

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
 Vilandes 3-6
 LV-1010 Riga
 0037167242411
 Laura Kurzemniece / laura.kurzemniece@environment.lv
 Calculated:
 07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: 40940190018001 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (240)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
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10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
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12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
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14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
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16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:10	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:34	07:59 18:15	08:05 16:08	08:53 15:43
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20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:02	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:05 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:32 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:13 18:05	08:20 16:58	08:57 15:46
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29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:57 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 16:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)
	Minutes with flicker		

Project:

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Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

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Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Alpi - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (220)
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53 12	10:48 (10) 11:00 (10) 16:50	08:21 07:17 17:53	06:54 19:59 21:02	05:38 21:02 21:59	04:41 22:16 22:16	04:35 21:34 20:20	05:21 21:32 20:20	06:23 20:20 18:59	07:23 18:59 16:41	07:29 16:41 15:50	
2	08:57 15:54 12	10:49 (10) 11:01 (10) 16:53	08:19 07:14 17:55	06:52 20:01 21:04	05:35 21:04 22:01	04:39 22:15 21:32	04:35 20:17 21:32	05:23 20:17 21:32	06:25 18:57 16:39	07:25 16:39 15:49	07:31 15:49 15:49	
3	08:57 15:55 10	10:50 (10) 11:00 (10) 16:55	08:17 07:12 17:57	06:49 20:03 21:06	05:33 21:06 22:02	04:38 22:15 21:30	04:36 20:15 21:30	05:24 20:15 21:30	06:27 18:54 16:37	07:27 16:37 15:48	07:33 15:48 15:48	
4	08:57 15:57 6	10:52 (10) 10:58 (10) 16:57	08:15 07:09 18:00	06:46 20:05 21:08	05:31 21:08 22:03	04:37 22:03 22:14	04:37 21:28 21:28	05:26 20:12 21:28	06:29 18:51 16:35	07:29 16:35 15:47	07:35 15:47 15:47	
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13	08:50 16:11	10:58 (10) 17:17	07:56 06:45 18:19	06:22 20:24 21:26	05:11 21:26 22:13	04:31 22:13 22:06	04:48 22:06 21:08	05:44 21:08 21:48	06:47 21:48 18:28	07:48 18:28 16:16	07:55 16:16 15:43	10:38 (10)
14	08:49 16:13	10:58 (10) 17:20	07:53 06:43 18:21	06:20 20:26 21:28	05:09 21:28 22:14	04:31 22:14 22:05	04:49 22:05 21:05	05:46 21:05 21:45	06:49 21:45 18:25	07:50 18:25 16:14	07:57 16:14 15:43	10:38 (10)
15	08:48 16:15	10:58 (10) 17:22	07:51 06:40 18:23	06:17 20:28 21:30	05:07 21:30 22:14	04:30 22:14 22:03	04:51 22:03 21:03	05:48 21:03 21:43	06:51 21:43 18:22	07:52 18:22 16:13	07:59 16:13 15:43	10:38 (10)
16	08:47 16:17	10:58 (10) 17:24	07:49 06:37 18:25	06:15 20:30 21:32	05:06 21:32 22:15	04:30 22:15 22:02	04:52 22:02 21:01	05:50 21:01 21:40	06:53 21:40 18:20	07:54 18:20 16:11	08:01 16:11 15:43	10:38 (10)
17	08:45 16:19	10:58 (10) 17:26	07:46 06:35 18:27	06:12 20:32 21:34	05:04 21:34 22:15	04:30 22:15 22:01	04:54 22:01 20:58	05:52 20:58 21:37	06:55 21:37 18:17	07:56 18:17 16:09	08:04 16:09 15:43	10:38 (10)
18	08:44 16:21	10:58 (10) 17:29	07:44 06:32 18:30	06:10 20:35 21:36	05:02 21:36 22:16	04:30 22:16 21:59	04:56 21:59 20:56	05:54 20:56 21:34	06:57 21:34 18:15	07:58 18:15 16:07	08:06 16:07 15:43	10:38 (10)
19	08:43 16:23	10:58 (10) 17:31	07:42 06:29 18:32	06:07 20:37 21:38	05:00 21:38 22:16	04:30 22:16 21:58	04:57 21:58 20:53	05:56 20:53 21:32	06:59 21:32 18:12	08:01 18:12 16:06	08:08 16:06 15:43	10:38 (10)
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29	08:27 16:44	10:58 (10) 17:53	07:17 06:02 18:53	05:42 20:58 21:55	04:44 21:55 22:17	04:33 22:17 21:40	05:15 21:40 20:28	06:17 20:28 21:05	07:19 21:05 16:48	08:22 16:48 15:52	08:27 15:52 15:49	10:38 (10)
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Potential sun hours	234	266	366	426	509	530	530	470	385	323	247	215
Total, worst case	40											370
Sun reduction	0,11											0,07
Oper. time red.	1,00											1,00
Wind dir. red.	1,00											1,00
Total reduction	0,11											0,07
Total, real	4											28

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Apseni - Shadow Receptor: $1,0 \times 1,0$ Azimuth: $3,1^\circ$ Slope: $90,0^\circ$ (188)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	06:30 (3) 21:59	04:41 21:59	05:29 (4) 22:16	04:35 21:34	05:38 (4) 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:31 15:50
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3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	06:31 (3) 22:02	04:39 21:56	05:31 (4) 22:14	04:37 21:30	05:37 (4) 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	06:32 (3) 22:03	04:38 21:59	05:31 (4) 22:14	04:38 21:28	05:37 (4) 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:58	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	06:33 (3) 22:04	04:37 21:59	05:31 (4) 22:13	04:39 21:26	05:37 (4) 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	06:36 (3) 22:06	04:36 21:59	05:31 (4) 22:12	04:40 21:24	05:37 (4) 21:24	06:49 (3) 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	06:45 (3) 22:06	04:35 21:59	05:51 (4) 22:12	04:41 21:21	05:58 (4) 21:21	06:52 (3) 20:07	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	06:44 (3) 22:08	04:34 21:59	05:52 (4) 22:11	04:42 21:19	05:58 (4) 21:19	06:56 (3) 20:01	07:37 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:04 17:09	06:56 18:10	06:34 20:16	05:20 21:18	06:43 (3) 22:09	04:34 21:59	05:53 (4) 22:10	04:43 21:17	05:59 (4) 21:17	06:57 (3) 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:11	06:30 20:18	05:18 21:20	06:43 (3) 22:10	04:33 21:59	05:53 (4) 22:09	04:44 21:15	05:59 (4) 21:15	06:59 (3) 19:56	07:42 18:35	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	06:44 (3) 22:11	04:32 21:59	05:54 (4) 22:08	04:46 21:12	05:58 (4) 21:12	06:59 (3) 19:53	07:44 18:33	07:50 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	06:45 (3) 22:12	04:32 21:59	05:54 (4) 22:07	04:47 21:10	05:58 (4) 21:10	06:59 (3) 19:51	07:46 18:28	07:53 16:18	08:47 15:43
13	08:50 16:11	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	06:46 (3) 22:13	04:31 21:59	05:54 (4) 22:06	04:48 21:08	05:59 (4) 21:08	06:59 (3) 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	06:47 (3) 22:14	04:31 21:59	05:55 (4) 22:04	04:50 21:05	05:59 (4) 21:05	06:59 (3) 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	06:48 (3) 22:15	04:31 21:59	05:55 (4) 22:03	04:51 21:03	05:59 (4) 21:03	06:59 (3) 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	06:49 (3) 22:16	04:30 21:59	05:56 (4) 22:02	04:53 21:01	05:59 (4) 21:01	06:59 (3) 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:27	06:12 20:32	05:04 21:34	06:50 (3) 22:17	04:30 21:59	05:56 (4) 22:00	04:54 20:58	05:59 (4) 20:58	06:59 (3) 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	06:51 (3) 22:18	04:30 21:59	05:57 (4) 21:59	04:56 20:56	05:59 (4) 20:56	06:59 (3) 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	06:52 (3) 22:19	04:30 21:59	05:58 (4) 21:57	04:58 20:55	05:59 (4) 20:55	06:59 (3) 19:32	08:01 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:40	06:53 (3) 22:20	04:30 21:59	05:59 (4) 21:56	04:59 20:54	05:59 (4) 20:54	06:59 (3) 19:32	08:03 18:10	08:10 16:04	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	06:54 (3) 22:21	04:30 21:59	05:59 (4) 21:54	05:01 20:51	05:59 (4) 20:51	06:59 (3) 19:32	08:05 18:07	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	06:55 (3) 22:22	04:30 21:59	05:59 (4) 21:53	05:03 20:51	05:59 (4) 20:51	06:59 (3) 19:32	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:53 21:45	06:56 (3) 22:23	04:30 21:59	05:59 (4) 21:51	05:04 20:51	05:59 (4) 20:51	06:59 (3) 19:32	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	06:57 (3) 22:24	04:30 21:59	05:59 (4) 21:49	05:06 20:41	05:59 (4) 20:41	06:59 (3) 19:32	08:11 18:00	08:18 15:59	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	06:58 (3) 22:25	04:30 21:59	05:59 (4) 21:47	05:08 20:38	05:59 (4) 20:38	06:59 (3) 19:32	08:13 17:16	08:19 16:01	08:57 15:46
26	08:32 16:37	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	06:59 (3) 22:26	04:30 21:59	05:59 (4) 21:46	05:10 20:36	05:59 (4) 20:36	06:59 (3) 19:32	08:15 16:55	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	07:00 (3) 22:27	04:30 21:59	05:59 (4) 21:44	05:12 20:33	05:59 (4) 20:33	07:00 (3) 19:32	08:17 16:58	08:23 15:55	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	07:01 (3) 22:28	04:30 21:59	05:59 (4) 21:42	05:13 20:30	05:59 (4) 20:30	07:01 (3) 19:32	08:19 16:51	08:25 15:53	08:57 15:49
29	08:27 16:44	07:02 17:53	05:43 19:53	04:45 20:57	04:45 21:55	07:02 (3) 22:29	04:30 21:59	05:59 (4) 21:40	05:15 20:28	05:59 (4) 20:28	07:02 (3) 19:32	08:21 16:48	08:27 15:52	08:57 15:50
30	08:25 16:46	07:00 17:55	05:40 19:55	04:40 21:00	04:43 21:56	07:03 (3) 22:30	04:30 21:59	05:59 (4) 21:38	05:17 20:25	05:59 (4) 20:25	07:03 (3) 19:32	08:23 16:46	08:29 15:51	08:57 15:51
31	08:23 16:48	06:57 17:57	05:37 19:57	04:37 21:00	04:42 21:58	07:04 (3) 22:31	04:30 21:59	05:59 (4) 21:36	05:19 20:23	05:59 (4) 20:23	07:04 (3) 19:32	08:25 16:44	08:31 15:52	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	551	470	385	323	247	216	
Total, worst case				298	418	529	530	551	411					
Sun reduction				0,47	0,59	0,57	0,57	0,48	0,51					
Oper. time red.				1,00	1,00	1,00	1,00	1,00	1,00					
Wind dir. red.				1,00	1,00	1,00	1,00	1,00	1,00					
Total reduction				0,47	0,59	0,57	0,57	0,48	0,51					
Total, real				139	246	302	263	209						

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Atputas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (230)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:45
10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:32 22:12	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
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15	08:48 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:52 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:10	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:13	08:08 16:06	08:54 15:44
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
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22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:02	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
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29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:57 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:51
31	08:23 16:48				04:42 21:58		05:19 21:36	06:21 20:23		07:27 16:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Laura Kurzemniece / laura.kurzemniece@environment.lv
Calculated:
07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Audzespieduri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (204)
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	21:10 (3) 21:20 (3)	04:35 21:35 (3)	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:03	04:40 22:00	21:09 (3) 21:21 (3)	04:36 21:34 (3)	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:39 22:02	21:09 (3) 21:22 (3)	04:37 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
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7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:06	21:08 (3) 21:27 (3)	04:41 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
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11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	04:32 22:11	21:08 (3) 21:29 (3)	04:46 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:11	21:08 (3) 21:30 (3)	04:47 22:06	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:12 21:26	04:31 22:12	21:09 (3) 21:31 (3)	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:10 21:28	04:31 22:13	21:09 (3) 21:31 (3)	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	21:08 (3) 21:31 (3)	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	21:09 (3) 21:31 (3)	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:33	04:30 22:15	21:09 (3) 21:32 (3)	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	04:30 22:15	21:09 (3) 21:32 (3)	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	04:30 22:16	21:09 (3) 21:32 (3)	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:05 20:38	04:58 21:39	04:30 22:16	21:09 (3) 21:32 (3)	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:44
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:57 21:41	04:30 22:16	21:10 (3) 21:33 (3)	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	21:10 (3) 21:33 (3)	05:02 21:52	06:03 20:46	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:31 22:17	21:10 (3) 21:33 (3)	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	21:11 (3) 21:34 (3)	05:06 21:49	06:07 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	21:11 (3) 21:34 (3)	05:08 21:47	06:09 20:38	07:11 19:15	07:13 16:58	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	21:11 (3) 21:33 (3)	05:10 21:45	06:11 20:35	07:13 19:13	07:15 16:55	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	21:11 (3) 21:34 (3)	05:11 21:44	06:13 20:33	07:15 19:10	07:18 16:53	08:23 15:54	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	21:11 (3) 21:34 (3)	05:13 21:42	06:15 20:30	07:17 19:07	07:20 16:50	08:25 15:53	08:57 15:49
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	21:13 (3) 21:16 (3)	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	07:22 16:48	08:27 15:52	08:57 15:50
30	08:24 16:46		07:00 19:55	05:40 20:59	04:43 21:56	21:12 (3) 21:18 (3)	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	07:24 16:46	08:29 15:51	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:57	21:11 (3) 21:19 (3)	04:33 21:36	05:19 21:36	06:21 20:22	07:26 16:44	07:26 16:44	08:57 15:52	
Potential sun hours	235	266	366	426	508	529	530	470	385	324	247	216	
Total, worst case					17	617	210						
Sun reduction					0,59	0,57	0,48						
Oper. time red.					1,00	1,00	1,00						
Wind dir. red.					1,00	1,00	1,00						
Total reduction					0,59	0,57	0,48						
Total, real					10	352	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Baloži - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (192) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:35 22:15	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:11	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:56 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:31 22:17	05:09 21:45	06:10 20:35	07:13 19:12	08:15 18:05	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:48	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:00	08:23 16:53	08:57 15:48
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:00	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:00	08:27 16:48	08:57 15:49
30	08:24 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:00		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
 Vilandes 3-6
 LV-1010 Riga
 0037167242411
 Laura Kurzemniece / laura.kurzemniece@environment.lv
 Calculated:
 07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Shadow receptor: Beikapi - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:57 15:53	08:21 16:50	07:17 17:53	06:54 19:59	05:38 21:01	19:13 (3) 20:14 (6)
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:04	20:14 (6) 22:00
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	20:16 (3) 22:02
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	20:18 (3) 22:03
5	08:56 15:58	08:13 16:59	07:06 18:02	06:44 20:07	05:29 21:10	20:18 (6) 22:04
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	20:18 (6) 22:04
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	20:19 (4) 22:07
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	19:24 (3) 19:34 (3)	05:22 21:16
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	19:20 (3) 19:37 (3)	05:20 21:18
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	19:18 (3) 19:40 (3)	05:18 21:20
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	19:15 (3) 19:41 (3)	05:16 21:22
12	08:50 16:10	07:58 17:15	06:48 18:17	06:25 20:22	19:14 (3) 19:43 (3)	05:14 21:24
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	19:12 (3) 19:43 (3)	05:12 21:26
14	08:48 16:13	07:53 17:20	06:43 18:21	06:20 20:26	19:11 (3) 19:44 (3)	05:10 21:28
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	19:10 (3) 19:44 (3)	05:08 21:30
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	19:10 (3) 19:45 (3)	05:06 21:32
17	08:45 16:19	07:46 17:26	06:35 18:27	06:12 20:32	19:08 (3) 19:45 (3)	05:04 21:34
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	19:08 (3) 19:45 (3)	05:02 21:35
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	19:07 (3) 20:06 (6)	05:00 21:37
20	08:41 16:25	07:39 17:33	06:26 18:34	06:05 20:38	19:07 (3) 20:08 (6)	04:58 21:39
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	19:07 (3) 20:09 (6)	04:57 21:41
22	08:38 16:29	07:34 17:38	06:21 18:38	05:59 20:43	19:07 (3) 20:12 (6)	04:55 21:43
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	19:07 (3) 20:14 (6)	04:53 21:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	19:07 (3) 20:15 (6)	04:52 21:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	19:07 (3) 20:16 (6)	04:50 21:48
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	19:08 (3) 20:16 (6)	04:49 21:50
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	19:08 (3) 20:15 (6)	04:47 21:51
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	19:09 (3) 20:15 (6)	04:46 21:53
29	08:26 16:44		07:02 19:52	05:42 20:57	19:10 (3) 20:15 (6)	04:44 21:54
30	08:25 16:46		07:00 19:55	05:40 20:59	19:11 (3) 20:14 (6)	21:01 (4) 21:56
31	08:23 16:48		06:57 19:57		04:42 21:57	21:00 (4) 21:13 (4)
Potential sun hours	235	266	366	426	508	529
Total, worst case				932	160	796
Sun reduction				0,47	0,59	0,57
Oper. time red.				1,00	1,00	1,00
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,47	0,59	0,57
Total, real				435	94	454

