	21:40
25	08:27	07:21	06:08	05:47	06:28 (E13)	04:45
	16:30	17:39	7 07:55 (E15)	18:39	16 06:44 (E13)	21:42
26	08:26	07:18	06:05	05:44	06:28 (E13)	04:44
	16:32	17:41	10 07:55 (E15)	18:41	14 06:42 (E13)	21:43
27	08:24	07:16	06:02	05:42	06:30 (E13)	04:42
	16:34	17:43	13 07:55 (E15)	18:43	10 06:40 (E13)	21:45
28	08:22	07:13	06:00	05:40	06:35 (E13)	04:41
	16:37	17:45	17 07:57 (E14)	18:45	1 06:36 (E13)	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		50	402	216		
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		6	101	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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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	08:11 (E14)	07:23
	22:09	21:28	20:14	18:54	26 08:37 (E14)	16:36
2	04:31	05:18	06:19	07:19	08:10 (E14)	07:25
	22:09	21:26	20:11	18:51	27 08:37 (E14)	16:34
3	04:32	05:20	06:21	07:21	08:09 (E14)	07:27
	22:08	21:24	20:09	18:48	28 08:37 (E14)	16:32
4	04:33	05:22	06:23	07:23	08:08 (E14)	07:29
	22:07	21:22	20:06	18:46	29 08:37 (E14)	16:30
5	04:34	05:23	06:25	07:25	08:08 (E14)	07:31
	22:07	21:20	20:04	18:43	29 08:37 (E14)	16:27
6	04:35	05:25	06:27	07:28	08:07 (E14)	07:33
	22:06	21:17	20:01	18:40	30 08:37 (E14)	16:25
7	04:36	05:27	06:29	07:30	08:07 (E14)	07:36
	22:05	21:15	19:58	18:38	29 08:36 (E14)	16:23
8	04:37	05:29	06:31	07:32	08:07 (E14)	07:38
	22:04	21:13	19:56	18:35	29 08:36 (E14)	16:21
9	04:38	05:31	06:33	07:34	08:08 (E14)	07:40
	22:03	21:11	19:53	18:33	28 08:36 (E14)	16:19
10	04:40	05:33	06:35	07:36	08:08 (E14)	07:42
	22:02	21:08	19:50	18:30	27 08:35 (E14)	16:17
11	04:41	05:35	06:37	07:38	08:08 (E14)	07:44
	22:01	21:06	19:47	18:27	26 08:34 (E14)	16:15
12	04:42	05:37	06:39	07:40	08:09 (E14)	07:46
	22:00	21:04	19:45	18:25	23 08:32 (E14)	16:13
13	04:44	05:39	06:41	07:42	08:11 (E14)	07:49
	21:59	21:02	19:42	18:22	19 08:30 (E14)	16:11
14	04:45	05:41	06:43	07:44	08:13 (E14)	07:51
	21:58	20:59	19:39	18:20	15 08:28 (E14)	16:10
15	04:46	05:43	06:45 (E13)	07:46	08:16 (E14)	07:53
	21:57	20:57	5 06:45 (E13)	18:17	12 08:28 (E15)	16:08
16	04:48	05:45	06:47 (E13)	07:48	08:18 (E15)	07:55
	21:55	20:54	11 06:48 (E13)	18:15	9 08:27 (E15)	16:06
17	04:49	05:47	06:49 (E13)	07:50	08:20 (E15)	07:57
	21:54	20:52	15 06:50 (E13)	18:12	5 08:25 (E15)	16:04
18	04:51	05:49	06:51 (E13)	07:52	08:22 (E15)	07:59
	21:52	20:50	17 06:51 (E13)	18:09	2 08:24 (E15)	16:03
19	04:53	05:51	06:53 (E13)	07:55	08:01	08:47
	21:51	20:47	19 06:51 (E13)	18:07	16:01	15:38
20	04:54	05:53	06:55 (E13)	07:57	08:03	08:48
	21:49	20:45	20 06:51 (E13)	18:04	15:59	15:39
21	04:56	05:55	06:57 (E13)	07:59	08:05	08:48
	21:48	20:42	21 06:52 (E13)	18:02	15:58	15:39
22	04:58	05:57	06:59 (E13)	08:01	08:07	08:49
	21:46	20:40	21 06:52 (E13)	18:00	15:56	15:40
23	04:59	05:59	07:01 (E13)	08:03	08:09	08:50
	21:45	20:37	22 06:52 (E13)	17:57	15:55	15:40
24	05:01	06:01	07:03 (E13)	08:05	08:11	08:50
	21:43	20:35	19 06:51 (E13)	17:55	15:53	15:41
25	05:03	06:03	07:05 (E13)	07:07	08:13	08:50
	21:41	20:32	17 06:51 (E13)	16:52	15:52	15:41
26	05:05	06:05	07:07 (E13)	07:10	08:15	08:51
	21:39	20:30	14 06:50 (E13)	16:50	15:51	15:42
27	05:06	06:07	07:09 (E13)	07:12	08:17	08:51
	21:38	20:27	11 06:49 (E13)	16:48	15:50	15:43
28	05:08	06:09	07:11 (E13)	07:14	08:19	08:51
	21:36	20:24	8 06:47 (E13)	16:45	15:48	15:44
29	05:10	06:11	07:13 (E13)	07:16	08:21	08:51
	21:34	20:22	4 06:45 (E13)	16:43	15:47	15:45
30	05:12	06:13	07:15 (E13)	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		224	69	393		
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		71	18	62		