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Beikapi - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July			August			September			October	November	December
1	04:35		20:58 (4)	05:21			06:23		19:14 (3)	07:23	07:29	08:30
	22:15	28	21:26 (4)	21:34			20:20	26	19:40 (3)	18:59	16:41	15:50
2	04:36		20:59 (4)	05:23			06:25		19:16 (3)	07:25	07:31	08:32
	22:15	27	21:26 (4)	21:32			20:17	22	19:38 (3)	18:56	16:39	15:49
3	04:37		20:59 (4)	05:25			06:27		19:18 (3)	07:27	07:33	08:34
	22:14	27	21:26 (4)	21:30			20:15	17	19:35 (3)	18:54	16:37	15:48
4	04:37		21:00 (4)	05:27			06:29		19:21 (3)	07:29	07:35	08:35
	22:14	26	21:26 (4)	21:28			20:12	10	19:31 (3)	18:51	16:35	15:47
5	04:38		21:01 (4)	05:28			06:31			07:31	07:37	08:37
	22:13	25	21:26 (4)	21:26			20:09			18:48	16:32	15:47
6	04:40		21:01 (4)	05:30			06:33			07:33	07:39	08:39
	22:12	24	21:25 (4)	21:23			20:07			18:46	16:30	15:46
7	04:41		21:02 (4)	05:32			06:35			07:35	07:42	08:40
	22:12	23	21:25 (4)	21:21			20:04			18:43	16:28	15:45
8	04:42		21:03 (4)	05:34		20:09 (6)	06:37			07:37	07:44	08:41
	22:11	22	21:25 (4)	21:19	8	20:17 (6)	20:01			18:41	16:26	15:45
9	04:43		21:04 (4)	05:36		19:27 (3)	06:39			07:39	07:46	08:43
	22:10	20	21:24 (4)	21:17	25	20:19 (6)	19:59			18:38	16:24	15:44
10	04:44		21:04 (4)	05:38		19:24 (3)	06:41			07:41	07:48	08:44
	22:09	19	21:23 (4)	21:14	33	20:20 (6)	19:56			18:35	16:22	15:44
11	04:46		21:05 (4)	05:40		19:22 (3)	06:43			07:44	07:50	08:45
	22:08	17	21:22 (4)	21:12	39	20:21 (6)	19:53			18:33	16:20	15:43
12	04:47		21:07 (4)	05:42		19:21 (3)	06:45			07:46	07:52	08:47
	22:07	15	21:22 (4)	21:10	44	20:22 (6)	19:50			18:30	16:18	15:43
13	04:48		21:09 (4)	05:44		19:18 (3)	06:47			07:48	07:55	08:48
	22:05	11	21:20 (4)	21:08	49	20:22 (6)	19:48			18:28	16:16	15:43
14	04:50		21:11 (4)	05:46		19:17 (3)	06:49			07:50	07:57	08:49
	22:04	6	21:17 (4)	21:05	51	20:22 (6)	19:45			18:25	16:15	15:43
15	04:51			05:48		19:16 (3)	06:51			07:52	07:59	08:50
	22:03			21:03	53	20:22 (6)	19:42			18:22	16:13	15:43
16	04:53			05:50		19:15 (3)	06:53			07:54	08:01	08:51
	22:02			21:00	55	20:23 (6)	19:40			18:20	16:11	15:43
17	04:54			05:52		19:15 (3)	06:55			07:56	08:03	08:52
	22:00			20:58	56	20:22 (6)	19:37			18:17	16:09	15:43
18	04:56			05:54		19:14 (3)	06:57			07:58	08:05	08:53
	21:59			20:55	56	20:22 (6)	19:34			18:15	16:08	15:43
19	04:57			05:56		19:13 (3)	06:59			08:00	08:07	08:53
	21:57			20:53	57	20:22 (6)	19:32			18:12	16:06	15:43
20	04:59			05:58		19:13 (3)	07:01			08:03	08:09	08:54
	21:56			20:51	55	20:19 (6)	19:29			18:10	16:04	15:43
21	05:01			06:01		19:12 (3)	07:03			08:05	08:11	08:55
	21:54			20:48	52	20:16 (6)	19:26			18:07	16:03	15:44
22	05:02			06:03		19:11 (3)	07:05			08:07	08:13	08:55
	21:52			20:46	50	20:14 (6)	19:23			18:05	16:01	15:44
23	05:04			06:05		19:11 (3)	07:07			08:09	08:15	08:56
	21:51			20:43	45	20:12 (6)	19:21			18:02	16:00	15:45
24	05:06			06:07		19:11 (3)	07:09			08:11	08:17	08:56
	21:49			20:40	40	20:09 (6)	19:18			18:00	15:58	15:45
25	05:08			06:09		19:11 (3)	07:11			07:13	08:19	08:57
	21:47			20:38	37	19:48 (3)	19:15			16:58	15:57	15:46
26	05:10			06:11		19:11 (3)	07:13			07:15	08:21	08:57
	21:46			20:35	36	19:47 (3)	19:13			16:55	15:56	15:47
27	05:11			06:13		19:11 (3)	07:15			07:18	08:23	08:57
	21:44			20:33	36	19:47 (3)	19:10			16:53	15:54	15:48
28	05:13			06:15		19:12 (3)	07:17			07:20	08:25	08:57
	21:42			20:30	34	19:46 (3)	19:07			16:50	15:53	15:49
29	05:15			06:17		19:12 (3)	07:19			07:22	08:27	08:57
	21:40			20:28	33	19:45 (3)	19:05			16:48	15:52	15:49
30	05:17			06:19		19:13 (3)	07:21			07:24	08:29	08:57
	21:38			20:25	31	19:44 (3)	19:02			16:46	15:51	15:51
31	05:19			06:21		19:13 (3)				07:26		08:57
	21:36			20:22	28	19:41 (3)				16:44		15:52
Potential sun hours	530			470			385			323	247	216
Total, worst case		290			1003			75				
Sun reduction		0,48			0,51			0,46				
Oper. time red.		1,00			1,00			1,00				
Wind dir. red.		1,00			1,00			1,00				
Total reduction		0,48			0,51			0,46				
Total, real		138			511			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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Bikernieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:55 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:38 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:06	04:41 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:32 22:11	04:47 22:06	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:33	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 17:57	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:09 21:45	06:11 20:35	07:13 19:13	08:15 17:55	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 17:53	08:23 15:54	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 17:50	08:25 15:53	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 17:48	08:27 15:52	08:57 15:49
30	08:24 16:46		07:00 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 17:46	08:29 15:51	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 17:43		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Buži - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (226)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57	08:21	07:17	06:54	05:38	04:41	04:35	05:21	06:23	07:23	07:29	08:31
	15:53	16:51	17:53	19:59	21:02	21:59	22:16	21:34	20:20	18:59	16:42	15:50
2	08:57	08:19	07:14	06:52	05:36	04:40	04:36	05:23	06:25	07:25	07:31	08:32
	15:55	16:53	17:55	20:01	21:04	22:00	22:15	21:32	20:17	18:57	16:39	15:49
3	08:57	08:17	07:12	06:49	05:33	04:39	04:37	05:25	06:27	07:27	07:33	08:34
	15:56	16:55	17:58	20:03	21:06	22:02	22:15	21:30	20:15	18:54	16:37	15:48
4	08:56	08:15	07:09	06:46	05:31	04:38	04:38	05:27	06:29	07:29	07:35	08:36
	15:57	16:57	18:00	20:05	21:08	22:03	22:14	21:28	20:12	18:51	16:35	15:48
5	08:56	08:13	07:06	06:44	05:29	04:37	04:39	05:29	06:31	07:31	07:37	08:37
	15:59	17:00	18:02	20:07	21:10	22:04	22:13	21:26	20:09	18:49	16:33	15:47
6	08:55	08:11	07:04	06:41	05:27	04:36	04:40	05:31	06:33	07:33	07:40	08:39
	16:00	17:02	18:04	20:09	21:12	22:06	22:13	21:24	20:07	18:46	16:31	15:46
7	08:55	08:09	07:01	06:39	05:24	04:35	04:41	05:33	06:35	07:35	07:42	08:40
	16:02	17:04	18:06	20:12	21:14	22:07	22:12	21:21	20:04	18:43	16:29	15:46
8	08:54	08:07	06:59	06:36	05:22	04:34	04:42	05:35	06:37	07:38	07:44	08:42
	16:03	17:06	18:08	20:14	21:16	22:08	22:11	21:19	20:01	18:41	16:26	15:45
9	08:53	08:05	06:56	06:33	05:20	04:34	04:43	05:37	06:39	07:40	07:46	08:43
	16:05	17:09	18:11	20:16	21:18	22:09	22:10	21:17	19:59	18:38	16:24	15:44
10	08:52	08:02	06:53	06:31	05:18	04:33	04:45	05:39	06:41	07:42	07:48	08:44
	16:06	17:11	18:13	20:18	21:20	22:10	22:09	21:15	19:56	18:36	16:22	15:44
11	08:52	08:00	06:51	06:28	05:16	04:32	04:46	05:41	06:43	07:44	07:51	08:46
	16:08	17:13	18:15	20:20	21:22	22:11	22:08	21:12	19:53	18:33	16:20	15:44
12	08:51	07:58	06:48	06:25	05:14	04:32	04:47	05:43	06:45	07:46	07:53	08:47
	16:10	17:15	18:17	20:22	21:24	22:12	22:07	21:10	19:51	18:30	16:19	15:43
13	08:50	07:56	06:45	06:23	05:12	04:32	04:49	05:45	06:47	07:48	07:55	08:48
	16:12	17:18	18:19	20:24	21:26	22:12	22:06	21:08	19:48	18:28	16:17	15:43
14	08:49	07:53	06:43	06:20	05:10	04:31	04:50	05:47	06:49	07:50	07:57	08:49
	16:13	17:20	18:21	20:26	21:28	22:13	22:04	21:05	19:45	18:25	16:15	15:43
15	08:48	07:51	06:40	06:18	05:08	04:31	04:51	05:49	06:51	07:52	07:59	08:50
	16:15	17:22	18:23	20:28	21:30	22:14	22:03	21:03	19:43	18:23	16:13	15:43
16	08:46	07:49	06:37	06:15	05:06	04:31	04:53	05:51	06:53	07:54	08:01	08:51
	16:17	17:24	18:25	20:30	21:32	22:15	22:02	21:01	19:40	18:20	16:11	15:43
17	08:45	07:46	06:35	06:12	05:04	04:30	04:55	05:53	06:55	07:56	08:03	08:52
	16:19	17:27	18:28	20:32	21:34	22:15	22:00	20:58	19:37	18:18	16:09	15:43
18	08:44	07:44	06:32	06:10	05:02	04:30	04:56	05:55	06:57	07:58	08:05	08:53
	16:21	17:29	18:30	20:35	21:36	22:16	21:59	20:56	19:34	18:15	16:08	15:43
19	08:43	07:42	06:29	06:07	05:00	04:30	04:58	05:57	06:59	08:01	08:08	08:54
	16:23	17:31	18:32	20:37	21:38	22:16	21:57	20:53	19:32	18:13	16:06	15:44
20	08:41	07:39	06:27	06:05	04:59	04:30	04:59	05:59	07:01	08:03	08:10	08:54
	16:25	17:33	18:34	20:39	21:39	22:16	21:56	20:51	19:29	18:10	16:05	15:44
21	08:40	07:37	06:24	06:02	04:57	04:30	05:01	06:01	07:03	08:05	08:12	08:55
	16:27	17:36	18:36	20:41	21:41	22:17	21:54	20:48	19:26	18:08	16:03	15:44
22	08:38	07:34	06:21	06:00	04:55	04:31	05:03	06:03	07:05	08:07	08:14	08:56
	16:29	17:38	18:38	20:43	21:43	22:17	21:53	20:46	19:24	18:05	16:01	15:45
23	08:37	07:32	06:19	05:57	04:54	04:31	05:04	06:05	07:07	08:09	08:16	08:56
	16:31	17:40	18:40	20:45	21:45	22:17	21:51	20:43	19:21	18:03	16:00	15:45
24	08:35	07:29	06:16	05:55	04:52	04:31	05:06	06:07	07:09	08:11	08:18	08:56
	16:33	17:42	18:42	20:47	21:46	22:17	21:49	20:41	19:18	18:00	15:59	15:46
25	08:34	07:27	06:13	05:52	04:50	04:32	05:08	06:09	07:11	08:14	08:20	08:57
	16:35	17:44	18:44	20:49	21:48	22:17	21:48	20:38	19:16	17:58	15:57	15:46
26	08:32	07:24	06:11	05:50	04:49	04:32	05:10	06:11	07:13	08:16	08:21	08:57
	16:38	17:47	18:46	20:51	21:50	22:17	21:46	20:36	19:13	17:55	15:56	15:47
27	08:30	07:22	06:08	05:47	04:48	04:32	05:12	06:13	07:15	08:18	08:23	08:57
	16:40	17:49	18:49	20:53	21:51	22:17	21:44	20:33	19:10	17:53	15:55	15:48
28	08:28	07:19	06:05	05:45	04:46	04:33	05:13	06:15	07:17	08:20	08:25	08:57
	16:42	17:51	18:51	20:55	21:53	22:17	21:42	20:30	19:07	17:51	15:54	15:49
29	08:27		07:03	05:43	04:45	04:34	05:15	06:17	07:19	08:22	08:27	08:57
	16:44		19:53	20:58	21:55	22:16	21:40	20:28	19:05	17:48	15:52	15:50
30	08:25		07:00	05:40	04:43	04:34	05:17	06:19	07:21	08:24	08:29	08:57
	16:46		19:55	21:00	21:56	22:16	21:38	20:25	19:02	17:46	15:51	15:51
31	08:23		06:57		04:42		05:19	06:21		07:27		08:57
	16:48		19:57		21:58		21:36	20:23		16:44		15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
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Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (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		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Berzes - Shadow Receptor: $1,0 \times 1,0$ Azimuth: $3,1^\circ$ Slope: $90,0^\circ$ (170)
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:52	07:14 17:55	06:51 20:01	05:35 21:04	04:39 22:00	04:35 22:15	05:22 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:34	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:35 22:05	04:39 22:12	05:30 21:23	06:33 20:07	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:42 15:44
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:46 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:12	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
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14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:52 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
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24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
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28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:10	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
30	08:25 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:10	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:43		08:57 15:51
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
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Table layout: For each day in each month the following matrix apply

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	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Duburi - Shadow Receptor: $1,0 \times 1,0$ Azimuth: $3,1^\circ$ Slope: $90,0^\circ$ (202)
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
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No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:17 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:31 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:04	04:39 22:00	04:35 22:15	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:57 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:47
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6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:35 22:06	04:39 22:12	05:30 21:23	06:33 20:07	07:33 18:46	07:40 16:30	08:39 15:46
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:42 15:44
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:59	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:15	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:46 15:43
12	08:51 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:12	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:53 16:18	08:47 15:43
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14	08:49 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:52 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
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20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:03 18:10	08:09 16:04	08:54 15:43
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:56 21:41	04:30 22:17	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:53	06:02 20:46	07:05 19:23	08:07 18:05	08:14 16:01	08:55 15:44
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24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:41	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:48 21:50	04:31 22:17	05:09 21:46	06:11 20:35	07:13 19:13	08:15 18:15	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:47
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:32 22:17	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:10	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:55	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
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31	08:23 16:48			06:57 19:57	04:42 21:58		05:19 21:36	06:21 20:22		07:26 18:43		08:57 15:51
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Total, worst case												
Sun reduction												
Oper. time red.												
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Table layout: For each day in each month the following matrix apply

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	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Dzeni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
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6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:38 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
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31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:43		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Dzilas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (165)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:05	04:38 22:02	04:36 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
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31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 17:43		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Dzintari - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
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26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:49	04:32 22:17	05:09 21:45	06:11 20:35	07:13 19:13	08:15 18:05	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:16	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:05	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:00	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:04	08:27 16:48	08:57 15:49
30	08:24 16:46		07:00 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:02	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:00		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Dzirnaveiki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:55 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:38 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:45
10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:21	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:32 22:12	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:48 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:52 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:10	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:35	07:59 18:15	08:05 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:13	08:08 16:06	08:54 15:44
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:02	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:05 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:32 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:14 18:05	08:20 16:58	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:05	08:21 16:55	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:48 20:53	04:48 21:51	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:03	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:14 21:42	06:15 20:30	07:17 19:07	08:20 18:01	08:25 16:51	08:57 15:49
29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:51
31	08:23 16:49		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 16:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Glizdi - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:38 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:06	04:41 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:32 22:11	04:47 22:06	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:33	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:09 21:45	06:11 20:35	07:13 19:13	08:15 18:15	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:05	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
30	08:24 16:46		07:00 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:00		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Graš ini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:17 17:53	06:54 19:59	05:38 21:01	19:22 (3) 04:41	04:35 22:15	21:16 (4) 05:21	19:46 (3) 06:23	07:23 18:59	07:29 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:04	19:21 (3) 04:40	04:36 22:15	21:17 (4) 05:23	19:42 (3) 06:25	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	19:22 (3) 04:39	04:37 22:14	21:18 (4) 05:25	19:39 (3) 06:27	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	19:23 (3) 04:38	04:37 22:14	21:20 (4) 05:27	19:38 (3) 06:29	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:44 20:07	05:29 21:10	19:23 (3) 04:37	04:38 22:13	21:29 (4) 05:28	19:37 (3) 06:31	07:31 18:48	07:37 16:32	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	19:24 (3) 04:36	04:40 22:12	21:28 (4) 05:30	19:35 (3) 06:33	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	19:25 (3) 04:35	21:17 (4) 04:41	21:23 05:32	19:33 (3) 06:35	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	19:27 (3) 04:34	21:20 (4) 04:42	21:21 05:34	19:33 (3) 06:37	07:37 18:41	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	19:28 (3) 04:33	21:23 (4) 04:43	21:19 05:36	19:32 (3) 06:39	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	05:18 21:20	19:30 (3) 04:33	21:24 (4) 04:44	21:17 05:38	19:31 (3) 06:41	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	19:32 (3) 04:32	21:26 (4) 04:46	21:14 05:40	19:33 (3) 06:43	07:44 18:33	07:50 16:20	08:45 15:43
12	08:50 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	19:44 (3) 04:32	21:27 (4) 04:47	21:12 05:42	19:30 (3) 06:45	07:46 18:28	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:12 21:26	21:27 (4) 04:31	21:28 (4) 04:48	21:10 05:44	19:29 (3) 06:47	07:48 18:28	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	21:28 (4) 04:31	21:29 (4) 04:50	21:08 05:46	19:28 (3) 06:49	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	21:29 (4) 04:31	21:31 (4) 04:51	21:05 05:48	19:28 (3) 06:51	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:33	21:30 (4) 04:30	21:32 (4) 04:53	21:03 05:50	19:28 (3) 06:53	07:54 18:20	08:01 16:11	08:51 15:43
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18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	21:32 (4) 04:30	21:34 (4) 04:56	20:58 05:54	19:28 (3) 06:57	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	21:33 (4) 04:30	21:35 (4) 04:59	20:55 05:58	19:28 (3) 06:59	08:00 18:12	08:07 16:06	08:53 15:43
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21	08:39 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:57 21:41	21:35 (4) 04:30	21:37 (4) 05:02	20:51 06:03	19:28 (3) 07:02	08:05 18:07	08:11 16:03	08:55 15:44
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25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	21:39 (4) 04:31	21:41 (4) 05:08	20:40 06:09	19:30 (3) 07:11	08:13 18:08	08:19 15:57	08:57 15:46
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29	08:26 16:44	07:02 17:52	05:42 19:52	04:44 20:57	04:44 21:54	21:43 (4) 04:33	21:45 (4) 05:15	20:30 06:17	19:34 (3) 07:19	08:19 18:02	08:27 15:52	08:57 15:50
30	08:25 16:46	07:00 17:55	05:40 19:55	04:43 20:59	04:43 21:56	21:44 (4) 04:34	21:46 (4) 05:17	20:28 06:19	19:35 (3) 07:21	08:20 18:02	08:29 15:51	08:57 15:51
31	08:23 16:48	06:57 17:57	05:37 19:57	04:42 21:57	04:42 21:57	21:45 (4) 04:35	21:47 (4) 05:19	20:25 06:21	19:36 (3) 07:22	08:21 18:04	08:30 15:52	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	216
Total, worst case				528	288	399	56	829				
Sun reduction				0,47	0,59	0,57	0,48	0,51				
Oper. time red.				1,00	1,00	1,00	1,00	1,00				
Wind dir. red.				1,00	1,00	1,00	1,00	1,00				
Total reduction				0,47	0,59	0,57	0,48	0,51				
Total, real				246	169	227	27	422				

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Gaguli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (211)
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
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7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:06	04:41 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
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11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
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16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:33	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
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31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 17:43		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Indras - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:05	04:38 22:01	04:36 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
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23	08:36 16:31	07:31 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 17:57	08:19 15:57	08:56 15:46
26	08:31 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:49	04:32 22:17	05:09 21:45	06:11 20:35	07:13 19:12	08:15 17:55	08:21 15:56	08:57 15:47
27	08:30 16:39	07:21 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:16	05:11 21:44	06:13 20:33	07:15 19:10	08:17 17:53	08:23 15:54	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:19 17:50	08:25 15:53	08:57 15:49
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 17:48	08:27 15:52	08:57 15:49
30	08:24 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 17:46	08:28 15:51	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 16:43		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Jaunbirznieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	05:30 (3) 22:15	05:39 (3) 21:34	05:21 20:20	06:23 18:59	07:23 16:41	07:29 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	05:31 (3) 22:15	05:38 (3) 21:32	05:23 20:17	06:25 18:57	07:25 16:39	07:31 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	05:32 (3) 22:14	05:38 (3) 21:30	05:25 20:15	06:27 18:54	07:27 16:37	07:33 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	05:32 (3) 22:14	05:38 (3) 21:28	05:27 20:12	06:29 18:51	07:29 16:35	07:35 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	05:32 (3) 22:13	05:38 (3) 21:26	05:29 20:09	06:31 18:49	07:31 16:33	07:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	05:32 (3) 22:12	05:38 (3) 21:24	05:31 20:07	06:33 18:46	07:33 16:31	07:40 15:46
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	05:33 (3) 22:12	05:38 (3) 21:21	05:33 20:04	06:35 18:43	07:35 16:28	07:42 15:45
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	05:33 (3) 22:11	05:38 (3) 21:19	05:35 20:01	06:37 18:41	07:37 16:26	07:44 15:45
9	08:53 16:05	08:04 17:09	06:56 18:10	06:33 20:16	05:20 21:18	04:34 22:09	05:34 (3) 22:10	05:38 (3) 21:17	05:37 19:59	06:39 18:38	07:40 16:24	07:46 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:30 20:18	05:18 21:20	04:33 22:10	05:35 (3) 22:09	05:38 (3) 21:15	05:39 19:56	06:41 18:35	07:42 16:22	07:48 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	05:34 (3) 22:08	05:39 (3) 21:12	05:41 19:53	06:43 18:33	07:44 16:20	07:50 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	05:34 (3) 22:07	05:39 (3) 21:10	05:43 19:51	06:45 18:30	07:46 16:18	07:53 15:43
13	08:50 16:11	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:12	05:35 (3) 22:05	05:40 21:08	05:45 19:48	06:47 18:28	07:48 16:17	07:55 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	05:35 (3) 22:04	05:40 21:05	05:47 19:45	06:49 18:25	07:50 16:15	07:57 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	05:36 (3) 22:03	05:41 21:03	05:49 19:43	06:51 18:23	07:52 16:13	08:00 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	05:36 (3) 22:02	05:43 21:00	05:51 19:40	06:53 18:20	07:54 16:11	08:01 15:43
17	08:45 16:19	07:46 17:27	06:35 18:27	06:12 20:32	05:04 21:34	04:30 22:15	05:36 (3) 22:00	05:44 21:03	05:53 19:37	06:55 18:17	07:56 16:09	08:03 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:15	05:36 (3) 21:59	05:43 21:03	05:55 19:34	06:57 18:15	07:58 16:08	08:05 15:43
19	08:42 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:37	04:30 22:16	05:37 (3) 21:57	05:40 21:03	05:57 19:32	06:59 18:12	08:01 16:06	08:07 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	05:38 (3) 21:56	05:40 21:03	05:59 19:29	07:01 18:10	08:03 16:04	08:09 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:38 (3) 21:54	05:41 21:03	06:01 19:26	07:03 18:07	08:05 16:03	08:12 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:38 (3) 21:53	05:41 21:03	06:03 19:24	07:05 18:05	08:07 16:01	08:14 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:37 (3) 21:51	05:42 21:03	06:05 19:21	07:07 18:03	08:09 16:00	08:16 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:38 (3) 21:49	05:42 21:03	06:07 19:18	07:09 18:00	08:11 15:59	08:18 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:38 (3) 21:47	05:43 21:03	06:09 19:15	07:11 16:58	07:13 15:57	08:19 15:46
26	08:32 16:37	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:39 (3) 21:46	05:45 21:03	06:11 19:13	07:13 16:55	07:16 15:56	08:21 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:38 (3) 21:44	05:46 21:03	06:13 19:10	07:15 16:53	07:18 15:55	08:23 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:39 (3) 21:42	05:48 21:03	06:15 19:07	07:17 16:51	07:20 15:53	08:25 15:49
29	08:26 16:44	07:17 19:53	06:02 20:57	05:43 21:53	04:45 21:54	04:34 22:16	05:38 (3) 21:40	05:51 21:03	06:17 19:05	07:19 16:48	07:22 15:52	08:27 15:50
30	08:25 16:46	07:19 19:55	06:00 20:59	05:40 21:56	04:43 21:56	04:34 22:16	05:38 (3) 21:38	05:53 21:03	06:19 19:02	07:21 16:46	07:24 15:51	08:29 15:51
31	08:23 16:48	07:17 19:57	06:05 20:59	05:42 21:58	04:42 21:58	04:33 22:16	05:39 (3) 21:36	05:54 21:03	06:21 19:02	07:26 16:44	07:26 15:51	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	324	247	216
Total, worst case					344	610	601					
Sun reduction					0,59	0,57	0,48					
Oper. time red.					1,00	1,00	1,00					
Wind dir. red.					1,00	1,00	1,00					
Total reduction					0,59	0,57	0,48					
Total, real					202	348	287					

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Jaunpenki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:01	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:38 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:38 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:13	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:48 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:13	08:08 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:14 18:16	08:20 15:57	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:15	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:47 20:53	04:48 21:51	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:05	08:25 16:51	08:57 15:49
29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 18:05		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Laura Kurzemniece / laura.kurzemniece@environment.lv
Calculated:
07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Jaunstamuri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (199)
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	05:32 (3) 06:04 (3)	04:35 22:15	05:37 (3) 06:12 (3)	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:31 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	05:32 (3) 06:04 (3)	04:36 22:15	05:36 (3) 06:11 (3)	05:23 21:32	06:25 20:17	07:25 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:57	06:49 20:03	05:33 21:06	04:39 22:02	05:32 (3) 06:05 (3)	04:37 22:14	05:37 (3) 06:12 (3)	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	05:32 (3) 06:06 (3)	04:38 22:14	05:37 (3) 06:12 (3)	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:47
5	08:56 15:58	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	05:32 (3) 06:06 (3)	04:39 22:13	05:38 (3) 06:12 (3)	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:06	05:32 (3) 06:06 (3)	04:40 22:12	05:38 (3) 06:12 (3)	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	05:32 (3) 06:07 (3)	04:41 22:12	05:38 (3) 06:12 (3)	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:13	05:22 21:16	04:34 22:08	05:32 (3) 06:06 (3)	04:42 22:11	05:39 (3) 06:12 (3)	05:35 21:19	06:37 20:01	07:37 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:04 17:09	06:56 18:10	06:33 20:16	05:20 21:18	04:34 22:09	05:33 (3) 06:07 (3)	04:43 22:10	05:39 (3) 06:12 (3)	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:30 20:18	05:18 21:20	04:33 22:10	05:32 (3) 06:07 (3)	04:44 22:09	05:39 (3) 06:12 (3)	05:39 21:15	06:41 19:56	07:42 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	05:33 (3) 06:08 (3)	04:46 22:08	05:40 (3) 06:12 (3)	05:41 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	05:32 (3) 06:07 (3)	04:47 22:07	05:40 (3) 06:12 (3)	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:18	08:47 15:43
13	08:50 16:11	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:12	05:33 (3) 06:08 (3)	04:48 22:05	05:41 (3) 06:11 (3)	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	05:33 (3) 06:08 (3)	04:50 22:04	05:41 (3) 06:11 (3)	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	05:33 (3) 06:09 (3)	04:51 22:03	05:42 (3) 06:11 (3)	05:49 21:03	06:51 19:42	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	05:33 (3) 06:08 (3)	04:53 22:02	05:42 (3) 06:11 (3)	05:51 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:27	06:12 20:32	05:04 21:34	04:30 22:15	05:33 (3) 06:08 (3)	04:54 22:00	05:44 (3) 06:11 (3)	05:53 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:15	05:33 (3) 06:09 (3)	04:56 21:59	05:44 (3) 06:10 (3)	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	04:30 22:16	05:33 (3) 06:09 (3)	04:58 21:57	05:44 (3) 06:08 (3)	05:57 20:53	06:59 19:32	08:01 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	05:34 (3) 06:10 (3)	04:59 21:56	05:46 (3) 06:08 (3)	05:59 20:51	07:01 19:29	08:03 18:10	08:09 16:04	08:54 15:44
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:16	05:34 (3) 06:10 (3)	05:01 21:54	05:47 (3) 06:07 (3)	06:01 20:48	07:03 19:26	08:05 18:07	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:34 (3) 06:10 (3)	05:03 21:53	05:49 (3) 06:06 (3)	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:55 15:44
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:53 21:45	04:31 22:17	05:34 (3) 06:10 (3)	05:04 21:51	05:51 (3) 06:04 (3)	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:35 (3) 06:11 (3)	05:06 21:49	05:53 (3) 06:01 (3)	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:58	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:35 (3) 06:11 (3)	05:08 21:47	06:09 (3) 06:11 (3)	06:09 20:38	07:11 19:15	07:13 16:58	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:47	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:34 (3) 06:11 (3)	05:10 21:46	06:11 (3) 05:36 (3)	06:11 20:36	07:13 19:13	07:16 16:55	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:34 (3) 06:12 (3)	05:12 21:42	05:36 (3) 06:11 (3)	06:13 20:33	07:15 19:10	07:18 16:53	08:23 15:55	08:57 15:48
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29	08:26 16:44		07:02 19:53	05:43 20:57	04:45 21:55	04:34 22:16	05:32 (3) 06:02 (3)	05:15 21:40	05:36 (3) 06:11 (3)	06:17 20:28	07:19 19:05	07:22 16:48	08:27 15:52	08:57 15:50
30	08:25 16:46		07:00 19:55	05:40 20:59	04:43 21:56	04:34 22:16	05:32 (3) 06:03 (3)	05:17 21:38	05:36 (3) 06:12 (3)	06:19 20:25	07:21 19:02	07:24 16:46	08:29 15:51	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58	04:31 22:16	05:32 (3) 06:03 (3)	05:19 21:36		06:21 20:23		07:26 16:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	216		
Total, worst case					288	1048	680							
Sun reduction					0,59	0,57	0,48							
Oper. time red.					1,00	1,00	1,00							
Wind dir. red.					1,00	1,00	1,00							
Total reduction					0,59	0,57	0,48							
Total, real					169	598	325							

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Jaunsetas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (231)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:01	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:38 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:22	06:35 20:04	07:36 18:43	07:42 16:29	08:40 15:45
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
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11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
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16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
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18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:35	07:59 18:15	08:06 16:08	08:53 15:43
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22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
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29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
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31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 18:05		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Jaunvilni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
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11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:18	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:12	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:53 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:37	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:04	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:07	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:13 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:15 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
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28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:30	07:17 19:07	07:20 16:51	08:25 15:53	08:57 15:49
29	08:27 16:44	07:02 19:53	05:43 20:57	05:43 21:55	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	07:22 16:48	08:27 15:52	08:57 15:50
30	08:25 16:46	07:00 19:55	05:40 21:00	05:40 21:56	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	07:24 16:46	08:29 15:51	08:57 15:51
31	08:23 16:48	06:57 19:57	06:57 20:00	04:42 21:58	04:42 21:58	04:42 21:58	05:19 21:36	06:21 20:23	07:27 16:44	07:27 16:44	08:57 15:52	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	216
Total, worst case							24					
Sun reduction							0,57					
Oper. time red.							1,00					
Wind dir. red.							1,00					
Total reduction							0,57					
Total, real							14					

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Kalna Druvas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:52	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:35 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:34	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:35 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
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11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:11	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
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18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:41	04:56 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:46	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
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31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:10		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	215
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Kalna Skola - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:52	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:35 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:34	08:35 15:47
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30	08:24 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:15	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:15		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	215
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Kalnamuiž as kapi - Shadow Receptor: $1,0 \times 1,0$ Azimuth: $3,1^\circ$ Slope: $90,0^\circ$ (174)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:35 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:11	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:56 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:31 22:17	05:09 21:45	06:10 20:35	07:13 19:13	08:15 18:05	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:48	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:05	08:23 16:53	08:57 15:48
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:00	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:04	08:27 16:48	08:57 15:49
30	08:24 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:06		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Shadow receptor: Kaspari - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	08:57	08:21	07:17							06:54			07:42 (6)	05:38		07:37 (6)	04:41	05:28 (5)
	15:53	16:51	17:53							19:59	22		08:04 (6)	21:02	15	07:52 (6)	21:59	05:53 (5)
2	08:57	08:19	07:14							06:52			07:39 (6)	05:36		07:42 (6)	04:40	05:28 (5)
	15:54	16:53	17:55							20:01	27		08:06 (6)	21:04	5	07:47 (6)	22:00	05:53 (5)
3	08:57	08:17	07:12							06:49			07:16 (4)	05:33			04:39	05:29 (5)
	15:56	16:55	17:58							20:03	36		08:08 (6)	21:06			22:02	05:52 (5)
4	08:56	08:15	07:09							06:46			07:12 (4)	05:31			04:38	05:30 (5)
	15:57	16:57	18:00							20:05	47		08:09 (6)	21:08			22:03	05:53 (5)
5	08:56	08:13	07:06							06:44			07:10 (4)	05:29			04:37	05:30 (5)
	15:58	17:00	18:02							20:07	53		08:10 (6)	21:10			22:04	05:53 (5)
6	08:55	08:11	07:04							06:41			07:08 (4)	05:26			04:36	05:30 (5)
	16:00	17:02	18:04				9		07:31 (3)	20:09	59		08:11 (6)	21:12			22:06	05:53 (5)
7	08:55	08:09	07:01						07:28 (3)	06:38			07:07 (4)	05:24			04:35	05:31 (5)
	16:01	17:04	18:06				15		07:43 (3)	20:11	62		08:12 (6)	21:14			22:07	05:54 (5)
8	08:54	08:07	06:59						07:26 (3)	06:36			07:05 (4)	05:22			04:34	05:31 (5)
	16:03	17:06	18:08				18		07:44 (3)	20:14	66		08:12 (6)	21:16			22:08	05:53 (5)
9	08:53	08:05	06:56						07:25 (3)	06:33			07:05 (4)	05:20			04:33	05:30 (5)
	16:05	17:09	18:10				21		07:46 (3)	20:16	68		08:13 (6)	21:18			22:09	05:53 (5)
10	08:52	08:02	06:53						07:23 (3)	06:30			07:04 (4)	05:18			04:33	05:31 (5)
	16:06	17:11	18:13				23		07:46 (3)	20:18	69		08:13 (6)	21:20			22:10	05:53 (5)
11	08:52	08:00	06:51						07:22 (3)	06:28			07:03 (4)	05:16			04:32	05:32 (5)
	16:08	17:13	18:15				24		07:46 (3)	20:20	69		08:12 (6)	21:22			22:11	05:54 (5)
12	08:51	07:58	06:48						07:22 (3)	06:25			07:04 (4)	05:14			04:32	05:32 (5)
	16:10	17:15	18:17				25		07:47 (3)	20:22	69		08:13 (6)	21:24			22:12	05:53 (5)
13	08:50	07:56	06:45						07:22 (3)	06:23			07:03 (4)	05:12			04:31	05:32 (5)
	16:11	17:18	18:19				24		07:46 (3)	20:24	69		08:12 (6)	21:26			22:12	05:53 (5)
14	08:49	07:53	06:43						07:21 (3)	06:20			07:04 (4)	05:10			04:31	05:33 (5)
	16:13	17:20	18:21				25		07:46 (3)	20:26	69		08:13 (6)	21:28			22:13	05:54 (5)
15	08:48	07:51	06:40						07:21 (3)	06:17			07:04 (4)	05:08			04:31	05:33 (5)
	16:15	17:22	18:23				24		07:45 (3)	20:28	68		08:12 (6)	21:30			22:14	05:54 (5)
16	08:46	07:49	06:37						07:22 (3)	06:15			07:05 (4)	05:06		05:37 (5)	04:30	05:33 (5)
	16:17	17:24	18:25				23		07:45 (3)	20:30	67		08:12 (6)	21:32	6	05:43 (5)	22:15	05:53 (5)
17	08:45	07:46	06:35						07:22 (3)	06:12			07:05 (4)	05:04		05:35 (5)	04:30	05:33 (5)
	16:19	17:27	18:27				22		07:44 (3)	20:32	65		08:11 (6)	21:34	10	05:45 (5)	22:15	05:53 (5)
18	08:44	07:44	06:32						07:22 (3)	06:10			07:07 (4)	05:02		05:33 (5)	04:30	05:34 (5)
	16:21	17:29	18:30				20		07:42 (3)	20:34	60		08:11 (6)	21:36	13	05:46 (5)	22:16	05:54 (5)
19	08:43	07:42	06:29						07:24 (3)	06:07			07:09 (4)	05:00		05:32 (5)	04:30	05:34 (5)
	16:23	17:31	18:32				17		07:41 (3)	20:37	54		08:10 (6)	21:38	16	05:48 (5)	22:16	05:54 (5)
20	08:41	07:39	06:27						07:25 (3)	06:05			07:25 (6)	04:59		05:30 (5)	04:30	05:35 (5)
	16:25	17:33	18:34				13		07:38 (3)	20:39	44		08:09 (6)	21:39	19	05:49 (5)	22:16	05:55 (5)
21	08:40	07:37	06:24						07:29 (3)	06:02			07:25 (6)	04:57		05:30 (5)	04:30	05:35 (5)
	16:27	17:35	18:36				5		07:34 (3)	20:41	44		08:09 (6)	21:41	20	05:50 (5)	22:17	05:55 (5)
22	08:38	07:34	06:21							06:00			07:25 (6)	04:55		05:29 (5)	04:30	05:35 (5)
	16:29	17:38	18:38							20:43	43		08:08 (6)	21:43	21	05:50 (5)	22:17	05:55 (5)
23	08:37	07:32	06:19							05:57			07:26 (6)	04:53		05:29 (5)	04:31	05:35 (5)
	16:31	17:40	18:40							20:45	41		08:07 (6)	21:45	22	05:51 (5)	22:17	05:55 (5)
24	08:35	07:29	06:16							05:55			07:26 (6)	04:52		05:28 (5)	04:31	05:36 (5)
	16:33	17:42	18:42							20:47	39		08:05 (6)	21:46	23	05:51 (5)	22:17	05:56 (5)
25	08:33	07:27	06:13							05:52			07:27 (6)	04:50		05:28 (5)	04:31	05:35 (5)
	16:35	17:44	18:44							20:49	37		08:04 (6)	21:48	23	05:51 (5)	22:17	05:55 (5)
26	08:32	07:24	06:11							05:50			07:28 (6)	04:49		05:28 (5)	04:32	05:35 (5)
	16:37	17:47	18:46							20:51	35		08:03 (6)	21:50	24	05:52 (5)	22:17	05:55 (5)
27	08:30	07:22	06:08							05:47			07:29 (6)	04:47		05:29 (5)	04:32	05:36 (5)
	16:40	17:49	18:48							20:53	33		08:02 (6)	21:51	23	05:52 (5)	22:17	05:56 (5)
28	08:28	07:19	06:05							05:45			07:30 (6)	04:46		05:28 (5)	04:33	05:36 (5)
	16:42	17:51	18:51							20:55	29		07:59 (6)	21:53	24	05:52 (5)	22:17	05:57 (5)
29	08:27		07:02							05:43			07:32 (6)	04:45		05:28 (5)	04:33	05:36 (5)
	16:44		19:53							20:57	26		07:58 (6)	21:55	24	05:52 (5)	22:16	05:57 (5)
30	08:25		07:00							05:40			07:34 (6)	04:43		05:28 (5)	04:34	05:36 (5)
	16:46		19:55							21:00	21		07:55 (6)	21:56	24	05:52 (5)	22:16	05:57 (5)
31	08:23		06:57						07:46 (6)					04:42		05:28 (5)		
	16:48		19:57				14		08:00 (6)					21:58	24	05:52 (5)		
Potential sun hours	235	266	366							426				508			529	
Total, worst case							322				1491				336			641
Sun reduction							0,40				0,47				0,59			0,57
Oper. time red.							1,00				1,00				1,00			1,00
Wind dir. red.							1,00				1,00				1,00			1,00
Total reduction							0,40				0,47				0,59			0,57
Total, real							130				696				197			365

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
 Vilandes 3-6
 LV-1010 Riga
 0037167242411
 Laura Kurzemniece / laura.kurzemniece@environment.lv
 Calculated:
 07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Kaspari - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (205)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July			August			September			October			November			December		
1	04:35		05:36 (5)	05:21			06:23		07:03 (4)	07:23		08:01 (3)	07:29		08:31			
	22:16	22	05:58 (5)	21:34			20:20	69	08:12 (6)	18:59	25	08:26 (3)	16:41		15:50			
2	04:36		05:36 (5)	05:23			06:25		07:02 (4)	07:25		08:01 (3)	07:31		08:32			
	22:15	21	05:57 (5)	21:32			20:17	69	08:11 (6)	18:57	24	08:25 (3)	16:39		15:49			
3	04:37		05:36 (5)	05:25			06:27		07:02 (4)	07:27		08:01 (3)	07:33		08:34			
	22:15	22	05:58 (5)	21:30			20:15	68	08:10 (6)	18:54	23	08:24 (3)	16:37		15:48			
4	04:38		05:36 (5)	05:27			06:29		07:02 (4)	07:29		08:01 (3)	07:35		08:36			
	22:14	22	05:58 (5)	21:28			20:12	66	08:09 (6)	18:51	22	08:23 (3)	16:35		15:47			
5	04:39		05:36 (5)	05:29			06:31		07:03 (4)	07:31		08:02 (3)	07:37		08:37			
	22:13	23	05:59 (5)	21:26			20:09	62	08:08 (6)	18:49	20	08:22 (3)	16:33		15:47			
6	04:40		05:36 (5)	05:31			06:33		07:04 (4)	07:33		08:03 (3)	07:40		08:39			
	22:13	23	05:59 (5)	21:24			20:07	59	08:07 (6)	18:46	17	08:20 (3)	16:30		15:46			
7	04:41		05:36 (5)	05:33			06:35		07:05 (4)	07:35		08:05 (3)	07:42		08:40			
	22:12	23	05:59 (5)	21:21			20:04	53	08:05 (6)	18:43	12	08:17 (3)	16:28		15:45			
8	04:42		05:36 (5)	05:35			06:37		07:06 (4)	07:37		08:09 (3)	07:44		08:42			
	22:11	24	06:00 (5)	21:19			20:01	48	08:04 (6)	18:41	4	08:13 (3)	16:26		15:45			
9	04:43		05:36 (5)	05:37			06:39		07:10 (4)	07:40			07:46		08:43			
	22:10	24	06:00 (5)	21:17			19:59	37	08:02 (6)	18:38			16:24		15:44			
10	04:44		05:36 (5)	05:39			06:41		07:32 (6)	07:42			07:48		08:44			
	22:09	24	06:00 (5)	21:15			19:56	28	08:00 (6)	18:35			16:22		15:44			
11	04:46		05:37 (5)	05:41			06:43		07:34 (6)	07:44			07:51		08:46			
	22:08	24	06:01 (5)	21:12	10	07:58 (6)	19:53	23	07:57 (6)	18:33			16:20		15:44			
12	04:47		05:37 (5)	05:43			07:44 (6)	06:45		07:37 (6)	07:46			07:53		08:47		
	22:07	24	06:01 (5)	21:10	18	08:02 (6)	19:51	16	07:53 (6)	18:30			16:18		15:43			
13	04:48		05:37 (5)	05:45			07:42 (6)	06:47		07:48			07:55		08:48			
	22:06	24	06:01 (5)	21:08	22	08:04 (6)	19:48			18:28			16:17		15:43			
14	04:50		05:36 (5)	05:47			07:39 (6)	06:49		07:50			07:57		08:49			
	22:04	25	06:01 (5)	21:05	27	08:06 (6)	19:45			18:25			16:15		15:43			
15	04:51		05:37 (5)	05:49			07:37 (6)	06:51		07:52			07:59		08:50			
	22:03	24	06:01 (5)	21:03	30	08:07 (6)	19:43			18:23			16:13		15:43			
16	04:53		05:37 (5)	05:51			07:36 (6)	06:53		07:54			08:01		08:51			
	22:02	24	06:01 (5)	21:01	33	08:09 (6)	19:40			18:20			16:11		15:43			
17	04:54		05:38 (5)	05:53			07:34 (6)	06:55		07:56			08:03		08:52			
	22:00	24	06:02 (5)	20:58	36	08:10 (6)	19:37			18:17			16:09		15:43			
18	04:56		05:38 (5)	05:55			07:33 (6)	06:57		07:58			08:05		08:53			
	21:59	23	06:01 (5)	20:56	38	08:11 (6)	19:34			18:15			16:08		15:43			
19	04:58		05:38 (5)	05:57			07:32 (6)	06:59		08:01			08:07		08:54			
	21:57	22	06:00 (5)	20:53	40	08:12 (6)	19:32			18:12			16:06		15:43			
20	04:59		05:39 (5)	05:59			07:31 (6)	07:01		08:03			08:10		08:54			
	21:56	22	06:01 (5)	20:51	42	08:13 (6)	19:29			18:10			16:04		15:44			
21	05:01		05:39 (5)	06:01			07:31 (6)	07:03		08:05			08:12		08:55			
	21:54	21	06:00 (5)	20:48	42	08:13 (6)	19:26			18:07			16:03		15:44			
22	05:03		05:40 (5)	06:03			07:29 (6)	07:05		08:07			08:14		08:56			
	21:53	20	06:00 (5)	20:46	44	08:13 (6)	19:24			18:05			16:01		15:44			
23	05:04		05:41 (5)	06:05			07:28 (6)	07:07		08:10 (3)	08:09		08:16		08:56			
	21:51	19	06:00 (5)	20:43	45	08:13 (6)	19:21	11	08:21 (3)	18:03			16:00		15:45			
24	05:06		05:41 (5)	06:07			07:13 (4)	07:09		08:07 (3)	08:11		08:18		08:56			
	21:49	17	05:58 (5)	20:41	55	08:14 (6)	19:18	16	08:23 (3)	18:00			15:58		15:46			
25	05:08		05:43 (5)	06:09			07:10 (4)	07:11		08:05 (3)	07:13		08:20		08:57			
	21:48	15	05:58 (5)	20:38	61	08:14 (6)	19:15	19	08:24 (3)	16:58			15:57		15:46			
26	05:10		05:44 (5)	06:11			07:08 (4)	07:13		08:04 (3)	07:16		08:21		08:57			
	21:46	12	05:56 (5)	20:36	65	08:14 (6)	19:13	21	08:25 (3)	16:55			15:56		15:47			
27	05:11		05:46 (5)	06:13			07:07 (4)	07:15		08:03 (3)	07:18		08:23		08:57			
	21:44	9	05:55 (5)	20:33	67	08:14 (6)	19:10	23	08:26 (3)	16:53			15:55		15:48			
28	05:13		05:49 (5)	06:15			07:06 (4)	07:17		08:02 (3)	07:20		08:25		08:57			
	21:42	2	05:51 (5)	20:30	68	08:14 (6)	19:07	24	08:26 (3)	16:51			15:53		15:49			
29	05:15			06:17			07:05 (4)	07:19		08:02 (3)	07:22		08:27		08:57			
	21:40			20:28	69	08:14 (6)	19:05	25	08:27 (3)	16:48			15:52		15:50			
30	05:17			06:19			07:04 (4)	07:21		08:01 (3)	07:24		08:29		08:57			
	21:38			20:25	69	08:13 (6)	19:02	25	08:26 (3)	16:46			15:51		15:51			
31	05:19			06:21			07:04 (4)			07:27					08:57			
	21:36			20:23	69	08:13 (6)				16:44					15:52			
Potential sun hours	530			470			385			323			247		216			
Total, worst case		579			950		762			147								
Sun reduction		0,48			0,51		0,46			0,28								
Oper. time red.		1,00			1,00		1,00			1,00								
Wind dir. red.		1,00			1,00		1,00			1,00								
Total reduction		0,48			0,51		0,46			0,28								
Total, real		276			484		353			41								

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Krogsetas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (232)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:01	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:38 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:32 22:13	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:48 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:34	07:59 18:15	08:05 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:13	08:08 16:06	08:54 15:44
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:32 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:14 18:16	08:20 15:57	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:15	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:47 20:53	04:48 21:51	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:05	08:25 16:51	08:57 15:49
29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 18:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Klavas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:14	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:12	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:37 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:04 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:12	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:14	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:53 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:15	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:37	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:04	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:07	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:05	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:03	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:01	08:25 16:51	08:57 15:49
29	08:27 16:44		07:02 19:53	05:43 20:57	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:57 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:26 18:59		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Laivenieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:35 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:35 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:12	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:41	04:56 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:46	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:45	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:31 22:17	05:09 21:46	06:10 20:35	07:13 19:13	08:15 18:05	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:48	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:05	08:23 16:53	08:57 15:48
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:00	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:04	08:27 16:48	08:57 15:49
30	08:25 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 16:43		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	215
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Laucini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (191)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
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7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:16 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:32 22:11	04:47 22:06	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:09 21:45	06:11 20:35	07:13 19:13	08:15 18:05	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:02	08:23 16:53	08:57 15:48
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:00	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:04	08:27 16:48	08:57 15:49
30	08:24 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:00		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Laura Kurzemniece / laura.kurzemniece@environment.lv
Calculated:
07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme
Assumptions for shadow calculations