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:

25/06/2024 23:53/4.0.540

## 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	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 15:50	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			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:

25/06/2024 23:53/4.0.540

## 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
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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	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 15:50	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:

25/06/2024 23:53/4.0.540

## 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	06:01 (E14) 21:53	04:36 22:09	04:30 21:28	05:16 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	06:01 (E14) 21:54	04:35 22:08	04:31 21:26	05:18 20:21	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	06:01 (E14) 21:55	04:34 22:08	04:32 21:24	05:20 20:24	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	06:01 (E14) 21:57	04:33 22:07	04:33 21:22	05:22 20:26	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	06:02 (E14) 21:58	04:32 22:07	04:34 21:20	05:24 20:04	06:16 (E14) 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	06:03 (E14) 21:59	04:31 22:06	04:35 21:17	05:26 20:01	06:13 (E14) 18:40	07:28 16:25	07:34 15:41
7	08:48 15:57	08:03 16:59	06:55 18:01	06:33 20:06	05:19 21:08	06:05 (E14) 22:00	04:30 22:05	04:36 21:15	05:28 20:01	06:12 (E14) 18:38	07:29 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	06:13 (E14) 22:01	04:30 22:04	04:37 21:13	05:29 20:06	06:11 (E14) 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	06:10 (E14) 22:02	04:31 22:03	04:38 21:11	05:31 20:04	06:11 (E14) 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	04:28 22:03	04:40 22:02	05:33 21:08	06:10 (E14) 20:01	06:09 (E14) 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	04:28 22:04	04:41 22:01	05:35 21:06	06:10 (E14) 20:01	06:07 (E14) 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	04:27 22:05	04:42 22:00	05:37 21:04	06:09 (E14) 20:01	06:07 (E14) 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	04:27 22:06	04:44 21:59	05:39 21:02	06:11 (E14) 20:01	06:04 (E14) 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	04:26 22:07	04:45 21:58	05:41 20:59	06:13 (E14) 20:01	06:03 (E14) 18:20	07:44 16:10	07:51 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 (E14) 20:01	06:04 (E14) 18:17	07:46 16:08	07:53 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 (E14) 20:01	06:07 (E14) 18:15	07:48 16:06	07:55 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 (E14) 20:01	06:09 (E14) 18:12	07:50 16:04	07:57 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	06:23 (E14) 20:01	06:07 (E14) 18:10	07:53 16:03	07:59 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 20:01	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	06:55 20:01	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 20:01	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 20:01	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 20:01	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 20:01	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 20:01	08:07 17:52	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 20:01	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	04:28 22:10	05:07 21:38	06:07 20:27	07:09 20:01	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 20:24	07:11 20:01	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 20:01	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	04:39 21:50	04:30 22:09	05:12 21:32	06:13 20:19	07:15 20:01	08:18 17:41	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	18:56 20:01	16:41 17:20	15:46 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				54	102			159				
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				
				18	38			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:

25/06/2024 23:53/4.0.540

## 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:

25/06/2024 23:53/4.0.540

## 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	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	28 05:50 (E15) 04:35 05:21 (E15)
3	08:50 15:51	08:11 16:50	07:06 17:52	06:43 19:57	05:28 20:59	30 05:51 (E15) 04:34 05:21 (E15)
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:26 21:02	30 05:51 (E15) 04:33 05:21 (E15)
5	08:49 15:54	08:07 16:54	07:00 17:56	06:38 20:01	05:24 21:04	32 05:53 (E15) 04:32 05:21 (E15)
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	05:21 21:06	32 05:53 (E15) 04:31 05:20 (E15)
7	08:48 15:56	08:03 16:59	06:55 18:01	06:33 20:05	05:19 21:08	33 05:53 (E15) 04:30 05:21 (E15)
8	08:47 15:58	08:00 17:01	06:53 18:03	06:30 20:08	05:17 21:10	33 05:54 (E15) 04:29 05:20 (E15)
9	08:47 16:00	07:58 17:03	06:50 18:05	06:28 20:10	05:15 21:12	34 05:54 (E15) 04:29 05:20 (E15)
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:12	05:13 21:14	34 05:54 (E15) 04:28 05:20 (E15)
11	08:45 16:03	07:54 17:08	06:45 18:09	06:22 20:14	05:11 21:16	35 05:55 (E15) 04:27 05:20 (E15)
12	08:44 16:05	07:52 17:10	06:42 18:11	06:20 20:16	05:09 21:18	36 05:56 (E15) 04:27 05:20 (E15)
13	08:43 16:06	07:49 17:12	06:40 18:13	06:17 20:18	05:07 21:20	36 05:56 (E15) 04:27 05:20 (E15)
14	08:42 16:08	07:47 17:14	06:37 18:15	06:15 20:20	05:05 21:22	36 05:56 (E15) 04:26 05:21 (E15)
15	08:41 16:10	07:45 17:17	06:34 18:18	06:12 20:22	05:03 21:23	36 05:57 (E15) 04:26 05:21 (E15)
16	08:40 16:12	07:43 17:19	06:32 18:20	06:09 20:24	05:01 21:25	37 05:57 (E15) 04:26 05:20 (E15)
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	37 05:57 (E15) 04:25 05:20 (E15)
18	08:37 16:16	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	37 05:57 (E15) 04:25 05:21 (E15)
19	08:36 16:18	07:35 17:26	06:24 18:26	06:02 20:30	04:55 21:31	37 05:58 (E15) 04:25 05:22 (E15)
20	08:35 16:20	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	37 05:59 (E15) 04:25 05:22 (E15)
21	08:33 16:22	07:31 17:30	06:18 18:30	05:57 20:35	04:52 21:35	37 05:59 (E15) 04:25 05:22 (E15)
22	08:32 16:24	07:28 17:32	06:16 18:32	05:54 20:37	04:50 21:36	37 05:59 (E15) 04:26 05:22 (E15)
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	37 05:59 (E15) 04:26 05:23 (E15)
24	08:29 16:28	07:23 17:37	06:10 18:36	05:49 20:41	04:47 21:40	37 05:59 (E15) 04:26 05:23 (E15)
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:42	8 05:39 (E15) 04:27 05:22 (E15)
26	08:25 16:32	07:18 17:41	06:05 18:41	05:44 20:45	04:44 21:43	14 05:28 (E15) 04:27 05:22 (E15)
27	08:24 16:34	07:16 17:43	06:02 18:43	05:42 20:47	04:42 21:45	17 05:44 (E15) 04:28 05:23 (E15)
28	08:22 16:37	07:13 17:45	05:59 18:45	05:40 20:49	04:41 21:46	20 05:26 (E15) 04:28 05:23 (E15)
29	08:20 16:39		06:57 19:47	05:37 20:51	04:40 21:48	23 05:24 (E15) 04:29 05:23 (E15)
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	25 05:48 (E15) 04:29 05:24 (E15)
31	08:17 16:43		06:51 19:51		04:37 21:51	26 05:23 (E15) 04:29 05:24 (E15)
Potential sun hours	235	266	366	426	508	528
Total, worst case				408		1054
Sun reduction				0.50		0.56
Oper. time red.				0.98		0.98
Wind dir. red.				0.66		0.67
Total reduction				0.32		0.37
Total, real				131	60	387

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)
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Project:

Mezares\_AB211223

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

## 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		05:25 (E15)	05:16			06:17		06:48 (E16)	07:17		07:22	08:24					
	22:09	35	06:00 (E15)	21:28			20:14	22	07:10 (E16)	18:54		16:36	15:45					
2	04:31		05:24 (E15)	05:18			06:19		06:49 (E16)	07:19		07:25	08:26					
	22:08	36	06:00 (E15)	21:26			20:11	20	07:09 (E16)	18:51		16:34	15:44					
3	04:32		05:25 (E15)	05:20			06:21		06:51 (E16)	07:21		07:27	08:27					
	22:08	35	06:00 (E15)	21:24			20:09	16	07:07 (E16)	18:48		16:32	15:43					
4	04:33		05:25 (E15)	05:22			06:23		06:53 (E16)	07:23		07:29	08:29					
	22:07	35	06:00 (E15)	21:22			20:06	11	07:04 (E16)	18:46		16:29	15:43					
5	04:34		05:26 (E15)	05:23			06:25			07:25		07:31	08:31					
	22:07	34	06:00 (E15)	21:19			20:03			18:43		16:27	15:42					
6	04:35		05:26 (E15)	05:25			06:27			07:27		07:33	08:32					
	22:06	34	06:00 (E15)	21:17			20:01			18:40		16:25	15:41					
7	04:36		05:27 (E15)	05:27			06:29			07:29		07:36	08:34					
	22:05	33	06:00 (E15)	21:15			19:58			18:38		16:23	15:40					
8	04:37		05:27 (E15)	05:29			06:31			07:32		07:38	08:35					
	22:04	32	05:59 (E15)	21:13			19:55			18:35		16:21	15:40					
9	04:38		05:28 (E15)	05:31			06:33			07:34		07:40	08:36					
	22:03	31	05:59 (E15)	21:11			19:53			18:32		16:19	15:39					
10	04:40		05:28 (E15)	05:33			06:35			07:36		07:42	08:38					
	22:02	31	05:59 (E15)	21:08			19:50			18:30		16:17	15:39					
11	04:41		05:30 (E15)	05:35			06:37			07:38		07:44	08:39					
	22:01	29	05:59 (E15)	21:06			19:47			18:27		16:15	15:39					
12	04:42		05:30 (E15)	05:37			06:39			07:40		07:46	08:40					
	22:00	28	05:58 (E15)	21:04			19:45			18:25		16:13	15:38					
13	04:44		05:31 (E15)	05:39			06:41			07:42		07:48	08:41					
	21:59	27	05:58 (E15)	21:01			19:42			18:22		16:11	15:38					
14	04:45		05:31 (E15)	05:41			06:43			07:44		07:51	08:43					
	21:58	26	05:57 (E15)	20:59			19:39			18:20		16:09	15:38					
15	04:46		05:33 (E15)	05:43			06:45			07:46		07:53	08:44					
	21:56	24	05:57 (E15)	20:57			19:37			18:17		16:08	15:38					
16	04:48		05:34 (E15)	05:45			06:47			07:48		07:55	08:44					
	21:55	21	05:55 (E15)	20:54			19:34			18:14		16:06	15:38					
17	04:49		05:35 (E15)	05:47		06:59 (E16)	06:49			07:50		07:57	08:45					
	21:54	19	05:54 (E15)	20:52	9	07:08 (E16)	19:31			18:12		16:04	15:38					
18	04:51		05:37 (E15)	05:49		06:55 (E16)	06:51			07:52		07:59	08:46					
	21:52	16	05:53 (E15)	20:49	15	07:10 (E16)	19:29			18:09		16:03	15:38					
19	04:53		05:39 (E15)	05:51		06:53 (E16)	06:53			07:55		08:01	08:47					
	21:51	11	05:50 (E15)	20:47	18	07:11 (E16)	19:26			18:07		16:01	15:38					
20	04:54		05:44 (E15)	05:53		06:52 (E16)	06:55			07:57		08:03	08:48					
	21:49	3	05:47 (E15)	20:45	21	07:13 (E16)	19:23			18:04		15:59	15:39					
21	04:56			05:55		06:51 (E16)	06:57			07:59		08:05	08:48					
	21:48			20:42	23	07:14 (E16)	19:20			18:02		15:58	15:39					
22	04:58			05:57		06:50 (E16)	06:59			08:01		08:07	08:49					
	21:46			20:40	24	07:14 (E16)	19:18			18:00		15:56	15:40					
23	04:59			05:59		06:49 (E16)	07:01			08:03		08:09	08:49					
	21:44			20:37	26	07:15 (E16)	19:15			17:57		15:55	15:40					
24	05:01			06:01		06:48 (E16)	07:03			08:05		08:11	08:50					
	21:43			20:35	27	07:15 (E16)	19:12			17:55		15:53	15:41					
25	05:03			06:03		06:48 (E16)	07:05			07:07		08:13	08:50					
	21:41			20:32	27	07:15 (E16)	19:10			16:52		15:52	15:41					
26	05:05			06:05		06:48 (E16)	07:07			07:09		08:15	08:50					
	21:39			20:29	27	07:15 (E16)	19:07			16:50		15:51	15:42					
27	05:06			06:07		06:47 (E16)	07:09			07:12		08:17	08:51					
	21:37			20:27	27	07:14 (E16)	19:04			16:48		15:50	15:43					
28	05:08			06:09		06:47 (E16)	07:11			07:14		08:19	08:51					
	21:36			20:24	26	07:13 (E16)	19:02			16:45		15:48	15:44					
29	05:10			06:11		06:47 (E16)	07:13			07:16		08:21	08:51					
	21:34			20:22	26	07:13 (E16)	18:59			16:43		15:47	15:45					
30	05:12			06:13		06:47 (E16)	07:15			07:18		08:22	08:51					
	21:32			20:19	25	07:12 (E16)	18:56			16:41		15:46	15:46					
31	05:14			06:15		06:48 (E16)				07:20			08:51					
	21:30			20:17	23	07:11 (E16)				16:38			15:47					
Potential sun hours	529			469			384			324		248	216					
Total, worst case		540			344			69										
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		175			110			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)
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