Shadow receptor: Lejies i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (197)
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March		April	May	June	July	August	September		October		November	December	
1	08:57 15:53	08:21 16:50	07:16 17:53		06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20		07:23 18:59	15	18:13 (4) 18:28 (4)	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55		06:51 20:01	05:35 21:03	04:39 22:00	04:36 22:15	05:23 21:32	06:25 20:17		07:25 18:56	12	18:14 (4) 18:26 (4)	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57		06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14		07:27 18:54	8	18:15 (4) 18:23 (4)	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59		06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12		07:29 18:51	4	18:17 (4) 18:21 (4)	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02		06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09		07:31 18:48			07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:02	07:04 18:04		06:41 20:09	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:07		07:33 18:46			07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06		06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04		07:35 18:43			07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08		06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01		07:37 18:40			07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10		06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58		07:39 18:38			07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	6	17:38 (4) 17:44 (4)	06:30 20:17	05:18 21:20	04:33 22:10	04:44 21:14	05:38 19:56	06:41	07:41			07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	10	17:36 (4) 17:46 (4)	06:28 20:20	05:16 21:22	04:42 22:11	04:45 21:12	06:43 19:53	07:43	07:43			07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	14	17:34 (4) 17:48 (4)	06:25 20:22	05:13 21:24	04:32 22:12	04:47 22:07	06:45 19:50	07:46	07:46			07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	17	17:34 (4) 17:51 (4)	06:22 20:24	05:11 21:26	04:31 22:12	04:48 21:07	06:44 19:48	07:47	07:48			07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	20	17:33 (4) 17:53 (4)	06:20 20:26	05:09 21:28	04:31 22:13	04:50 21:05	06:49 19:45	07:50	07:50			07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	22	17:32 (4) 17:54 (4)	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	06:51 19:42	07:52	07:52			07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	22	17:31 (4) 17:53 (4)	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:02	06:53 19:40	07:54	07:54			08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	21	17:32 (4) 17:53 (4)	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	06:55 19:37	07:56	07:56			08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	20	17:32 (4) 17:52 (4)	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	06:57 19:34	07:58	07:58			08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	19	17:32 (4) 17:51 (4)	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	06:59 20:53	08:00	08:00			08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	16	17:34 (4) 17:50 (4)	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	07:01 20:51	08:02	08:02			08:09 16:04	08:54 15:43
21	08:40 16:27	07:36 17:35	06:24 18:36	13	17:35 (4) 17:48 (4)	06:02 20:41	04:57 21:41	04:30 22:16	05:01 21:54	07:03 20:48	18:23 (4) 18:30 (4)	08:05 18:07			08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	8	17:37 (4) 17:45 (4)	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:46	18:20 (4) 18:32 (4)	08:07 18:05			08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40		05:57 20:45	04:53 21:45	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	18:18 (4) 18:34 (4)	08:09 18:02			08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42		05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	18:16 (4) 18:35 (4)	08:11 18:00			08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44		05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	18:15 (4) 18:35 (4)	07:13 16:57			08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46		05:50 20:51	04:49 21:50	04:32 22:17	05:09 21:46	06:11 20:35	07:13 19:13	18:14 (4) 18:35 (4)	07:15 16:55			08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48		05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	18:13 (4) 18:35 (4)	07:18 16:53			08:23 15:54	08:57 15:48
28	08:28 16:41	07:19 17:51	06:05 18:50		05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	18:13 (4) 18:35 (4)	07:20 16:50			08:25 15:53	08:57 15:48
29	08:26 16:44		07:02 19:52		05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	18:13 (4) 18:34 (4)	07:22 16:48			08:27 15:52	08:57 15:49
30	08:25 16:46		07:00 19:55		05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	18:13 (4) 18:31 (4)	07:24 16:46			08:29 15:51	08:57 15:50
31	08:23 16:48		06:57 19:57			04:42 21:57		05:19 21:36	06:21 20:22			07:26 16:43			08:30 15:51	
Potential sun hours	235	266	366		426	508	529	530	470	385		323		247	216	
Total, worst case			208							178		39				
Sun reduction			0,40							0,46		0,28				
Oper. time red.			1,00							1,00		1,00				
Wind dir. red.			1,00							1,00		1,00				
Total reduction			0,40							0,46		0,28				
Total, real			84							82		11				

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Licupes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (217)
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:31 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:04	04:39 22:00	04:35 22:15	05:22 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:57 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:15	05:24 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:35 22:06	04:39 22:12	05:30 21:24	06:33 20:07	07:33 18:46	07:40 16:30	08:39 15:46
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:42 15:44
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:59	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	05:18 21:20	04:32 22:10	04:44 22:09	05:38 21:15	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:46 15:43
12	08:51 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:12	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:53 16:18	08:47 15:43
13	08:50 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:06	05:44 21:08	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:52 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:36	04:30 22:16	04:56 21:59	05:54 20:56	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:32	08:00 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:39	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:03 18:10	08:09 16:04	08:54 15:43
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:56 21:41	04:30 22:17	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:53	06:02 20:46	07:05 19:23	08:07 18:05	08:14 16:01	08:56 15:44
23	08:37 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:45	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:41	07:09 19:18	08:11 18:00	08:18 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
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27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:47
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29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:55	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
30	08:25 16:46		07:00 19:55	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:10	08:29 16:46	08:57 15:50
31	08:23 16:48				04:42 21:58		05:19 21:36	06:21 20:22		07:26 18:43		08:57 15:51
Potential sun hours	235	266	366	426	508	530	530	470	385	323	247	215
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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Maizites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:52	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:35 22:15	05:22 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:34	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
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7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
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16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:05 21:32	04:30 22:14	04:52 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:33	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:28	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:56 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:49 20:51	04:48 21:50	04:31 22:17	05:09 21:45	06:10 20:35	07:13 19:12	08:15 18:05	08:21 15:55	08:57 15:47
27	08:30 16:39	07:21 17:48	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:12 20:33	07:15 19:10	08:18 18:05	08:23 16:53	08:57 15:47
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:32 22:16	05:13 21:42	06:14 20:30	07:17 19:07	08:20 18:00	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:16 20:28	07:19 19:04	08:22 18:04	08:27 16:48	08:57 15:49
30	08:24 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:06		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	215
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Shadow receptor: Mazgi - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	08:58	08:21	07:17							17:19 (1)	06:54		05:38			04:41		21:13 (5)
	15:53	16:50	17:53				5			17:24 (1)	19:59		21:02			22:00	8	21:21 (5)
2	08:57	08:19	07:14							17:18 (1)	06:52		19:21 (2)			04:40		21:12 (5)
	15:54	16:53	17:55				9			17:27 (1)	20:01	6	19:27 (2)			22:01	10	21:22 (5)
3	08:57	08:17	07:12							17:16 (1)	06:49		19:16 (2)			04:38		21:11 (5)
	15:56	16:55	17:58				13			17:29 (1)	20:03	15	19:31 (2)			22:02	12	21:23 (5)
4	08:57	08:15	07:09							17:15 (1)	06:46		19:14 (2)			04:37		21:12 (5)
	15:57	16:57	18:00				15			17:30 (1)	20:05	20	19:34 (2)			22:04	13	21:25 (5)
5	08:56	08:13	07:07							17:15 (1)	06:44		19:11 (2)			04:36		21:11 (5)
	15:58	16:59	18:02				18			17:33 (1)	20:07	24	19:35 (2)			22:05	15	21:26 (5)
6	08:56	08:11	07:04							17:14 (1)	06:41		19:09 (2)			04:36		21:11 (5)
	16:00	17:02	18:04				21			17:35 (1)	20:10	27	19:36 (2)			22:06	16	21:27 (5)
7	08:55	08:09	07:01							17:13 (1)	06:38		19:08 (2)			04:35		21:10 (5)
	16:01	17:04	18:06				22			17:35 (1)	20:12	29	19:37 (2)			22:07	17	21:27 (5)
8	08:54	08:07	06:59							17:14 (1)	06:36		19:07 (2)			04:34		21:10 (5)
	16:03	17:06	18:08				21			17:35 (1)	20:14	30	19:37 (2)			22:08	19	21:29 (5)
9	08:54	08:05	06:56							17:14 (1)	06:33		19:06 (2)			04:33		21:10 (5)
	16:04	17:08	18:11				20			17:34 (1)	20:16	32	19:38 (2)			22:09	19	21:29 (5)
10	08:53	08:03	06:53							17:14 (1)	06:31		19:05 (2)			04:33		21:10 (5)
	16:06	17:11	18:13				19			17:33 (1)	20:18	33	19:38 (2)			22:10	21	21:31 (5)
11	08:52	08:00	06:51							17:15 (1)	06:28		19:04 (2)			04:32		21:10 (5)
	16:08	17:13	18:15				16			17:31 (1)	20:20	34	19:38 (2)			22:11	21	21:31 (5)
12	08:51	07:58	06:48							17:17 (1)	06:25		19:04 (2)			04:32		21:10 (5)
	16:09	17:15	18:17				13			17:30 (1)	20:22	34	19:38 (2)			22:12	22	21:32 (5)
13	08:50	07:56	06:45							17:19 (1)	06:23		19:03 (2)			04:31		21:10 (5)
	16:11	17:18	18:19				7			17:26 (1)	20:24	35	19:38 (2)			22:13	23	21:33 (5)
14	08:49	07:54	06:43								06:20		19:03 (2)			04:31		21:11 (5)
	16:13	17:20	18:21								20:26	35	19:38 (2)			22:14	23	21:34 (5)
15	08:48	07:51	06:40								06:17		19:03 (2)			04:30		21:10 (5)
	16:15	17:22	18:23								20:28	34	19:37 (2)			22:14	24	21:34 (5)
16	08:47	07:49	06:37								06:15		19:03 (2)			04:30		21:10 (5)
	16:17	17:24	18:25								20:31	34	19:37 (2)			22:15	24	21:34 (5)
17	08:46	07:47	06:35								06:12		19:03 (2)			04:30		21:10 (5)
	16:19	17:27	18:28								20:33	33	19:36 (2)			22:16	24	21:34 (5)
18	08:44	07:44	06:32								06:10		19:04 (2)			04:30		21:10 (5)
	16:21	17:29	18:30								20:35	32	19:36 (2)			22:16	25	21:35 (5)
19	08:43	07:42	06:29								06:07		19:04 (2)			04:30		21:11 (5)
	16:23	17:31	18:32								20:37	30	19:34 (2)			22:16	24	21:35 (5)
20	08:42	07:39	06:27								06:05		19:05 (2)			04:30		21:11 (5)
	16:25	17:33	18:34								20:39	28	19:33 (2)			22:17	24	21:35 (5)
21	08:40	07:37	06:24								06:02		19:06 (2)			04:30		21:12 (5)
	16:27	17:36	18:36								20:41	27	19:33 (2)			22:17	24	21:36 (5)
22	08:39	07:34	06:21								06:00		19:07 (2)			04:30		21:12 (5)
	16:29	17:38	18:38								20:43	24	19:31 (2)			22:17	24	21:36 (5)
23	08:37	07:32	06:19								05:57		19:08 (2)			04:30		21:12 (5)
	16:31	17:40	18:40								20:45	21	19:29 (2)			22:17	24	21:36 (5)
24	08:35	07:30	06:16								05:55		19:11 (2)			04:31		21:12 (5)
	16:33	17:42	18:42								20:47	16	19:27 (2)			22:17	24	21:36 (5)
25	08:34	07:27	06:13								05:52		19:13 (2)			04:31		21:12 (5)
	16:35	17:44	18:44								20:49	10	19:23 (2)			22:17	25	21:37 (5)
26	08:32	07:25	06:11								05:50					04:32		21:12 (5)
	16:37	17:47	18:47								20:51		21:50			22:17	24	21:36 (5)
27	08:30	07:22	06:08								05:47		21:50			04:32		21:13 (5)
	16:39	17:49	18:49								20:54		21:52			22:17	24	21:37 (5)
28	08:29	07:19	06:05								05:45		21:53			04:33		21:13 (5)
	16:42	17:51	18:51								20:56		21:53			22:17	23	21:36 (5)
29	08:27		07:03								05:43		21:55			04:33		21:13 (5)
	16:44		19:53								20:58		21:55			22:17	23	21:36 (5)
30	08:25		07:00								05:40		21:57		21:16 (5)	04:34		21:14 (5)
	16:46		19:55								21:00		21:57	2	21:18 (5)	22:16	22	21:36 (5)
31	08:23		06:57										04:42		21:14 (5)			
	16:48		19:57										21:58	6	21:20 (5)			
Potential sun hours	234	266	366							426			509			530		
Total, worst case							199				643		8			621		
Sun reduction							0,40				0,47		0,59			0,57		
Oper. time red.							1,00				1,00		1,00			1,00		
Wind dir. red.							1,00				1,00		1,00			1,00		
Total reduction							0,40				0,47		0,59			0,57		
Total, real							80				300		5			354		

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Mazgi - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July				August				September				October				November				December			
1	04:35		21:14 (5)	05:21					06:23		19:04 (2)	07:23		17:57 (1)	07:29	08:31								
	22:16	21	21:35 (5)	21:35					20:20	34	19:38 (2)	18:59	11	18:08 (1)	16:41	15:50								
2	04:36		21:14 (5)	05:23					06:25		19:04 (2)	07:25		17:54 (1)	07:31	08:33								
	22:16	21	21:35 (5)	21:32					20:18	33	19:37 (2)	18:57	15	18:09 (1)	16:39	15:49								
3	04:36		21:15 (5)	05:25					06:27		19:03 (2)	07:27		17:53 (1)	07:33	08:34								
	22:15	20	21:35 (5)	21:30					20:15	32	19:35 (2)	18:54	17	18:10 (1)	16:37	15:48								
4	04:37		21:16 (5)	05:27					06:29		19:04 (2)	07:29		17:51 (1)	07:36	08:36								
	22:14	18	21:34 (5)	21:28					20:12	30	19:34 (2)	18:51	20	18:11 (1)	16:35	15:47								
5	04:38		21:16 (5)	05:29					06:31		19:04 (2)	07:31		17:50 (1)	07:38	08:38								
	22:14	18	21:34 (5)	21:26					20:10	29	19:33 (2)	18:49	21	18:11 (1)	16:33	15:47								
6	04:39		21:17 (5)	05:31					06:33		19:05 (2)	07:34		17:49 (1)	07:40	08:39								
	22:13	16	21:33 (5)	21:24					20:07	27	19:32 (2)	18:46	22	18:11 (1)	16:30	15:46								
7	04:41		21:17 (5)	05:32					06:35		19:06 (2)	07:36		17:49 (1)	07:42	08:41								
	22:12	16	21:33 (5)	21:22					20:04	24	19:30 (2)	18:43	21	18:10 (1)	16:28	15:45								
8	04:42		21:18 (5)	05:34					06:37		19:08 (2)	07:38		17:50 (1)	07:44	08:42								
	22:11	14	21:32 (5)	21:20					20:02	20	19:28 (2)	18:41	20	18:10 (1)	16:26	15:45								
9	04:43		21:19 (5)	05:36					06:39		19:10 (2)	07:40		17:50 (1)	07:46	08:43								
	22:10	12	21:31 (5)	21:17					19:59	15	19:25 (2)	18:38	17	18:07 (1)	16:24	15:44								
10	04:44		21:19 (5)	05:38					06:41		19:14 (2)	07:42		17:50 (1)	07:49	08:45								
	22:09	11	21:30 (5)	21:15					19:56	7	19:21 (2)	18:36	14	18:04 (1)	16:22	15:44								
11	04:45		21:20 (5)	05:40					06:43			07:44		17:50 (1)	07:51	08:46								
	22:08	9	21:29 (5)	21:13					19:53			18:33	11	18:01 (1)	16:20	15:43								
12	04:47		21:22 (5)	05:42					06:45			07:46		17:51 (1)	07:53	08:47								
	22:07	7	21:29 (5)	21:10					19:51			18:30	7	17:58 (1)	16:18	15:43								
13	04:48		21:24 (5)	05:44					06:47			07:48		17:53 (1)	07:55	08:48								
	22:06	3	21:27 (5)	21:08					19:48			18:28	3	17:56 (1)	16:16	15:43								
14	04:50			05:47					06:49			07:50			07:57	08:50								
	22:05			21:06					19:45			18:25			16:15	15:43								
15	04:51			05:49					06:51			07:52			07:59	08:51								
	22:03			21:03					19:43			18:23			16:13	15:43								
16	04:53			05:51					06:53			07:54			08:02	08:52								
	22:02			21:01					19:40			18:20			16:11	15:43								
17	04:54			05:53					06:55			07:57			08:04	08:52								
	22:01			20:58					19:37			18:17			16:09	15:43								
18	04:56			05:55				19:19 (2)	06:57			07:59			08:06	08:53								
	21:59			20:56	12			19:31 (2)	19:35			18:15			16:08	15:43								
19	04:57			05:57				19:16 (2)	06:59			08:01			08:08	08:54								
	21:58			20:53	17			19:33 (2)	19:32			18:12			16:06	15:43								
20	04:59			05:59				19:14 (2)	07:01			08:03			08:10	08:55								
	21:56			20:51	21			19:35 (2)	19:29			18:10			16:04	15:43								
21	05:01			06:01				19:12 (2)	07:03			08:05			08:12	08:55								
	21:55			20:49	24			19:36 (2)	19:26			18:07			16:03	15:44								
22	05:02			06:03				19:11 (2)	07:05			08:07			08:14	08:56								
	21:53			20:46	26			19:37 (2)	19:24			18:05			16:01	15:44								
23	05:04			06:05				19:08 (2)	07:07			08:09			08:16	08:56								
	21:51			20:43	29			19:37 (2)	19:21			18:03			16:00	15:45								
24	05:06			06:07				19:07 (2)	07:09			08:12			08:18	08:57								
	21:50			20:41	31			19:38 (2)	19:18			18:00			15:58	15:45								
25	05:08			06:09				19:06 (2)	07:11			07:14			08:20	08:57								
	21:48			20:38	32			19:38 (2)	19:16			16:58			15:57	15:46								
26	05:10			06:11				19:06 (2)	07:13			07:16			08:22	08:58								
	21:46			20:36	33			19:39 (2)	19:13			16:55			15:56	15:47								
27	05:11			06:13				19:05 (2)	07:15			07:18			08:24	08:58								
	21:44			20:33	34			19:39 (2)	19:10			16:53			15:54	15:48								
28	05:13			06:15				19:05 (2)	07:17			07:20			08:26	08:58								
	21:42			20:31	34			19:39 (2)	19:07			16:51			15:53	15:48								
29	05:15			06:17				19:04 (2)	07:19			07:22			08:27	08:58								
	21:40			20:28	35			19:39 (2)	19:05			16:48			15:52	15:49								
30	05:17			06:19				19:04 (2)	07:21			07:25			08:29	08:58								
	21:39			20:25	35			19:39 (2)	19:02			16:46			15:51	15:50								
31	05:19			06:21				19:04 (2)				07:27				08:58								
	21:37			20:23	34			19:38 (2)				16:44				15:52								
Potential sun hours	530			470				385				323			247	215								
Total, worst case		186			397			251				199												
Sun reduction		0,48			0,51			0,46				0,28												
Oper. time red.		1,00			1,00			1,00				1,00												
Wind dir. red.		1,00			1,00			1,00				1,00												
Total reduction		0,48			0,51			0,46				0,28												
Total, real		89			202			116				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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
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 Calculated:
 07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Mazmazgi - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (216)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:58 15:53	08:21 16:50	07:17 17:53	06:54 19:59	05:38 21:02	19:34 (2) 22:00
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:04	19:34 (2) 22:01
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	19:33 (2) 22:02
4	08:57 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	19:33 (2) 22:04
5	08:56 15:58	08:13 16:59	07:07 18:02	06:44 20:07	05:29 21:10	19:33 (2) 22:05
6	08:56 16:00	08:11 17:02	07:04 18:04	06:41 20:10	05:26 21:12	19:34 (2) 22:06
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:12	05:24 21:14	19:34 (2) 22:07
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	19:34 (2) 22:08
9	08:54 16:04	08:05 17:09	06:56 18:11	17:36 (1) 17:42 (1)	06:33 20:16	19:35 (2) 22:09
10	08:53 16:06	08:03 17:11	06:53 18:13	17:33 (1) 17:44 (1)	06:31 20:18	19:35 (2) 22:10
11	08:52 16:08	08:00 17:13	06:51 18:15	17:32 (1) 17:46 (1)	06:28 20:20	19:36 (2) 22:11
12	08:51 16:10	07:58 17:15	06:48 18:17	17:31 (1) 17:49 (1)	06:25 20:22	19:37 (2) 22:12
13	08:50 16:11	07:56 17:18	06:46 18:19	17:30 (1) 17:51 (1)	06:23 20:24	19:38 (2) 22:13
14	08:49 16:13	07:54 17:20	06:43 18:21	17:29 (1) 17:51 (1)	06:20 20:26	19:39 (2) 22:14
15	08:48 16:15	07:51 17:22	06:40 18:23	17:29 (1) 17:52 (1)	06:17 20:28	19:40 (2) 22:14
16	08:47 16:17	07:49 17:24	06:37 18:25	17:29 (1) 17:51 (1)	06:15 20:31	19:42 (2) 22:15
17	08:45 16:19	07:47 17:27	06:35 18:28	17:28 (1) 17:50 (1)	06:12 20:33	19:43 (2) 22:16
18	08:44 16:21	07:44 17:29	06:32 18:30	17:28 (1) 17:49 (1)	06:10 20:35	19:45 (2) 22:16
19	08:43 16:23	07:42 17:31	06:29 18:32	17:29 (1) 17:49 (1)	06:07 20:37	19:48 (2) 22:16
20	08:41 16:25	07:39 17:33	06:27 18:34	17:30 (1) 17:47 (1)	06:05 20:39	19:50 (2) 22:17
21	08:40 16:27	07:37 17:36	06:24 18:36	17:31 (1) 17:45 (1)	06:02 20:41	19:44 (2) 22:17
22	08:39 16:29	07:34 17:38	06:21 18:38	17:34 (1) 17:43 (1)	06:00 20:43	19:41 (2) 22:17
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	19:40 (2) 20:07 (2)	04:53 21:45
24	08:35 16:33	07:30 17:42	06:16 18:42	05:55 20:47	19:39 (2) 20:08 (2)	04:52 21:47
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	19:37 (2) 20:08 (2)	04:50 21:49
26	08:32 16:37	07:25 17:47	06:11 18:47	05:50 20:51	19:37 (2) 20:09 (2)	04:49 21:50
27	08:30 16:39	07:22 17:49	06:08 18:49	05:47 20:54	19:36 (2) 20:10 (2)	04:47 21:52
28	08:29 16:42	07:19 17:51	06:05 18:51	05:45 20:56	19:35 (2) 20:10 (2)	04:46 21:53
29	08:27 16:44		07:03 19:53	05:43 20:58	19:34 (2) 20:10 (2)	04:44 21:55
30	08:25 16:46		07:00 19:55	05:40 21:00	19:34 (2) 20:10 (2)	04:43 21:57
31	08:23 16:48		06:57 19:57		04:42 21:58	
Potential sun hours	234	266	366	426	509	530
Total, worst case			240	328	545	
Sun reduction			0,40	0,47	0,59	
Oper. time red.			1,00	1,00	1,00	
Wind dir. red.			1,00	1,00	1,00	
Total reduction			0,40	0,47	0,59	
Total, real			97	153	320	

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

Day in month	Sun rise (hh:mm)	First time (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		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
 Vilandes 3-6
 LV-1010 Riga
 0037167242411
 Laura Kurzemniece / laura.kurzemniece@environment.lv
 Calculated:
 07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Mazmazgi - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (216)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:35	05:21	19:47 (2)	06:23	07:23	18:10 (1)
	22:16	21:35	20:17 (2)	20:20	18:59	16:41
2	04:36	05:23	19:46 (2)	06:25	07:25	18:29 (1)
	22:16	21:32	20:17 (2)	20:18	18:57	16:31
3	04:36	05:25	19:45 (2)	06:27	07:27	18:26 (1)
	22:15	21:30	20:18 (2)	20:15	18:54	16:33
4	04:37	05:27	19:45 (2)	06:29	07:29	18:11 (1)
	22:14	21:28	20:18 (2)	20:12	18:51	16:37
5	04:38	05:29	19:44 (2)	06:31	07:31	18:12 (1)
	22:14	21:26	20:19 (2)	20:10	18:49	16:35
6	04:39	05:31	19:44 (2)	06:33	07:34	18:15 (1)
	22:13	21:24	20:19 (2)	20:07	18:46	16:33
7	04:41	05:33	19:43 (2)	06:35	07:36	18:18 (1)
	22:12	21:22	20:19 (2)	20:04	18:43	16:40
8	04:42	05:34	19:43 (2)	06:37	07:38	18:42
	22:11	21:20	20:19 (2)	20:02	18:41	16:28
9	04:43	05:36	19:43 (2)	06:39	07:40	18:44
	22:10	21:17	20:19 (2)	19:59	18:38	16:22
10	04:44	05:38	19:43 (2)	06:41	07:42	18:38
	22:09	21:15	20:19 (2)	19:56	18:36	16:24
11	04:45	05:40	19:43 (2)	06:43	07:44	18:36
	22:08	21:13	20:19 (2)	19:54	18:33	16:22
12	04:47	05:42	19:43 (2)	06:45	07:46	18:33
	22:07	21:10	20:19 (2)	19:51	18:30	16:20
13	04:48	05:45	19:43 (2)	06:47	07:48	18:30
	22:06	21:08	20:19 (2)	19:48	18:28	16:18
14	04:50	05:47	19:42 (2)	06:49	07:50	18:28
	22:05	21:06	20:17 (2)	19:45	18:25	16:16
15	04:51	05:49	19:42 (2)	06:51	07:52	18:25
	22:03	21:03	20:17 (2)	19:43	18:23	16:15
16	04:53	05:51	19:43 (2)	06:53	07:54	18:23
	22:02	21:01	20:16 (2)	19:40	18:20	16:13
17	04:54	05:53	19:43 (2)	06:55	07:57	18:20
	22:01	20:58	20:16 (2)	19:37	18:17	16:11
18	04:56	05:55	19:44 (2)	06:57	07:59	18:17
	21:59	20:56	20:15 (2)	19:35	18:15	16:09
19	04:57	05:57	19:45 (2)	06:59	08:01	18:15
	21:58	20:53	20:14 (2)	19:32	18:12	16:08
20	04:59	05:59	19:46 (2)	07:01	08:03	18:12
	21:56	20:51	20:12 (2)	19:29	18:10	16:06
21	05:01	06:01	19:47 (2)	07:03	18:21 (1)	18:05
	21:55	20:49	20:11 (2)	19:26	18:17 (1)	18:07
22	05:02	06:03	19:49 (2)	07:05	18:17 (1)	18:07
	21:53	20:46	20:09 (2)	19:24	18:30 (1)	18:05
23	05:04	06:05	19:50 (2)	07:07	18:15 (1)	18:09
	21:51	20:43	20:05 (2)	19:21	18:31 (1)	18:03
24	05:06	06:07	19:55 (2)	07:09	18:13 (1)	18:12
	21:50	20:41	20:00 (2)	19:18	18:32 (1)	18:00
25	05:08	19:57 (2)	06:09	07:11	18:12 (1)	18:14
	21:48	20:08 (2)	20:38	19:16	18:33 (1)	18:14
26	05:10	19:54 (2)	06:11	07:13	18:11 (1)	18:16
	21:46	20:09 (2)	20:36	19:13	18:33 (1)	18:16
27	05:11	19:53 (2)	06:13	07:15	18:10 (1)	18:18
	21:44	20:11 (2)	20:33	19:10	18:33 (1)	18:18
28	05:13	19:51 (2)	06:15	07:17	18:10 (1)	18:20
	21:42	20:13 (2)	20:31	19:07	18:33 (1)	18:20
29	05:15	19:49 (2)	06:17	07:19	18:10 (1)	18:22
	21:40	20:14 (2)	20:28	19:05	18:32 (1)	18:22
30	05:17	19:49 (2)	06:19	07:21	18:10 (1)	18:25
	21:39	20:15 (2)	20:25	19:02	18:32 (1)	18:25
31	05:19	19:48 (2)	06:21			
	21:37	20:16 (2)	20:23			
Potential sun hours	530	470	385	323	247	215
Total, worst case	145	735	187	58		
Sun reduction	0,48	0,51	0,46	0,28		
Oper. time red.	1,00	1,00	1,00	1,00		
Wind dir. red.	1,00	1,00	1,00	1,00		
Total reduction	0,48	0,51	0,46	0,28		
Total, real	69	374	87	16		

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Laura Kurzemniece / laura.kurzemniece@environment.lv
Calculated:
07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Mazpekš as - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:58 15:53	08:21 16:50	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	20:49 (3) 21:12 (3)	04:35 21:15 (3)	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:04	04:39 22:01	20:50 (3) 21:12 (3)	04:35 22:15	05:23 21:32	06:25 20:17	07:25 18:57	07:31 16:39
3	08:57 15:55	08:17 16:55	07:12 17:57	06:49 20:03	05:33 21:06	04:38 22:02	20:50 (3) 21:12 (3)	04:36 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37
4	08:57 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:37 22:04	20:50 (3) 21:11 (3)	04:37 22:14	05:27 21:33	06:29 20:12	07:29 18:51	07:35 16:35
5	08:56 15:58	08:13 16:59	07:07 18:02	06:44 20:07	05:29 21:10	04:36 22:05	20:51 (3) 21:12 (3)	04:38 22:14	05:28 21:33	06:31 20:10	07:31 18:49	07:38 16:33
6	08:56 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:06	20:51 (3) 21:12 (3)	04:39 22:13	05:30 21:34	06:33 20:07	07:33 18:46	07:40 16:30
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:12	05:24 21:14	04:35 22:07	20:51 (3) 21:11 (3)	04:40 22:12	05:32 21:33	06:35 20:04	07:36 18:43	07:42 16:28
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	20:52 (3) 21:12 (3)	04:42 22:11	05:34 21:39	06:37 20:02	07:38 18:41	07:44 16:26
9	08:54 16:04	08:05 17:08	06:56 18:10	06:33 20:16	05:20 21:18	04:33 22:09	20:52 (3) 21:11 (3)	04:43 22:10	05:36 21:39	06:39 19:59	07:40 18:38	07:46 16:24
10	08:53 16:06	08:03 17:11	06:53 18:13	06:30 20:18	05:18 21:20	04:33 22:10	20:53 (3) 21:12 (3)	04:44 22:09	05:38 21:39	06:41 19:56	07:42 18:35	07:49 16:22
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	20:53 (3) 21:11 (3)	04:45 22:08	05:40 21:39	06:43 19:53	07:44 18:33	07:51 16:20
12	08:51 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:31 22:12	20:54 (3) 21:11 (3)	04:47 22:07	05:42 21:40	06:45 19:51	07:46 18:30	07:53 16:18
13	08:50 16:11	07:56 17:17	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:13	20:54 (3) 21:12 (3)	04:48 22:06	05:44 21:40	06:47 19:48	07:48 18:28	07:55 16:16
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:14	20:55 (3) 21:12 (3)	04:50 22:05	05:46 21:40	06:49 19:45	07:50 18:25	07:57 16:15
15	08:48 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:30 22:14	20:55 (3) 21:11 (3)	04:51 22:03	05:48 21:40	06:51 19:43	07:52 18:23	07:59 16:13
16	08:47 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:15	20:55 (3) 21:11 (3)	04:53 22:02	05:50 21:40	06:53 19:40	07:54 18:20	08:01 16:11
17	08:45 16:19	07:46 17:26	06:35 18:28	06:12 20:33	05:04 21:34	04:30 22:15	20:56 (3) 21:12 (3)	04:54 22:01	05:52 21:40	06:55 19:37	07:56 18:17	08:04 16:09
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	20:56 (3) 21:12 (3)	04:56 21:59	05:55 21:40	06:57 19:34	07:59 18:15	08:06 16:07
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	20:56 (3) 21:12 (3)	04:57 21:58	05:57 21:40	06:59 19:32	08:01 18:12	08:08 16:06
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:58 21:40	04:30 22:17	20:56 (3) 21:12 (3)	04:59 21:56	05:59 21:40	07:01 19:29	08:03 18:10	08:10 16:04
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	20:57 (3) 21:13 (3)	05:01 21:55	06:01 21:40	07:03 19:26	08:05 18:07	08:12 16:03
22	08:39 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	20:57 (3) 21:13 (3)	05:02 21:53	06:03 21:40	07:05 19:24	08:07 18:05	08:14 16:01
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:53 21:45	04:30 22:17	20:57 (3) 21:13 (3)	05:04 21:51	06:05 21:40	07:07 19:21	08:09 18:02	08:16 16:00
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:47	04:31 22:17	20:57 (3) 21:13 (3)	05:06 21:50	06:07 21:40	07:09 19:18	08:11 18:00	08:18 15:58
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	20:58 (3) 21:14 (3)	05:08 21:48	06:09 21:30	07:11 19:16	07:14 16:58	08:20 15:57
26	08:32 16:37	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:31 22:17	20:57 (3) 21:13 (3)	05:09 21:46	06:11 21:30	07:13 19:13	07:16 16:55	08:22 15:56
27	08:30 16:39	07:22 17:49	06:08 18:49	05:47 20:54	04:47 21:52	04:32 22:17	20:58 (3) 21:14 (3)	05:11 21:44	06:13 21:30	07:15 19:10	07:18 16:53	08:24 15:54
28	08:29 16:42	07:19 17:51	06:05 18:51	05:45 20:56	04:46 21:53	04:33 22:17	20:57 (3) 21:14 (3)	05:13 21:42	06:15 21:30	07:17 19:07	07:20 16:50	08:26 15:53
29	08:27 16:44		07:02 19:53	05:42 20:58	04:44 21:55	04:33 22:17	20:58 (3) 21:15 (3)	05:15 21:40	06:17 21:30	07:19 19:05	07:22 16:48	08:27 15:52
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:57	04:34 22:16	20:58 (3) 21:16 (3)	05:17 21:38	06:19 21:30	07:21 19:02	07:25 16:46	08:29 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58	04:33 22:16		05:19 21:36	06:21 20:23		07:27 16:44	08:58 15:51
Potential sun hours	234	266	366	426	509	530	530	506	470	385	323	247
Total, worst case					277	538		506				215
Sun reduction					0,59	0,57		0,48				
Oper. time red.					1,00	1,00		1,00				
Wind dir. red.					1,00	1,00		1,00				
Total reduction					0,59	0,57		0,48				
Total, real					163	307		241				

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Mazpukes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:14	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:12	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:12	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:14	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:15	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:37	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:16	08:13 18:05	08:19 15:57	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:05	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:03	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:01	08:25 16:51	08:57 15:49
29	08:27 16:44		07:02 19:53	05:43 20:57	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:57 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 18:59		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Noliktavas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:52	07:14 17:55	06:51 20:01	05:35 21:04	04:39 22:00	04:35 22:15	05:22 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:34	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:35 22:05	04:39 22:12	05:30 21:23	06:33 20:07	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:42 15:44
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:46 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:12	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:50 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:08	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:05 21:32	04:30 22:14	04:52 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:40 16:27	07:36 17:35	06:24 18:36	06:02 20:41	04:56 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:53	06:02 20:46	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:37 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:45	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:49 20:51	04:48 21:50	04:31 22:17	05:09 21:46	06:10 20:35	07:13 19:13	08:15 18:15	08:21 15:55	08:57 15:47
27	08:30 16:39	07:22 17:48	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:12 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:47
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:32 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:10	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
30	08:25 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:10	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:43		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	215
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: OŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February		March		April		May		June	
1	08:57	08:21			07:16	16:53 (3)	06:54	18:49 (4)	05:38	20:02 (5)	04:41	
	15:53	16:50			17:53	21	17:14 (3)	19:59	11	19:00 (4)	21:01	23
2	08:57	08:19			07:14	16:53 (3)	06:51	05:35		20:25 (5)	21:59	
	15:54	16:53			17:55	20	17:13 (3)	20:01		21:04	23	20:25 (5)
3	08:56	08:17			07:11	16:55 (3)	06:49	05:33		20:03 (5)	04:38	
	15:55	16:55			17:57	17	17:12 (3)	20:03		21:06	22	20:25 (5)
4	08:56	08:15			07:09	16:55 (3)	06:46	05:31		20:03 (5)	04:37	
	15:57	16:57			17:59	15	17:10 (3)	20:05		21:08	21	20:24 (5)
5	08:56	08:13			07:06	16:57 (3)	06:43	05:28		20:03 (5)	04:36	
	15:58	16:59			18:02	10	17:07 (3)	20:07		21:10	21	20:24 (5)
6	08:55	08:11			07:04	07:04	06:41	05:26		20:04 (5)	04:36	
	16:00	17:02			18:04		20:09	21:12	19	20:23 (5)	22:05	
7	08:54	08:09			07:01	06:38	06:38	05:24		20:05 (5)	04:35	
	16:01	17:04			18:06		20:11	21:14	17	20:22 (5)	22:07	
8	08:54	08:06			06:58	06:36	06:36	05:22		20:06 (5)	04:34	
	16:03	17:06			18:08		20:13	21:16	15	20:21 (5)	22:08	
9	08:53	08:04			06:56	06:33	06:33	05:20		20:07 (5)	04:33	
	16:04	17:08			18:10		20:15	21:18	12	20:19 (5)	22:09	
10	08:52	08:02			06:53	06:30	06:30	05:18		20:10 (5)	04:33	
	16:06	17:11			18:12		20:18	21:20	7	20:17 (5)	22:10	
11	08:51	08:00			06:50	06:28	06:28	05:16			04:32	
	16:08	17:13			18:15		20:20	21:22			22:11	
12	08:50	07:58			06:48	06:25	06:25	05:13			04:32	
	16:09	17:15			18:17		20:22	21:24			22:12	
13	08:49	07:55			06:45	06:22	06:22	05:11			04:31	
	16:11	17:17			18:19		20:24	21:26			22:12	
14	08:48	07:53			06:42	06:20	06:20	05:09			04:31	
	16:13	17:20			18:21		20:26	21:28			22:13	
15	08:47	07:51			06:40	06:17	06:17	05:08			04:30	
	16:15	17:22			18:23		20:28	21:30			22:14	
16	08:46	07:48			06:37	06:15	06:15	05:06			04:30	
	16:17	17:24			18:25		20:30	21:32			22:14	
17	08:45	07:46			06:34	17:57 (4)	06:12	05:04			04:30	
	16:19	17:26			18:27	2	17:59 (4)	20:32		21:34	22:15	
18	08:44	07:44			06:32	17:52 (4)	06:10	05:02			04:30	
	16:21	17:29			18:29	9	18:01 (4)	20:34		21:35	22:15	
19	08:42	07:41			06:29	17:50 (4)	06:07	05:00			04:30	
	16:23	17:31			18:31	13	18:03 (4)	20:36		21:37	22:16	
20	08:41	07:39	16:59 (3)		06:26	17:49 (4)	06:04	04:58			04:30	
	16:25	17:33	3	17:02 (3)	18:34	17	18:06 (4)	20:38		21:39	22:16	
21	08:40	07:36	16:57 (3)		06:24	17:47 (4)	06:02	04:57			04:30	
	16:27	17:35	8	17:05 (3)	18:36	21	18:08 (4)	20:41		21:41	22:16	
22	08:38	07:34	16:55 (3)		06:21	17:46 (4)	05:59	04:55			04:30	
	16:29	17:37	12	17:07 (3)	18:38	23	18:09 (4)	20:43		21:43	22:17	
23	08:36	07:32	16:55 (3)		06:18	17:46 (4)	05:57	20:11 (5)		04:53	04:30	
	16:31	17:40	15	17:10 (3)	18:40	24	18:10 (4)	20:45	3	20:14 (5)	21:45	
24	08:35	07:29	16:53 (3)		06:16	17:45 (4)	05:54	20:08 (5)		04:52	04:31	
	16:33	17:42	19	17:12 (3)	18:42	25	18:10 (4)	20:47	7	20:15 (5)	21:46	
25	08:33	07:27	16:52 (3)		06:13	17:44 (4)	05:52	20:07 (5)		04:50	04:31	
	16:35	17:44	22	17:14 (3)	18:44	25	18:09 (4)	20:49	11	20:18 (5)	21:48	
26	08:32	07:24	16:53 (3)		06:10	17:44 (4)	05:50	20:06 (5)		04:49	04:32	
	16:37	17:46	22	17:15 (3)	18:46	25	18:09 (4)	20:51	14	20:20 (5)	21:50	
27	08:30	07:22	16:52 (3)		06:08	17:45 (4)	05:47	20:04 (5)		04:47	04:32	
	16:39	17:49	23	17:15 (3)	18:48	24	18:09 (4)	20:53	17	20:21 (5)	21:51	
28	08:28	07:19	16:52 (3)		06:05	17:45 (4)	05:45	20:04 (5)		04:46	04:33	
	16:42	17:51	22	17:14 (3)	18:50	23	18:08 (4)	20:55	19	20:23 (5)	21:53	
29	08:26				07:02	18:45 (4)	05:42	20:03 (5)		04:44	04:33	
	16:44				19:52	21	19:06 (4)	20:57	23	20:26 (5)	21:54	
30	08:25				07:00	18:46 (4)	05:40	20:03 (5)		04:43	04:34	
	16:46				19:55	19	19:05 (4)	20:59	23	20:26 (5)	21:56	
31	08:23				06:57	18:47 (4)		04:42			22:16	
	16:48				19:57	16	19:03 (4)			21:57		
Potential sun hours	235	266			366		426		508		529	
Total, worst case		146			370		128		180			
Sun reduction		0,19			0,40		0,47		0,59			
Oper. time red.		1,00			1,00		1,00		1,00			
Wind dir. red.		1,00			1,00		1,00		1,00			
Total reduction		0,19			0,40		0,47		0,59			
Total, real		28			149		60		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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SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: OŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (177)
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	04:36 22:14	05:25 21:30	20:19 (5) 20:28 (5)	06:27 20:14	07:27 18:54	07:33 16:37
4	04:37 22:14	05:26 21:28	20:17 (5) 20:30 (5)	06:29 20:12	07:29 18:51	07:35 16:35
5	04:38 22:13	05:28 21:26	20:16 (5) 20:32 (5)	06:31 20:09	07:31 18:48	07:37 16:32
6	04:39 22:12	05:30 21:23	20:14 (5) 20:32 (5)	06:33 20:07	07:33 18:46	07:39 16:30
7	04:41 22:12	05:32 21:21	20:13 (5) 20:33 (5)	06:35 20:04	07:35 18:43	07:42 16:28
8	04:42 22:11	05:34 21:19	20:13 (5) 20:33 (5)	06:37 20:01	07:37 18:40	17:35 (3) 17:41 (3)
9	04:43 22:10	05:36 21:17	20:12 (5) 20:34 (5)	06:39 19:58	07:39 18:38	17:31 (3) 17:43 (3)
10	04:44 22:09	05:38 21:14	20:12 (5) 20:34 (5)	06:41 19:56	07:41 18:35	17:30 (3) 17:46 (3)
11	04:45 22:08	05:40 21:12	20:12 (5) 20:34 (5)	06:43 19:53	07:43 18:33	17:28 (3) 17:46 (3)
12	04:47 22:07	05:42 21:10	20:11 (5) 20:33 (5)	06:45 19:50	07:46 18:30	17:27 (3) 17:47 (3)
13	04:48 22:05	05:44 21:07	20:11 (5) 20:33 (5)	06:47 19:48	07:48 18:27	17:26 (3) 17:47 (3)
14	04:50 22:04	05:46 21:05	20:11 (5) 20:32 (5)	06:49 19:45	07:50 18:25	17:25 (3) 17:47 (3)
15	04:51 22:03	05:48 21:03	20:11 (5) 20:30 (5)	06:51 19:42	07:52 18:22	17:24 (3) 17:47 (3)
16	04:53 22:02	05:50 21:00	20:12 (5) 20:28 (5)	06:53 19:40	07:54 18:20	17:25 (3) 17:47 (3)
17	04:54 22:00	05:52 20:58	20:12 (5) 20:26 (5)	06:55 19:37	07:56 18:17	17:25 (3) 17:45 (3)
18	04:56 21:59	05:54 20:55	20:13 (5) 20:24 (5)	06:57 19:34	07:58 18:15	17:25 (3) 17:42 (3)
19	04:57 21:57	05:56 20:53	20:15 (5) 20:22 (5)	06:59 19:31	08:00 18:12	17:25 (3) 17:39 (3)
20	04:59 21:56	05:58 20:51	20:16 (5) 20:18 (5)	07:01 19:29	08:02 18:10	17:27 (3) 17:38 (3)
21	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	17:28 (3) 17:35 (3)	08:11 16:03
22	05:02 21:52	06:02 20:46	07:05 19:23	08:07 18:05	17:30 (3) 17:32 (3)	08:13 16:01
23	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	05:06 21:49	06:07 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	05:08 21:47	06:09 20:38	07:11 19:15	07:13 18:45	08:19 15:57	08:57 15:46
26	05:09 21:46	06:11 20:35	07:13 19:13	07:15 18:37	08:21 15:56	08:57 15:47
27	05:11 21:44	06:13 20:33	07:15 19:10	07:18 16:53	08:23 15:54	08:57 15:48
28	05:13 21:42	06:15 20:30	07:17 19:07	07:20 16:50	08:25 15:53	08:57 15:48
29	05:15 21:40	06:17 20:28	07:19 19:04	07:22 16:48	08:27 15:52	08:57 15:49
30	05:17 21:38	06:19 20:25	07:21 19:02	07:24 16:46	08:29 15:51	08:57 15:50
31	05:19 21:36	06:21 20:22		07:26 16:43		08:57 15:51
Potential sun hours	530	470	385	323	247	216
Total, worst case		296	305	231		
Sun reduction		0,51	0,46	0,28		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,51	0,46	0,28		
Total, real		151	141	65		

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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Papardes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (229)
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:01	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:38 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:36 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:53 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:13	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:48 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:35	07:59 18:15	08:05 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:13	08:08 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:47	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:57 15:46
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:14 18:16	08:20 15:57	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:15	08:22 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:47 20:53	04:47 21:52	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:31	07:17 19:07	08:20 18:05	08:25 16:51	08:58 15:49
29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:58 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 18:05		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Shadow receptor: Pieduri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (203)

Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

		January	February	March	April	May		June	July		August		September	October	November	December	
	1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01		04:41 21:59	04:35 22:15		05:21 21:34	24	20:32 (3) 20:56 (3)	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
	2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:03		04:40 22:00	04:36 22:15		05:23 21:32	22	20:32 (3) 20:54 (3)	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
	3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06		04:39 22:02	04:37 22:14		05:25 21:30	21	20:33 (3) 20:54 (3)	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
	4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	20:33 (3)	04:38 22:03	04:37 22:14		05:27 21:28	21	20:33 (3) 20:54 (3)	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
	5	08:56 15:58	08:13 16:59	07:06 18:02	06:44 20:07	05:29 21:10	20:28 (3)	04:37 22:04	04:38 22:13		05:28 21:26	21	20:34 (3) 20:52 (3)	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:47
	6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	20:26 (3)	04:36 22:05	04:40 22:12		05:30 21:23	18	20:34 (3) 20:49 (3)	06:33 20:07	07:33 18:46	07:39 16:30	08:38 15:46
	7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	20:25 (3)	04:35 22:06	04:41 22:11		05:32 21:21	15	20:36 (3) 20:47 (3)	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
	8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	20:24 (3)	04:34 22:08	04:42 22:11		05:34 21:19	11	20:38 (3) 20:45 (3)	06:37 20:01	07:37 18:41	07:44 16:26	08:41 15:45
	9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	20:23 (3)	04:33 22:09	04:43 22:10		05:36 21:17	7	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44	
	10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	20:22 (3)	04:33 22:10	04:44 22:09		05:38 21:14		06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44	
	11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	20:21 (3)	04:32 22:11	04:46 22:08		05:40 21:12		06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43	
	12	08:50 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	20:21 (3)	04:32 22:11	04:47 22:06		05:42 21:10		06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43	
	13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:12 21:26	20:21 (3)	04:31 22:12	04:48 22:05		05:44 21:07		06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43	
	14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:10 21:28	20:21 (3)	04:31 22:13	04:50 22:04	20:41 (3)	05:46 21:05	3	20:49 (3) 20:54 (3)	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
	15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	20:21 (3)	04:31 22:14	04:51 22:03	20:39 (3)	05:48 21:03	8	20:50 (3) 20:47 (3)	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
	16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	20:21 (3)	04:30 22:14	04:53 22:01	20:47 (3)	05:50 21:00	12	20:37 (3) 20:49 (3)	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
	17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:33	20:21 (3)	04:30 22:15	04:54 22:00	20:36 (3)	05:52 20:58	14	20:37 (3) 20:50 (3)	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
	18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	20:21 (3)	04:30 22:15	04:56 21:59	20:36 (3)	05:54 20:55	15	20:37 (3) 20:51 (3)	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
	19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	20:22 (3)	04:30 22:16	04:57 21:57	20:34 (3)	05:56 20:53	15	20:34 (3) 20:52 (3)	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
	20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	20:22 (3)	04:30 22:16	04:59 21:56	20:34 (3)	05:58 20:51	18	20:34 (3) 20:53 (3)	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:44
	21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:41	04:57 21:41	20:23 (3)	04:30 22:16	05:01 21:54	20:33 (3)	06:00 20:48	19	20:33 (3) 20:53 (3)	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
	22	08:38 16:29	07:34 17:38	06:21 18:38	05:59 20:43	04:55 21:43	20:23 (3)	04:30 22:17	05:02 21:52	20:33 (3)	06:03 20:46	20	20:33 (3) 20:54 (3)	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
	23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	20:24 (3)	04:31 22:17	05:04 21:51	20:32 (3)	06:05 20:43	21	20:32 (3) 20:54 (3)	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
	24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	20:24 (3)	04:31 22:17	05:06 21:49	20:32 (3)	06:07 20:40	22	20:32 (3) 20:55 (3)	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
	25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	20:25 (3)	04:31 22:17	05:08 21:47	20:32 (3)	06:09 20:38	23	20:32 (3) 20:56 (3)	07:11 19:15	07:13 16:58	08:19 15:57	08:57 15:46
	26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	20:27 (3)	04:32 22:17	05:10 21:45	20:31 (3)	06:11 20:35	24	20:31 (3) 20:55 (3)	07:13 19:13	07:15 16:55	08:21 15:56	08:57 15:47
	27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	20:27 (3)	04:32 22:17	05:11 21:44	20:32 (3)	06:13 20:33	24	20:32 (3) 20:56 (3)	07:15 19:10	07:18 16:53	08:23 15:54	08:57 15:48
	28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	20:29 (3)	04:33 22:16	05:13 21:42	20:32 (3)	06:15 20:30	24	20:32 (3) 20:56 (3)	07:17 19:07	07:20 16:50	08:25 15:53	08:57 15:49
	29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	20:31 (3)	04:33 22:16	05:15 21:40	20:31 (3)	06:17 20:28	25	20:31 (3) 20:55 (3)	07:19 19:04	07:22 16:48	08:27 15:52	08:57 15:50
	30	08:24 16:46		07:00 19:55	05:40 20:59	04:43 21:56	20:37 (3)	04:34 22:16	05:17 21:38	20:31 (3)	06:19 20:25	25	20:31 (3) 20:56 (3)	07:21 19:02	07:24 16:46	08:29 15:51	08:57 15:51
	31	08:23 16:48		06:57 19:57		04:42 21:57			05:19 21:36	20:32 (3)	06:21 20:22	26	20:32 (3) 20:56 (3)		07:26 16:43		08:57 15:52
Potential sun hours		235	266	366	426	508		529	530		470			385	324	247	216
Total, worst case						475			344		139						
Sun reduction						0,59			0,48		0,51						
Oper. time red.						1,00			1,00		1,00						
Wind dir. red.						1,00			1,00		1,00						
Total reduction						0,59			0,48		0,51						
Total, real						279			164		71						

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Pienenes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:57	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:14	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:48
5	08:56 15:58	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:05	04:40 22:12	05:31 21:23	06:33 20:07	07:33 18:46	07:40 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:37 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:04 17:09	06:56 18:10	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:30 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:39 21:15	06:41 19:56	07:42 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:45 15:44
12	08:50 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:11	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:18	08:47 15:43
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14	08:48 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
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16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:02	05:51 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:53 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:09 16:04	08:54 15:44
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:16	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:13 16:01	08:55 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:53 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
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25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:57 15:46
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29	08:26 16:44		07:02 19:53	05:43 20:57	04:45 21:54	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:57 15:50
30	08:25 16:46		07:00 19:55	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:05		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Pildavas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:05	04:39 22:01	04:37 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:07	04:38 22:03	04:37 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:55 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:29 21:10	04:37 22:04	04:38 22:13	05:28 21:25	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:47
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7	08:54 16:01	08:08 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:06	04:41 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:41 16:28	08:40 15:45
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16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:31	04:30 22:14	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
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19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
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22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:16	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
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27	08:30 16:39	07:21 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:16	05:11 21:44	06:13 20:33	07:15 19:10	08:17 18:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:19 18:10	08:25 16:50	08:57 15:49
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:21 18:15	08:27 16:48	08:57 15:49
30	08:24 16:46		07:00 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:22 18:15	08:28 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:15		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Platmani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (225)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:14	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:12	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:32 22:12	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:14	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:15	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:37	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:32 22:17	05:08 21:47	06:09 20:38	07:11 19:16	08:13 18:16	08:20 15:57	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:15	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:47 20:53	04:48 21:51	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:05	08:25 16:51	08:57 15:49
29	08:27 16:44	07:19 19:53	06:03 19:53	05:43 20:57	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:57 15:50
30	08:25 16:46	07:00 19:55	05:40 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:57 15:51
31	08:23 16:48	06:57 19:57	05:38 19:57	05:38 21:58	04:42 21:58	04:32 21:36	05:19 21:36	06:21 20:23	07:27 19:02	08:27 18:05	08:32 16:44	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Pludoni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (236)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:57	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:39 22:01	04:37 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:55 15:58	08:13 16:59	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:25	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:40 22:12	05:31 21:23	06:33 20:07	07:33 18:46	07:39 16:30	08:38 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:06	04:41 22:11	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:10	05:35 21:19	06:37 20:01	07:37 18:41	07:44 16:26	08:41 15:45
9	08:53 16:05	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:39 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	04:32 22:10	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:45 15:44
12	08:50 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:11	04:47 22:06	05:43 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:12	04:48 22:05	05:45 21:07	06:47 19:48	07:48 18:28	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:01	05:51 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:35 18:27	06:12 20:32	05:04 21:33	04:30 22:15	04:54 22:00	05:53 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:55 20:55	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:05 20:38	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:44
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:16	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:16	05:03 21:52	06:03 20:46	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:45
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:56 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:49	04:32 22:17	05:10 21:45	06:11 20:35	07:13 19:13	08:15 18:05	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:16	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:05	08:23 15:55	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:05	08:25 15:53	08:57 15:49
29	08:26 16:44		07:02 19:52	05:43 20:57	04:45 21:54	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 15:52	08:57 15:50
30	08:24 16:46		07:00 19:55	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 15:51	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:05		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Assumptions for shadow calculations

Shadow receptor: Porini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (206)

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:57 15:53	08:21 16:50	07:17 17:53	06:54 19:59	05:38 21:01	19:01 (3) 20:12 (6)
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:04	19:01 (3) 20:10 (6)
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	19:03 (3) 20:09 (6)
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	19:06 (3) 20:08 (6)
5	08:56 15:58	08:13 16:59	07:06 18:02	06:44 20:07	05:29 21:10	19:10 (3) 20:06 (6)
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	19:11 (3) 20:01 (6)
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	19:08 (3) 22:07
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	19:05 (3) 22:08
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	19:03 (3) 22:09
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	05:18 21:20	19:02 (3) 22:10
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	19:00 (3) 22:11
12	08:50 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	18:59 (3) 22:11
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:12 21:26	18:58 (3) 22:12
14	08:48 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	18:58 (3) 22:13
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	18:56 (3) 22:14
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	18:56 (3) 22:14
17	08:45 16:19	07:46 17:26	06:35 18:27	06:12 20:32	05:04 21:34	18:55 (3) 22:15
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	18:55 (3) 22:15
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	18:54 (3) 22:16
20	08:41 16:25	07:39 17:33	06:26 18:34	06:05 20:38	04:58 21:39	18:53 (3) 22:16
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:57 21:41	18:54 (3) 22:16
22	08:38 16:29	07:34 17:38	06:21 18:38	05:59 20:43	04:55 21:43	18:54 (3) 22:17
23	08:37 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:45	18:55 (3) 22:17
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	18:54 (3) 22:17
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	18:55 (3) 22:17
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	18:56 (3) 22:17
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	18:56 (3) 22:17
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	18:57 (3) 22:16
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	18:58 (3) 22:16
30	08:25 16:46		07:00 19:55	05:40 20:59	04:43 21:56	18:59 (3) 22:16
31	08:23 16:48		06:57 19:57		04:42 21:57	
Potential sun hours	235	266	366	426	508	529
Total, worst case				1152	181	494
Sun reduction				0,47	0,59	0,57
Oper. time red.				1,00	1,00	1,00
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,47	0,59	0,57
Total, real				537	106	282

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
 Vilandes 3-6
 LV-1010 Riga
 0037167242411
 Laura Kurzemniece / laura.kurzemniece@environment.lv
 Calculated:
 07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Porini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (206)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July		August		September		October	November	December
1	04:35	21:06 (4)	05:21		06:23	18:59 (3)	07:23	07:29	08:30
	22:15	19	21:25 (4)	21:34	20:20	35	19:34 (3)	18:59	15:50
2	04:36	21:07 (4)	05:23		06:25		19:00 (3)	07:25	08:32
	22:15	17	21:24 (4)	21:32	20:17	33	19:33 (3)	18:56	15:49
3	04:37	21:08 (4)	05:25		06:27		19:01 (3)	07:27	08:34
	22:14	16	21:24 (4)	21:30	20:15	30	19:31 (3)	18:54	15:48
4	04:37	21:10 (4)	05:27		06:29		19:02 (3)	07:29	08:35
	22:14	13	21:23 (4)	21:28	20:12	27	19:29 (3)	18:51	15:47
5	04:38	21:11 (4)	05:29		06:31		19:04 (3)	07:31	08:37
	22:13	11	21:22 (4)	21:26	20:09	23	19:27 (3)	18:48	15:47
6	04:40	21:13 (4)	05:30		06:33		19:07 (3)	07:33	08:39
	22:12	8	21:21 (4)	21:23	20:07	16	19:23 (3)	18:46	15:46
7	04:41		05:32		20:07 (6)		19:12 (3)	07:35	08:40
	22:12		21:21	6	20:13 (6)	6	19:18 (3)	18:43	15:45
8	04:42		05:34		19:18 (3)			07:37	08:41
	22:11		21:19	23	20:16 (6)			18:41	15:45
9	04:43		05:36		19:14 (3)			07:39	08:43
	22:10		21:17	34	20:18 (6)			18:38	15:44
10	04:44		05:38		19:12 (3)			07:41	08:44
	22:09		21:14	40	20:19 (6)			18:35	15:44
11	04:46		05:40		19:10 (3)			07:44	08:45
	22:08		21:12	46	20:20 (6)			18:33	15:43
12	04:47		05:42		19:09 (3)			07:46	08:47
	22:07		21:10	49	20:20 (6)			18:30	15:43
13	04:48		05:44		19:06 (3)			07:48	08:48
	22:05		21:08	53	20:20 (6)			18:28	15:43
14	04:50		05:46		19:05 (3)			07:50	08:49
	22:04		21:05	56	20:20 (6)			18:25	15:43
15	04:51		05:48		19:04 (3)			07:52	08:50
	22:03		21:03	59	20:21 (6)			18:22	15:43
16	04:53		05:50		19:03 (3)			07:54	08:51
	22:02		21:00	61	20:21 (6)			18:20	15:43
17	04:54		05:52		19:02 (3)			07:56	08:52
	22:00		20:58	61	20:20 (6)			18:17	15:43
18	04:56		05:54		19:02 (3)			07:58	08:53
	21:59		20:55	62	20:20 (6)			18:15	15:43
19	04:57		05:56		19:01 (3)			08:00	08:53
	21:57		20:53	63	20:20 (6)			18:12	15:43
20	04:59		05:59		19:00 (3)			08:03	08:54
	21:56		20:51	62	20:19 (6)			18:10	15:43
21	05:01		06:01		18:59 (3)			08:05	08:55
	21:54		20:48	61	20:16 (6)			18:07	15:44
22	05:02		06:03		18:59 (3)			08:07	08:55
	21:52		20:46	58	20:14 (6)			18:05	15:44
23	05:04		06:05		18:58 (3)			08:09	08:56
	21:51		20:43	55	20:12 (6)			18:02	15:45
24	05:06		06:07		18:58 (3)			08:11	08:56
	21:49		20:41	50	20:09 (6)			18:00	15:45
25	05:08		06:09		18:58 (3)			07:13	08:57
	21:47		20:38	42	19:40 (3)			16:58	15:57
26	05:10		06:11		18:58 (3)			07:15	08:57
	21:46		20:35	42	19:40 (3)			16:55	15:47
27	05:11		06:13		18:58 (3)			07:18	08:57
	21:44		20:33	41	19:39 (3)			16:53	15:48
28	05:13		06:15		18:58 (3)			07:20	08:57
	21:42		20:30	41	19:39 (3)			16:50	15:49
29	05:15		06:17		18:58 (3)			07:22	08:57
	21:40		20:28	40	19:38 (3)			16:48	15:50
30	05:17		06:19		18:59 (3)			07:24	08:57
	21:38		20:25	38	19:37 (3)			16:46	15:51
31	05:19		06:21		18:58 (3)			07:26	08:57
	21:36		20:22	37	19:35 (3)			16:44	15:52
Potential sun hours	530		470		385		323	247	216
Total, worst case	84		1180		170				
Sun reduction	0,48		0,51		0,46				
Oper. time red.	1,00		1,00		1,00				
Wind dir. red.	1,00		1,00		1,00				
Total reduction	0,48		0,51		0,46				
Total, real	40		601		79				

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

Day in month	Sun rise (hh:mm)	First time (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		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Priež lejas - Shadow Receptor: $1,0 \times 1,0$ Azimuth: $3,1^\circ$ Slope: $90,0^\circ$ (241)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:03	22 22:00
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	21 22:02
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	19 22:03
5	08:56 15:58	08:13 16:59	07:06 18:02	06:44 20:07	05:29 21:10	19 22:04
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	19:29 (3) 19:40 (3)	05:26 21:12
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	19:27 (3) 19:43 (3)	05:24 21:14
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	19:25 (3) 19:44 (3)	05:22 21:16
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	19:23 (3) 19:45 (3)	05:20 21:18
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	19:22 (3) 19:46 (3)	05:18 21:20
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	19:21 (3) 19:46 (3)	05:16 21:22
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	19:21 (3) 19:47 (3)	05:14 21:24
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	19:20 (3) 19:46 (3)	05:12 21:26
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	19:20 (3) 19:47 (3)	05:10 21:28
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	19:19 (3) 19:46 (3)	05:08 21:30
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	19:20 (3) 19:46 (3)	05:06 21:32
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	19:19 (3) 19:45 (3)	05:04 21:34
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	19:20 (3) 19:44 (3)	05:02 21:35
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	19:20 (3) 19:43 (3)	05:00 21:37
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	19:21 (3) 19:42 (3)	04:58 21:39
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:41	19:22 (3) 19:40 (3)	04:57 21:41
22	08:38 16:29	07:34 17:38	06:21 18:38	05:59 20:43	19:24 (3) 19:38 (3)	04:55 21:43
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	19:27 (3) 19:36 (3)	04:53 21:44
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:51 22:17
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:49 22:17
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:49 22:17
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:47 22:17
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:46 22:16
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:44 22:16
30	08:25 16:46		07:00 19:55	05:40 20:59	04:43 21:56	04:43 22:16
31	08:23 16:48		06:57 19:57		04:42 21:57	04:42 22:16
Potential sun hours	235	266	366	426	508	529
Total, worst case				384	510	287
Sun reduction				0,47	0,59	0,57
Oper. time red.				1,00	1,00	1,00
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,47	0,59	0,57
Total, real				179	300	164

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
 Vilandes 3-6
 LV-1010 Riga
 0037167242411
 Laura Kurzemniece / laura.kurzemniece@environment.lv
 Calculated:
 07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Priežlejas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (241)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July		August		September		October	November	December
1	04:35	20:44 (4)	05:21	20:45 (4)	06:23	19:20 (3)	07:23	07:28	08:30
2	22:15	11 20:55 (4)	21:34	15 21:00 (4)	20:20	25 19:45 (3)	18:59	16:41	15:50
3	04:36	20:43 (4)	05:23	20:45 (4)	06:25	19:20 (3)	07:25	07:31	08:32
4	22:15	13 20:56 (4)	21:32	12 20:57 (4)	20:17	24 19:44 (3)	18:56	16:39	15:49
5	04:37	20:43 (4)	05:25	20:47 (4)	06:27	19:21 (3)	07:27	07:33	08:34
6	22:14	14 20:57 (4)	21:30	8 20:55 (4)	20:14	22 19:43 (3)	18:54	16:37	15:48
7	04:37	20:43 (4)	05:27	06:29	19:22 (3)	07:29	07:35	08:35	15:47
8	22:14	15 20:58 (4)	21:28	20:12	19 19:41 (3)	18:51	16:35	15:47	08:37
9	04:38	20:43 (4)	05:28	06:31	19:23 (3)	07:31	07:37	15:47	08:39
10	22:13	16 20:59 (4)	21:26	20:09	16 19:39 (3)	18:48	16:32	15:46	08:40
11	04:39	20:42 (4)	05:30	06:33	19:25 (3)	07:33	07:39	15:44	08:41
12	22:12	17 20:59 (4)	21:23	20:07	11 19:36 (3)	18:46	16:30	15:43	08:42
13	04:41	20:42 (4)	05:32	06:35	07:35	07:42	15:45	08:43	15:45
14	22:11	18 21:00 (4)	21:21	20:04	18:43	16:28	15:45	08:44	15:45
15	04:42	20:42 (4)	05:34	06:37	07:37	07:44	15:45	08:45	15:45
16	22:11	19 21:01 (4)	21:19	20:01	18:41	16:26	15:43	08:46	15:45
17	04:43	20:41 (4)	05:36	06:39	07:39	07:46	15:43	08:47	15:44
18	22:10	20 21:01 (4)	21:17	19:58	18:38	16:24	15:44	08:48	15:44
19	04:44	20:41 (4)	05:38	06:41	07:41	07:48	15:43	08:49	15:44
20	22:09	21 21:02 (4)	21:14	19:56	18:35	16:22	15:43	08:50	15:44
21	04:46	20:40 (4)	05:40	06:43	07:43	07:50	15:43	08:51	15:43
22	22:08	22 21:02 (4)	21:12	19:53	18:33	16:20	15:43	08:52	15:43
23	04:47	20:41 (4)	05:42	06:45	07:46	07:52	15:43	08:53	15:43
24	22:07	22 21:03 (4)	21:10	19:50	18:30	16:18	15:43	08:54	15:43
25	04:48	20:40 (4)	05:44	06:47	07:48	07:55	15:43	08:55	15:43
26	22:05	23 21:03 (4)	21:07	19:48	18:27	16:16	15:43	08:56	15:43
27	04:50	20:40 (4)	05:46	06:49	07:50	07:57	15:43	08:57	15:43
28	22:04	24 21:04 (4)	21:05	19:45	18:25	16:14	15:43	08:58	15:43
29	04:51	20:40 (4)	05:48	06:51	07:52	07:59	15:43	08:59	15:43
30	22:03	25 21:05 (4)	21:03	19:42	18:22	16:13	15:43	09:00	15:43
31	04:53	20:40 (4)	05:50	06:53	07:54	08:01	15:43	09:01	15:43
32	22:01	25 21:05 (4)	21:00	19:40	18:20	16:11	15:43	09:02	15:43
33	04:54	20:39 (4)	05:52	06:55	07:56	08:03	15:43	09:03	15:43
34	22:00	26 21:05 (4)	20:58	19:37	18:17	16:09	15:43	09:04	15:43
35	04:56	20:40 (4)	05:54	06:57	07:58	08:05	15:43	09:05	15:43
36	21:59	25 21:05 (4)	20:55	19:34	18:15	16:07	15:43	09:06	15:43
37	04:57	20:39 (4)	05:56	06:59	08:00	08:07	15:43	09:07	15:43
38	21:57	26 21:05 (4)	20:53	19:31	18:12	16:06	15:43	09:08	15:43
39	04:59	20:40 (4)	05:58	19:32 (3)	07:01	08:02	15:43	09:09	15:43
40	21:56	26 21:06 (4)	20:51	19:42 (3)	19:29	18:10	16:04	09:10	15:43
41	05:01	20:39 (4)	06:00	19:28 (3)	07:03	08:05	15:43	09:11	15:43
42	21:54	26 21:05 (4)	20:48	19:43 (3)	19:26	18:07	16:03	09:12	15:43
43	05:02	20:40 (4)	06:03	19:26 (3)	07:05	08:07	15:43	09:13	15:43
44	21:52	26 21:06 (4)	20:46	19:45 (3)	19:23	18:05	16:01	09:14	15:43
45	05:04	20:39 (4)	06:05	19:25 (3)	07:07	08:09	15:43	09:15	15:43
46	21:51	26 21:05 (4)	20:43	19:46 (3)	19:21	18:02	16:00	09:16	15:43
47	05:06	20:40 (4)	06:07	19:24 (3)	07:09	08:11	15:43	09:17	15:43
48	21:49	26 21:06 (4)	20:40	19:47 (3)	19:18	18:00	15:58	09:18	15:43
49	05:08	20:40 (4)	06:09	19:23 (3)	07:11	07:13	15:43	09:19	15:43
50	21:47	26 21:06 (4)	20:38	19:47 (3)	19:15	16:57	15:57	09:20	15:43
51	05:09	20:40 (4)	06:11	19:22 (3)	07:13	07:15	15:43	09:21	15:43
52	21:46	25 21:05 (4)	20:35	19:47 (3)	19:13	16:55	15:56	09:22	15:43
53	05:11	20:41 (4)	06:13	19:21 (3)	07:15	07:18	15:43	09:23	15:43
54	21:44	24 21:05 (4)	20:33	19:48 (3)	19:10	16:53	15:54	09:24	15:43
55	05:13	20:41 (4)	06:15	19:21 (3)	07:17	07:20	15:43	09:25	15:43
56	21:42	24 21:05 (4)	20:30	19:48 (3)	19:07	16:50	15:53	09:26	15:43
57	05:15	20:41 (4)	06:17	19:21 (3)	07:19	07:22	15:43	09:27	15:43
58	21:40	23 21:04 (4)	20:28	19:47 (3)	19:04	16:48	15:52	09:28	15:43
59	05:17	20:42 (4)	06:19	19:21 (3)	07:21	07:24	15:43	09:29	15:43
60	21:38	21 21:03 (4)	20:25	19:47 (3)	19:02	16:46	15:51	09:30	15:43
61	05:19	20:43 (4)	06:21	19:20 (3)	07:26	07:26	15:43	09:31	15:43
62	21:36	18 21:01 (4)	20:22	19:46 (3)	16:43	16:43	15:43	09:32	15:43
Potential sun hours	530		470		385		323	247	216
Total, worst case	673		304		117				
Sun reduction	0,48		0,51		0,46				
Oper. time red.	1,00		1,00		1,00				
Wind dir. red.	1,00		1,00		1,00				
Total reduction	0,48		0,51		0,46				
Total, real	321		155		54				

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Pukes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (234)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:12	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:32 22:12	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:48 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:14	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:37	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:13	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:32 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:13 18:05	08:20 16:58	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:05	08:21 16:55	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:47 20:53	04:48 21:51	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:03	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:01	08:25 16:51	08:57 15:49
29	08:27 16:44		07:03 19:53	05:43 20:57	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:57 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 18:59		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Plavinas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:14	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:12	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
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9	08:53 16:05	08:04 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:18	08:47 15:43
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14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:14	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:53 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:15	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:37	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:09 16:04	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:07	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:55 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:05	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:03	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:01	08:25 16:51	08:57 15:49
29	08:27 16:44		07:02 19:53	05:43 20:57	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:57 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:26 16:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Rinki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (233)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:55 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:01	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:07 18:02	06:44 20:07	05:29 21:10	04:37 22:05	04:39 22:13	05:29 21:26	06:31 20:10	07:31 18:49	07:38 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:22	06:35 20:04	07:36 18:43	07:42 16:29	08:40 15:45
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:02	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:53 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:45 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:13	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:48 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:35	07:59 18:15	08:06 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	04:58 21:58	05:57 20:53	06:59 19:32	08:01 18:13	08:08 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:55 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:47	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:57 15:46
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:14 18:16	08:20 15:57	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:15	08:22 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:47 20:53	04:47 21:52	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:56	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:31	07:17 19:07	08:20 18:05	08:25 16:51	08:58 15:49
29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:58 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 18:05		08:58 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Rogas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

		January	February	March	April		May	June	July	August		September	October	November	December	
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59			05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34		06:23 20:20	19:19 (3) 19:40 (3)	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	2	19:30 (3) 19:32 (3)	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32		06:25 20:17	19:19 (3) 19:40 (3)	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	7	19:27 (3) 19:34 (3)	05:33 21:06	04:38 22:02	04:36 22:14	05:25 21:30		06:27 20:14	19:18 (3) 19:40 (3)	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	12	19:24 (3) 19:36 (3)	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28		06:29 20:12	19:18 (3) 19:39 (3)	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	14	19:24 (3) 19:38 (3)	05:29 21:10	04:37 22:04	04:38 22:13	05:28 21:26		06:31 20:09	19:18 (3) 19:39 (3)	07:31 18:48	07:37 16:32	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	18	19:22 (3) 19:40 (3)	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23		06:33 20:06	19:18 (3) 19:36 (3)	07:33 18:46	07:39 16:30	08:38 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	21	19:22 (3) 19:43 (3)	05:24 21:14	04:35 22:07	04:41 22:11	05:32 21:21		06:35 20:04	19:19 (3) 19:34 (3)	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	21	19:21 (3) 19:42 (3)	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19		06:37 20:01	19:19 (3) 19:31 (3)	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	22	19:20 (3) 19:42 (3)	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17		06:39 19:58	19:21 (3) 19:29 (3)	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	21	19:21 (3) 19:42 (3)	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14		06:41 19:56	19:23 (3) 19:26 (3)	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	21	19:20 (3) 19:41 (3)	05:16 21:22	04:32 22:11	04:45 22:08	05:40 21:12		06:43 19:53	19:26 (3) 19:33	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	19	19:21 (3) 19:40 (3)	05:14 21:24	04:32 22:11	04:47 22:06	05:42 21:10		06:45 19:50	19:26 (3) 19:30	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	18	19:21 (3) 19:39 (3)	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07		06:47 19:48	19:26 (3) 19:33	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	15	19:23 (3) 19:38 (3)	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05		06:49 19:45	19:26 (3) 19:29	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	11	19:24 (3) 19:35 (3)	05:08 21:30	04:30 22:14	04:51 22:03	05:48 21:03		06:51 19:42	19:26 (3) 18:22	07:52 16:13	07:59 15:43	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30			05:06 21:32	04:30 22:14	04:53 22:01	05:50 21:00		06:53 19:40	19:42 18:20	07:54 16:11	08:01 15:43	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32			05:04 21:33	04:30 22:15	04:54 22:00	05:52 20:58		06:55 19:37	19:42 18:17	07:56 16:09	08:03 15:43	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34			05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55		06:57 19:34	19:42 18:15	07:58 16:07	08:05 15:43	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36			05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53		06:59 19:31	19:42 18:12	08:00 16:06	08:07 15:43	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38			04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50		07:01 19:29	19:42 18:10	08:02 16:04	08:09 15:43	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40			04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48		07:03 19:26	19:42 18:07	08:05 16:03	08:11 15:44	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	05:59 20:43			04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:46		07:05 19:23	19:42 18:05	08:07 16:01	08:13 15:44	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45			04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43		07:07 19:21	19:42 18:02	08:09 16:00	08:15 15:45	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47			04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:40		07:09 19:18	19:42 18:00	08:11 16:58	08:17 15:45	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49			04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38		07:11 19:15	19:42 16:57	07:13 15:57	08:19 15:46	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51			04:49 21:50	04:32 22:17	05:09 21:45	06:11 20:35		07:13 19:13	19:42 16:55	07:15 15:56	08:21 15:46	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53			04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33		19:30 (3) 19:33 (3)	07:15 19:10	07:18 16:53	08:23 15:54	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55			04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30		19:26 (3) 19:37 (3)	07:17 19:07	07:20 16:50	08:25 15:53	08:57 15:49
29	08:26 16:44		07:02 19:52	05:42 20:57			04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28		19:24 (3) 19:39 (3)	07:19 19:04	07:22 16:48	08:27 15:52	08:57 15:49
30	08:24 16:46		07:00 19:54	05:40 20:59			04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25		19:22 (3) 19:40 (3)	07:21 19:02	07:24 16:46	08:29 15:51	08:57 15:50
31	08:23 16:48		06:57 19:57				04:42 21:57	05:19 21:36	06:21 20:22	18 19		19:20 (3) 19:39 (3)	07:26 16:43	07:26 15:51		08:57 15:52
Potential sun hours	235	266	366	426			508	529	530	470		385	323	247	216	
Total, worst case					222					66		162				
Sun reduction					0,47					0,51		0,46				
Oper. time red.					1,00					1,00		1,00				
Wind dir. red.					1,00					1,00		1,00				
Total reduction					0,47					0,51		0,46				
Total, real					104					34		75				

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

Day in month	Sun rise (hh:mm)	First time (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		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Rukmull - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December				
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	19:48 (3) 20:11 (3)	04:41 21:59	20:56 (4) 21:19 (4)	04:35 22:15	21:01 (4) 21:26 (4)	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50	
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:03	19:48 (3) 20:10 (3)	04:40 22:00	20:56 (4) 21:20 (4)	04:36 22:15	21:02 (4) 21:26 (4)	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49	
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	19:49 (3) 20:09 (3)	04:39 22:02	20:56 (4) 21:20 (4)	04:37 22:14	21:02 (4) 21:26 (4)	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48	
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	19:50 (3) 20:08 (3)	04:38 22:03	20:57 (4) 21:21 (4)	04:37 22:14	21:03 (4) 21:27 (4)	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47	
5	08:56 15:58	08:13 16:59	07:06 18:02	06:44 20:07	05:29 21:10	19:52 (3) 20:06 (3)	04:37 22:04	20:57 (4) 21:21 (4)	04:38 22:13	21:03 (4) 21:27 (4)	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:47	
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	19:54 (3) 20:04 (3)	04:36 22:05	20:57 (4) 21:21 (4)	04:40 22:12	21:03 (4) 21:27 (4)	05:30 21:23	20:05 (3) 20:11 (3)	06:33 20:07	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	19:54 (3) 20:04 (3)	04:35 22:07	20:56 (4) 21:21 (4)	04:41 22:11	21:03 (4) 21:27 (4)	05:32 21:21	20:02 (3) 20:14 (3)	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	19:54 (3) 20:04 (3)	04:34 22:08	20:57 (4) 21:21 (4)	04:42 22:11	21:03 (4) 21:27 (4)	05:34 21:19	20:01 (3) 20:16 (3)	06:37 20:01	07:37 18:41	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	19:54 (3) 20:04 (3)	04:33 22:09	20:57 (4) 21:21 (4)	04:43 22:10	21:04 (4) 21:27 (4)	05:36 21:17	19:59 (3) 20:17 (3)	06:39 20:01	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	19:54 (3) 20:04 (3)	04:33 22:10	20:58 (4) 21:22 (4)	04:44 22:09	21:04 (4) 21:27 (4)	05:38 21:14	19:58 (3) 20:18 (3)	06:41 20:01	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	19:54 (3) 20:04 (3)	04:32 22:11	20:57 (4) 21:21 (4)	04:46 22:08	21:04 (4) 21:27 (4)	05:40 21:12	20:19 (3) 20:19 (3)	06:43 20:01	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	19:54 (3) 20:04 (3)	04:32 22:11	20:58 (4) 21:22 (4)	04:47 22:06	21:05 (4) 21:28 (4)	05:42 21:10	19:57 (3) 20:20 (3)	06:45 20:01	07:46 18:27	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:12 21:26	19:54 (3) 20:04 (3)	04:31 22:12	20:58 (4) 21:22 (4)	04:48 22:05	21:05 (4) 21:27 (4)	05:44 21:07	19:55 (3) 20:19 (3)	06:47 20:01	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:10 21:28	19:54 (3) 20:04 (3)	04:31 22:13	20:59 (4) 21:23 (4)	04:50 22:04	21:05 (4) 21:26 (4)	05:46 21:05	19:55 (3) 20:20 (3)	06:49 20:01	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	19:54 (3) 20:04 (3)	04:30 22:14	20:58 (4) 21:22 (4)	04:51 22:03	21:06 (4) 21:25 (4)	05:48 21:03	19:54 (3) 20:20 (3)	06:51 20:01	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	19:54 (3) 20:04 (3)	04:30 22:14	20:59 (4) 21:23 (4)	04:53 22:01	21:06 (4) 21:24 (4)	05:50 21:00	19:54 (3) 20:20 (3)	06:53 20:01	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	19:54 (3) 20:04 (3)	04:30 22:15	20:59 (4) 21:23 (4)	04:54 22:00	21:07 (4) 21:22 (4)	05:52 20:58	19:54 (3) 20:20 (3)	06:55 20:01	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	19:54 (3) 20:04 (3)	04:30 22:15	20:59 (4) 21:23 (4)	04:56 21:59	21:08 (4) 21:21 (4)	05:54 20:55	19:54 (3) 20:19 (3)	06:57 20:01	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	19:54 (3) 20:04 (3)	04:30 22:16	20:59 (4) 21:23 (4)	04:57 21:57	21:08 (4) 21:20 (4)	05:56 20:53	19:55 (3) 20:19 (3)	06:59 20:01	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	19:54 (3) 20:04 (3)	04:30 22:16	20:59 (4) 21:23 (4)	04:59 21:56	21:10 (4) 21:19 (4)	05:58 20:51	19:55 (3) 20:18 (3)	07:01 20:01	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:41	04:57 21:41	19:54 (3) 20:04 (3)	04:30 22:16	21:00 (4) 21:24 (4)	05:01 21:54	21:11 (4) 21:17 (4)	06:00 20:48	19:55 (3) 20:16 (3)	07:03 20:01	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	05:59 20:43	04:55 21:43	19:54 (3) 20:04 (3)	04:30 22:17	21:00 (4) 21:24 (4)	05:02 21:52	21:13 (4) 21:16 (4)	06:03 20:46	19:55 (3) 20:14 (3)	07:05 20:01	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	19:54 (3) 20:04 (3)	04:30 22:17	21:00 (4) 21:24 (4)	05:04 21:51	21:16 (4) 21:24 (4)	06:05 20:43	19:56 (3) 20:12 (3)	07:07 20:01	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	19:54 (3) 20:04 (3)	04:30 22:17	21:00 (4) 21:24 (4)	05:06 21:49	21:17 (4) 21:24 (4)	06:07 20:40	19:58 (3) 20:09 (3)	07:09 20:01	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	19:54 (3) 20:04 (3)	04:30 22:17	21:01 (4) 21:25 (4)	05:08 21:47	21:01 (4) 21:25 (4)	06:09 20:38	20:01 (3) 20:07 (3)	07:11 20:01	07:13 19:15	08:19 16:58	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	19:54 (3) 20:04 (3)	04:30 22:17	21:01 (4) 21:25 (4)	05:10 21:45	21:01 (4) 21:25 (4)	06:11 20:35	20:07 (3) 20:13 (3)	07:15 20:01	07:15 19:13	08:21 16:55	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	19:54 (3) 20:04 (3)	04:30 22:17	21:01 (4) 21:25 (4)	05:11 21:44	21:01 (4) 21:25 (4)	06:13 20:33	20:08 (3) 20:14 (3)	07:17 20:01	07:18 19:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	19:54 (3) 20:04 (3)	04:30 22:18	21:01 (4) 21:25 (4)	05:13 21:42	21:01 (4) 21:25 (4)	06:15 20:30	20:09 (3) 20:15 (3)	07:19 20:01	07:22 19:04	08:27 16:48	08:57 15:49
29	08:26 16:44	07:02 17:52	05:42 18:52	04:44 20:57	04:44 21:54	19:54 (3) 20:04 (3)	04:30 22:18	21:02 (4) 21:26 (4)	05:15 21:40	21:02 (4) 21:26 (4)	06:17 20:28	20:10 (3) 20:16 (3)	07:19 20:01	07:24 19:02	08:29 16:46	08:57 15:51
30	08:24 16:46	07:00 17:55	05:40 18:55	04:43 20:59	04:43 21:56	19:54 (3) 20:04 (3)	04:30 22:18	21:02 (4) 21:26 (4)	05:17 21:38	21:02 (4) 21:26 (4)	06:19 20:25	20:11 (3) 20:17 (3)	07:21 20:01	07:24 19:02	08:29 16:46	08:57 15:51
31	08:23 16:48	06:57 17:57	05:37 18:57	04:42 21:57	04:42 22:00	19:54 (3) 20:04 (3)	04:30 22:19	21:02 (4) 21:36	05:19 21:41	21:02 (4) 21:36	06:21 20:22	20:12 (3) 20:18 (3)	07:26 20:01	07:26 16:43	08:57 15:52	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	388	385	323	247	216			
Total, worst case				272	251	251	251	251	251	251	251	251	251			
Sun reduction				0,47	0,59	0,59	0,57	0,48	0,51	0,51	0,51	0,51	0,51			
Oper. time red.				1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00			
Wind dir. red.				1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00			
Total reduction				0,47	0,59	0,57	0,48	0,48	0,51	0,51	0,51	0,51	0,51			
Total, real				127	147	147	411	202	198							

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Rutki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (239)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:55 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:01	04:36 22:15	05:23 21:32	06:25 20:18	07:25 18:57	07:31 16:39	08:33 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:47 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:07 18:02	06:44 20:07	05:29 21:10	04:37 22:05	04:39 22:13	05:29 21:26	06:31 20:10	07:31 18:49	07:38 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:10	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:22	06:35 20:04	07:36 18:43	07:42 16:29	08:40 15:45
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:02	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:53 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:49 16:22	08:45 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:13	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:46 18:19	06:23 20:24	05:12 21:26	04:31 22:13	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:05	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:48 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:47 16:17	07:49 17:24	06:38 18:26	06:15 20:30	05:06 21:32	04:30 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:33	05:04 21:34	04:30 22:15	04:54 22:01	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:35	07:59 18:15	08:06 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	04:58 21:58	05:57 20:53	06:59 19:32	08:01 18:13	08:08 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:40	04:30 22:17	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:55 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:47	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:57 15:46
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:14 18:16	08:20 15:57	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:47	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:15	08:22 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:47 20:53	04:47 21:52	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:24 16:53	08:57 15:48
28	08:29 16:42	07:19 17:51	06:05 18:51	05:45 20:56	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:31	07:17 19:08	08:20 18:05	08:25 16:51	08:58 15:49
29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:17	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:58 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 16:44		08:58 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	215
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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Laura Kurzemniece / laura.kurzemniece@environment.lv
Calculated:
07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Salaskalni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 17:59	05:38 19:59	04:41 21:01	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	18:07 (4) 21	07:29 18:30
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 20:01	04:39 21:04	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:56	18:08 (4) 18	07:31 18:30
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:25 21:30	06:27 20:15	07:27 18:54	18:09 (4) 14	07:33 18:30
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	18:11 (4) 10	07:35 18:30
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	18:15 (4) 3	07:37 18:30
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:07	07:33 18:46	18:18 (4) 3	07:39 18:30
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:12	05:32 21:21	06:35 20:04	07:35 18:43	18:15 (4) 3	07:42 18:30
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	18:18 (4) 3	07:44 18:30
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	18:21 (4) 3	07:46 18:30
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	18:24 (4) 3	07:48 18:30
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:44 18:33	18:27 (4) 3	07:50 18:30
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:32 22:12	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	18:30 (4) 3	07:52 18:30
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:08	06:47 19:48	07:48 18:27	18:33 (4) 3	07:55 18:30
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:30 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	18:36 (4) 3	07:57 18:30
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:51 18:22	18:39 (4) 3	07:59 18:30
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:02	05:50 21:00	06:53 19:40	07:54 18:20	18:42 (4) 3	08:01 18:30
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	18:45 (4) 3	08:03 18:30
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	18:48 (4) 3	08:05 18:30
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	18:51 (4) 3	08:07 18:30
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:02 18:10	18:54 (4) 3	08:09 18:30
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	18:57 (4) 3	08:11 18:30
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:46	07:05 19:23	08:07 18:10	18:59 (4) 3	08:13 18:30
23	08:37 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:45	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:11	18:59 (4) 3	08:15 18:30
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:40	07:09 19:18	08:11 18:10	18:59 (4) 3	08:17 18:30
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 18:12	18:59 (4) 3	08:19 18:30
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:09 21:46	06:11 20:35	07:13 19:13	08:15 18:12	18:59 (4) 3	08:21 18:30
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:17 18:10	18:59 (4) 3	08:23 18:30
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:19 18:11	18:59 (4) 3	08:25 18:30
29	08:26 16:44	07:02 17:52	06:02 19:02	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:21 18:10	18:59 (4) 3	08:27 18:30
30	08:25 16:46	07:00 17:55	06:00 19:05	05:40 20:59	04:43 21:59	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:23 18:11	18:59 (4) 3	08:29 18:30
31	08:23 16:48	06:57 17:57	05:57 19:07	05:37 21:07	04:42 21:57	04:34 22:16	05:19 21:36	06:21 20:22	07:23 19:04	08:25 18:13	18:59 (4) 3	08:31 18:30
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	216
Total, worst case			290	290				295	231	66		
Sun reduction			0,40	0,47				0,51	0,46	0,28		
Oper. time red.			1,00	1,00				1,00	1,00	1,00		
Wind dir. red.			1,00	1,00				1,00	1,00	1,00		
Total reduction			0,40	0,47				0,51	0,46	0,28		
Total, real			117	135				150	107	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Sauliešis - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (235)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57	08:21	07:17	06:54	05:38	04:41	04:35	05:21	06:23	07:23	07:28	08:30
	15:53	16:51	17:53	19:59	21:01	21:59	22:15	21:34	20:20	18:59	16:41	15:50
2	08:57	08:19	07:14	06:52	05:36	04:40	04:36	05:23	06:25	07:25	07:31	08:32
	15:55	16:53	17:55	20:01	21:03	22:00	22:15	21:32	20:17	18:57	16:39	15:49
3	08:56	08:17	07:11	06:49	05:33	04:39	04:37	05:25	06:27	07:27	07:33	08:34
	15:56	16:55	17:57	20:03	21:06	22:01	22:14	21:30	20:15	18:54	16:37	15:48
4	08:56	08:15	07:09	06:46	05:31	04:38	04:38	05:27	06:29	07:29	07:35	08:35
	15:57	16:57	18:00	20:05	21:08	22:03	22:14	21:28	20:12	18:51	16:35	15:48
5	08:55	08:13	07:06	06:44	05:29	04:37	04:39	05:29	06:31	07:31	07:37	08:37
	15:59	16:59	18:02	20:07	21:10	22:04	22:13	21:26	20:09	18:49	16:33	15:47
6	08:55	08:11	07:04	06:41	05:26	04:36	04:40	05:31	06:33	07:33	07:39	08:38
	16:00	17:02	18:04	20:09	21:12	22:05	22:12	21:23	20:07	18:46	16:30	15:46
7	08:54	08:09	07:01	06:38	05:24	04:35	04:41	05:33	06:35	07:35	07:42	08:40
	16:01	17:04	18:06	20:11	21:14	22:06	22:11	21:21	20:04	18:43	16:28	15:45
8	08:54	08:06	06:58	06:36	05:22	04:34	04:42	05:35	06:37	07:37	07:44	08:41
	16:03	17:06	18:08	20:13	21:16	22:08	22:10	21:19	20:01	18:41	16:26	15:45
9	08:53	08:04	06:56	06:33	05:20	04:34	04:43	05:37	06:39	07:39	07:46	08:43
	16:05	17:09	18:10	20:15	21:18	22:09	22:10	21:17	19:59	18:38	16:24	15:44
10	08:52	08:02	06:53	06:30	05:18	04:33	04:44	05:39	06:41	07:41	07:48	08:44
	16:06	17:11	18:13	20:18	21:20	22:10	22:09	21:14	19:56	18:35	16:22	15:44
11	08:51	08:00	06:51	06:28	05:16	04:32	04:46	05:41	06:43	07:44	07:50	08:45
	16:08	17:13	18:15	20:20	21:22	22:10	22:08	21:12	19:53	18:33	16:20	15:44
12	08:50	07:58	06:48	06:25	05:14	04:32	04:47	05:43	06:45	07:46	07:52	08:47
	16:10	17:15	18:17	20:22	21:24	22:11	22:06	21:10	19:50	18:30	16:18	15:43
13	08:49	07:55	06:45	06:23	05:12	04:31	04:48	05:45	06:47	07:48	07:55	08:48
	16:11	17:18	18:19	20:24	21:26	22:12	22:05	21:07	19:48	18:28	16:17	15:43
14	08:48	07:53	06:43	06:20	05:10	04:31	04:50	05:47	06:49	07:50	07:57	08:49
	16:13	17:20	18:21	20:26	21:28	22:13	22:04	21:05	19:45	18:25	16:15	15:43
15	08:47	07:51	06:40	06:17	05:08	04:31	04:51	05:49	06:51	07:52	07:59	08:50
	16:15	17:22	18:23	20:28	21:30	22:14	22:03	21:03	19:42	18:22	16:13	15:43
16	08:46	07:48	06:37	06:15	05:06	04:30	04:53	05:51	06:53	07:54	08:01	08:51
	16:17	17:24	18:25	20:30	21:32	22:14	22:01	21:00	19:40	18:20	16:11	15:43
17	08:45	07:46	06:35	06:12	05:04	04:30	04:54	05:53	06:55	07:56	08:03	08:52
	16:19	17:27	18:27	20:32	21:33	22:15	22:00	20:58	19:37	18:17	16:09	15:43
18	08:44	07:44	06:32	06:10	05:02	04:30	04:56	05:55	06:57	07:58	08:05	08:53
	16:21	17:29	18:29	20:34	21:35	22:15	21:59	20:55	19:34	18:15	16:08	15:43
19	08:42	07:41	06:29	06:07	05:00	04:30	04:58	05:57	06:59	08:00	08:07	08:53
	16:23	17:31	18:32	20:36	21:37	22:16	21:57	20:53	19:32	18:12	16:06	15:43
20	08:41	07:39	06:27	06:05	04:59	04:30	04:59	05:59	07:01	08:02	08:09	08:54
	16:25	17:33	18:34	20:38	21:39	22:16	21:56	20:51	19:29	18:10	16:04	15:44
21	08:39	07:36	06:24	06:02	04:57	04:30	05:01	06:01	07:03	08:05	08:11	08:55
	16:27	17:35	18:36	20:41	21:41	22:16	21:54	20:48	19:26	18:07	16:03	15:44
22	08:38	07:34	06:21	06:00	04:55	04:30	05:03	06:03	07:05	08:07	08:13	08:55
	16:29	17:38	18:38	20:43	21:43	22:16	21:52	20:46	19:23	18:05	16:01	15:45
23	08:36	07:32	06:18	05:57	04:53	04:31	05:04	06:05	07:07	08:09	08:15	08:56
	16:31	17:40	18:40	20:45	21:44	22:17	21:51	20:43	19:21	18:02	16:00	15:45
24	08:35	07:29	06:16	05:55	04:52	04:31	05:06	06:07	07:09	08:11	08:17	08:56
	16:33	17:42	18:42	20:47	21:46	22:17	21:49	20:40	19:18	18:00	15:58	15:46
25	08:33	07:27	06:13	05:52	04:50	04:31	05:08	06:09	07:11	08:13	08:19	08:56
	16:35	17:44	18:44	20:49	21:48	22:17	21:47	20:38	19:15	16:58	15:57	15:46
26	08:32	07:24	06:10	05:50	04:49	04:32	05:10	06:11	07:13	08:15	08:21	08:57
	16:37	17:46	18:46	20:51	21:49	22:17	21:45	20:35	19:13	16:55	15:56	15:47
27	08:30	07:22	06:08	05:47	04:47	04:32	05:12	06:13	07:15	08:18	08:23	08:57
	16:40	17:49	18:48	20:53	21:51	22:16	21:44	20:33	19:10	16:53	15:55	15:48
28	08:28	07:19	06:05	05:45	04:46	04:33	05:13	06:15	07:17	08:20	08:25	08:57
	16:42	17:51	18:50	20:55	21:53	22:16	21:42	20:30	19:07	16:51	15:53	15:49
29	08:26		07:02	05:43	04:45	04:34	05:15	06:17	07:19	08:22	08:27	08:57
	16:44		19:52	20:57	21:54	22:16	21:40	20:28	19:05	16:48	15:52	15:50
30	08:24		07:00	05:40	04:43	04:34	05:17	06:19	07:21	08:24	08:29	08:57
	16:46		19:55	20:59	21:56	22:16	21:38	20:25	19:02	16:46	15:51	15:51
31	08:23		06:57		04:42		05:19	06:21		07:26		08:57
	16:48		19:57		21:57		21:36	20:22		16:44		15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Senci - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	19:44 (4) 20:00 (4)	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:03	19:45 (4) 19:57 (4)	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	19:49 (4) 19:53 (4)	04:38 22:02	04:36 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08		04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:44 20:07	05:29 21:10		04:37 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12		04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:07	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14		04:35 22:07	04:41 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16		04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:41	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18		04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	05:18 21:20		04:33 22:10	04:44 22:09	05:38 21:14	19:56 (4) 19:56	06:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22		04:32 22:11	04:45 22:08	05:40 21:12	19:54 (4) 19:53	06:43 18:33	07:43 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24		04:32 22:11	04:47 22:07	05:42 21:10	19:51 (4) 19:50	06:45 18:30	07:46 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26		04:31 22:12	04:48 22:05	05:44 21:07	19:49 (4) 20:09 (4)	06:47 19:48	07:48 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	19:51 (4) 19:57 (4)	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	19:48 (4) 20:10 (4)	06:49 19:45	07:50 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	19:47 (4) 19:58 (4)	05:08 21:30	04:30 22:14	04:51 22:03	05:48 21:03	19:47 (4) 20:10 (4)	06:51 19:42	07:52 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	19:45 (4) 20:00 (4)	05:06 21:32	04:30 22:14	04:53 22:02	05:50 21:00	19:47 (4) 20:11 (4)	06:53 19:40	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	19:43 (4) 20:02 (4)	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	19:46 (4) 20:11 (4)	06:55 19:37	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	19:42 (4) 20:04 (4)	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	19:46 (4) 20:12 (4)	06:57 19:34	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	19:41 (4) 20:05 (4)	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	19:45 (4) 20:12 (4)	06:59 19:31	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	19:41 (4) 20:06 (4)	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	19:45 (4) 20:12 (4)	07:01 19:29	08:08 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:41	19:39 (4) 20:05 (4)	04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48	19:44 (4) 20:10 (4)	07:03 19:26	08:09 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	05:59 20:43	19:39 (4) 20:06 (4)	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:46	19:44 (4) 20:10 (4)	07:05 19:23	08:07 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	19:39 (4) 20:06 (4)	04:53 21:44	04:30 22:17	05:04 21:51	06:05 20:43	19:44 (4) 20:09 (4)	07:07 19:21	08:09 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	19:39 (4) 20:05 (4)	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:40	19:45 (4) 20:09 (4)	07:09 19:18	08:11 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	19:39 (4) 20:05 (4)	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	19:45 (4) 20:07 (4)	07:11 19:15	08:19 16:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	19:40 (4) 20:05 (4)	04:49 21:50	04:32 22:17	05:09 21:46	06:11 20:35	19:46 (4) 20:04 (4)	07:13 19:13	08:21 16:55	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	19:39 (4) 20:03 (4)	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	19:47 (4) 20:02 (4)	07:15 19:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	19:40 (4) 20:03 (4)	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	19:49 (4) 20:00 (4)	07:17 19:07	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	19:41 (4) 20:02 (4)	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	19:52 (4) 19:57 (4)	07:19 19:04	08:27 16:48	08:57 15:49
30	08:25 16:46		07:00 19:55	05:40 20:59	19:42 (4) 20:01 (4)	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	07:24 16:46	08:29 15:51	08:57 15:50
31	08:23 16:48		06:57 19:57			04:42 21:57		05:19 21:36	06:21 20:22		07:26 16:43		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470		385	323	247	216
Total, worst case			299	366	32				403	305			
Sun reduction			0,40	0,47	0,59				0,51	0,46			
Oper. time red.			1,00	1,00	1,00				1,00	1,00			
Wind dir. red.			1,00	1,00	1,00				1,00	1,00			
Total reduction			0,40	0,47	0,59				0,51	0,46			
Total, real			120	171	19				205	141			

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Silini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:32 22:11	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:46	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 17:57	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:09 21:46	06:11 20:35	07:13 19:13	08:15 17:55	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 17:53	08:23 15:54	08:57 15:48
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 17:50	08:25 15:53	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 17:48	08:27 15:52	08:57 15:49
30	08:25 16:46		07:00 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 17:46	08:29 15:51	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 16:43		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Skambas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (167)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:05	04:39 22:02	04:37 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:38 22:03	04:37 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:55 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:29 21:10	04:37 22:04	04:38 22:13	05:28 21:25	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:40 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:38 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:06	04:41 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	04:32 22:10	04:46 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:11	04:47 22:06	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:12 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:33	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:16	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:49	04:32 22:17	05:10 21:45	06:11 20:35	07:13 19:13	08:15 18:15	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:16	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:10	08:25 16:50	08:57 15:49
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
30	08:24 16:46		07:00 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:10	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:10		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
 Vilandes 3-6
 LV-1010 Riga
 0037167242411
 Laura Kurzemniece / laura.kurzemniece@environment.lv
 Calculated:
 07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Shadow receptor: Stacija "Goba" - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:52	07:14 17:55	06:51 20:01	05:35 21:04	04:39 22:00	04:35 22:15	05:22 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:34	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:35 22:05	04:39 22:12	05:30 21:23	06:33 20:07	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:42 15:44
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:46 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:12	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:05 21:32	04:30 22:14	04:52 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:40 16:27	07:36 17:35	06:24 18:36	06:02 20:41	04:56 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:53	06:02 20:46	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:37 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:45	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
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28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:10	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
30	08:25 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:10	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:43		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	215
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Straumes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	05:37 (3) 22:15	04:35 21:34	05:43 (3) 20:20	05:21 18:59	07:23 16:41	07:29 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	05:37 (3) 22:15	04:36 21:32	05:43 (3) 20:17	05:23 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:57	06:49 20:03	05:33 21:06	04:39 22:02	05:38 (3) 22:14	04:37 21:30	05:43 (3) 20:15	05:25 18:54	07:27 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	05:38 (3) 22:14	04:38 21:28	05:43 (3) 20:12	05:27 18:51	07:29 16:35	08:36 15:48
5	08:56 15:58	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	05:37 (3) 22:13	04:39 21:26	05:44 (3) 20:09	05:29 18:49	07:31 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	05:37 (3) 22:12	04:40 21:24	05:44 (3) 20:07	05:31 18:46	07:33 16:31	08:39 15:46
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	05:38 (3) 22:12	04:41 21:21	05:44 (3) 20:04	05:33 18:43	07:35 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:13	05:22 21:16	04:34 22:08	05:38 (3) 22:11	04:42 21:19	05:44 (3) 20:01	05:35 18:41	07:37 16:26	08:42 15:45
9	08:53 16:05	08:04 17:09	06:56 18:10	06:33 20:16	05:20 21:18	04:34 22:09	05:39 (3) 22:10	04:43 21:17	05:44 (3) 19:59	05:37 18:38	07:40 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:30 20:18	05:18 21:20	04:33 22:10	05:38 (3) 22:09	04:44 21:15	05:44 (3) 19:56	05:39 18:35	07:42 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	05:39 (3) 22:08	04:46 21:12	05:45 (3) 19:53	05:41 18:33	07:44 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	05:39 (3) 22:07	04:47 21:10	05:45 (3) 19:51	05:43 18:30	07:46 16:18	08:47 15:43
13	08:50 16:11	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:12	05:39 (3) 22:05	04:48 21:08	05:45 (3) 19:48	05:45 18:28	07:48 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	05:40 (3) 22:04	04:50 21:05	05:45 (3) 19:45	05:47 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	05:40 (3) 22:03	04:51 21:03	05:46 (3) 19:42	05:49 18:23	07:52 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	05:39 (3) 22:02	04:53 21:00	05:46 (3) 19:40	05:51 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:27	06:12 20:32	05:04 21:34	04:30 22:15	05:40 (3) 22:00	04:54 21:08	05:47 (3) 19:37	05:53 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:15	05:40 (3) 21:59	04:56 21:06	05:47 (3) 19:34	05:55 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	04:30 22:16	05:40 (3) 21:57	04:58 21:03	05:47 (3) 19:32	05:57 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	05:41 (3) 21:56	04:59 21:01	05:48 (3) 19:29	05:59 18:10	08:09 16:04	08:54 15:44
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:16	05:41 (3) 21:54	05:01 21:08	05:48 (3) 19:26	06:01 18:07	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:38 (3) 21:53	05:03 21:06	05:49 (3) 19:24	06:03 18:05	08:14 16:01	08:55 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:53 21:45	04:31 22:17	05:38 (3) 21:51	05:04 21:06	05:50 (3) 19:21	06:05 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:42 (3) 21:49	05:06 21:04	05:50 (3) 19:18	06:07 18:00	08:18 15:58	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:42 (3) 21:47	05:08 21:03	05:52 (3) 19:15	06:09 18:58	07:13 15:57	08:57 15:46
26	08:32 16:37	07:24 17:47	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:37 (3) 21:46	05:10 21:02	05:52 (3) 19:13	06:11 18:55	07:16 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:42 (3) 21:44	05:12 21:03	05:54 (3) 19:10	06:13 18:53	07:15 15:55	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:37 (3) 21:42	05:13 21:03	05:56 (3) 19:07	06:15 18:51	07:17 15:53	08:57 15:49
29	08:26 16:44		07:02 19:53	05:43 20:57	04:45 21:53	04:34 22:16	05:37 (3) 21:40	05:15 21:03	06:00 (3) 20:28	06:17 19:05	07:19 16:48	08:57 15:52
30	08:25 16:46		07:00 19:55	05:40 20:59	04:43 21:56	04:34 22:16	05:37 (3) 21:38	05:17 21:01	06:06 (3) 20:25	06:19 19:02	07:21 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58	04:32 22:16	05:37 (3) 21:36	05:19 21:02		06:21 20:23	07:26 16:44	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	216
Total, worst case					444	986	828					
Sun reduction					0,59	0,57	0,48					
Oper. time red.					1,00	1,00	1,00					
Wind dir. red.					1,00	1,00	1,00					
Total reduction					0,59	0,57	0,48					
Total, real					261	562	395					

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Shadow receptor: Strautmali - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	05:59 (4) 06:23	07:00 (3) 07:23	07:29 16:41	08:31 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:00 (4) 06:25	06:59 (3) 07:25	07:31 16:41	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:00 (4) 06:27	07:00 (3) 07:27	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:01 (4) 06:29	07:01 (3) 07:29	07:35 16:35	08:36 15:47
5	08:56 15:58	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:02 (4) 06:31	07:03 (3) 07:31	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:12	05:31 21:24	06:04 (4) 06:33	07:06 (3) 07:33	07:40 16:33	08:39 15:47
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:05 (4) 06:35	07:13 (3) 07:41	07:42 16:31	08:40 15:46
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11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 07:13	09:06 09:34	07:44 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 07:15	09:37 10:05	07:46 16:18	08:47 15:43
13	08:50 16:11	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:12	04:48 22:06	05:45 21:08	06:47 07:18	10:08 10:36	07:48 16:17	08:48 15:43
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16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:02	05:51 21:01	06:53 07:25	11:40 12:08	07:54 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:53 20:58	06:55 07:27	12:10 12:38	07:56 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 07:29	12:40 13:08	07:58 16:08	08:53 15:43
19	08:42 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:37	04:30 22:16	04:58 21:57	05:59 20:57	06:59 07:31	13:10 13:38	08:01 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	06:59 07:33	13:40 14:08	08:03 16:04	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	05:58 20:48	06:01 07:04	14:10 14:38	08:05 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:03 21:53	05:59 20:46	06:03 07:07	14:40 15:08	08:07 16:01	08:56 15:44
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:53 21:45	04:31 22:17	05:04 21:51	05:59 20:43	06:05 07:09	15:10 15:38	08:09 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	05:58 20:41	06:07 07:11	15:40 16:08	08:11 16:00	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	05:58 20:38	06:09 07:13	16:10 16:38	08:13 16:00	08:57 15:46
26	08:32 16:37	07:24 17:47	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	05:57 20:36	06:11 07:15	16:40 17:08	08:21 16:00	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:12 21:44	05:58 20:33	06:13 07:17	17:10 17:38	08:23 16:00	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	05:58 20:30	06:15 07:19	17:40 18:08	08:25 16:00	08:57 15:49
29	08:27 16:44	07:02 17:53	05:43 19:02	05:43 20:57	04:45 21:55	04:34 22:16	05:15 21:40	05:58 20:28	06:17 07:21	18:10 18:38	08:27 16:00	08:57 15:50
30	08:25 16:46	07:00 17:55	05:40 19:05	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	05:58 20:25	06:19 07:23	18:40 19:08	08:29 16:00	08:57 15:51
31	08:23 16:48	06:57 17:57	05:37 19:07	05:37 21:00	04:42 21:58	04:34 22:16	05:19 21:36	05:58 20:23	06:21 07:25	19:10 19:38	08:31 16:00	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	216
Total, worst case				403	503		391		420		107	
Sun reduction				0,47	0,59		0,48		0,51		0,46	
Oper. time red.				1,00	1,00		1,00		1,00		1,00	
Wind dir. red.				1,00	1,00		1,00		1,00		1,00	
Total reduction				0,47	0,59		0,48		0,51		0,46	
Total, real				188	295		187		214		50	

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Strautmali - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (237)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:55 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:01	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:38 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:36 18:43	07:42 16:29	08:40 15:46
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:14	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:38 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:53 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:45 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:48 16:22	08:44 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
13	08:50 16:12	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:13	04:49 22:06	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:48 16:15	07:51 17:22	06:40 18:23	06:18 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:43	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:31 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:28	06:12 20:32	05:04 21:34	04:30 22:15	04:55 22:00	05:53 20:58	06:55 19:37	07:56 18:18	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:35	07:59 18:15	08:05 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:01 18:13	08:08 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:10 16:05	08:54 15:44
21	08:40 16:27	07:37 17:36	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:17	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:08	08:12 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:31 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:47	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:57 15:46
25	08:34 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:14 18:16	08:20 15:57	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:15	08:22 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:47 20:53	04:47 21:52	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:13 21:42	06:15 20:31	07:17 19:07	08:20 18:05	08:25 16:51	08:57 15:49
29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:58 15:51
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 18:05	07:27 16:44	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Shadow receptor: Svareni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	08:58	08:21	07:17							06:54		18:44 (1)	05:38			04:41		20:31 (2)
	15:53	16:51	17:53							19:59	18	19:02 (1)	21:02			22:00	35	21:06 (2)
2	08:57	08:19	07:14							06:52		18:46 (1)	05:36			04:40		20:31 (2)
	15:54	16:53	17:55							20:01	14	19:00 (1)	21:04			22:01	36	21:07 (2)
3	08:57	08:17	07:12							06:49		18:49 (1)	05:33			04:39		20:30 (2)
	15:56	16:55	17:58							20:03	6	18:55 (1)	21:06			22:02	37	21:07 (2)
4	08:57	08:15	07:09							06:46			05:31			04:37		20:31 (2)
	15:57	16:57	18:00							20:05			21:08			22:04	37	21:08 (2)
5	08:56	08:13	07:07							06:44			05:29			04:37		20:30 (2)
	15:58	16:59	18:02							20:07			21:10			22:05	39	21:09 (2)
6	08:56	08:11	07:04							06:41			05:26			04:36		20:30 (2)
	16:00	17:02	18:04							20:10			21:12			22:06	39	21:09 (2)
7	08:55	08:09	07:01							06:38			05:24			04:35		20:30 (2)
	16:01	17:04	18:06							20:12			21:14			22:07	39	21:09 (2)
8	08:54	08:07	06:59							06:36			05:22			04:34		20:30 (2)
	16:03	17:06	18:08							20:14			21:16			22:08	40	21:10 (2)
9	08:54	08:05	06:56							06:33			05:20			04:33		20:30 (2)
	16:04	17:09	18:11							20:16			21:18			22:09	40	21:10 (2)
10	08:53	08:03	06:53							06:31			05:18			04:33		20:30 (2)
	16:06	17:11	18:13							20:18			21:20			22:10	41	21:11 (2)
11	08:52	08:00	06:51							06:28			05:16			04:32		20:31 (2)
	16:08	17:13	18:15							20:20			21:22			22:11	40	21:11 (2)
12	08:51	07:58	06:48							06:25			05:14			04:32		20:30 (2)
	16:10	17:15	18:17							20:22			21:24			22:12	41	21:11 (2)
13	08:50	07:56	06:46							06:23			05:12			04:31		20:30 (2)
	16:11	17:18	18:19							20:24			21:26			22:13	42	21:12 (2)
14	08:49	07:54	06:43							06:20			05:10			04:31		20:31 (2)
	16:13	17:20	18:21							20:26			21:28			22:14	41	21:12 (2)
15	08:48	07:51	06:40							06:17			05:08			04:30		20:30 (2)
	16:15	17:22	18:23							20:28			21:30			22:14	42	21:12 (2)
16	08:47	07:49	06:38							06:15			05:06			04:30		20:30 (2)
	16:17	17:24	18:26							20:31			21:32			22:15	42	21:12 (2)
17	08:46	07:47	06:35							06:12			05:04			04:30		20:31 (2)
	16:19	17:27	18:28	4						17:55 (1)			21:34			22:16	42	21:13 (2)
18	08:44	07:44	06:32							17:50 (1)			05:02			04:30		20:31 (2)
	16:21	17:29	18:30	11						18:01 (1)			21:36			22:16	42	21:13 (2)
19	08:43	07:42	06:29							17:48 (1)			05:00			04:30		20:31 (2)
	16:23	17:31	18:32	16						18:04 (1)			21:38			22:16	42	21:13 (2)
20	08:42	07:39	06:27							17:46 (1)			04:58			04:30		20:31 (2)
	16:25	17:33	18:34	20						18:06 (1)			21:40			22:17	42	21:13 (2)
21	08:40	07:37	06:24							17:44 (1)			04:57		20:44 (2)	04:30		20:32 (2)
	16:27	17:36	18:36	24						18:08 (1)			21:42	8	20:52 (2)	22:17	42	21:14 (2)
22	08:39	07:34	06:21							17:44 (1)			04:55		20:40 (2)	04:30		20:32 (2)
	16:29	17:38	18:38	25						18:09 (1)			21:43	15	20:55 (2)	22:17	42	21:14 (2)
23	08:37	07:32	06:19							17:43 (1)			04:53		20:39 (2)	04:30		20:32 (2)
	16:31	17:40	18:40	26						18:09 (1)			21:45	18	20:57 (2)	22:17	42	21:14 (2)
24	08:35	07:30	06:16							17:42 (1)			04:52		20:37 (2)	04:31		20:33 (2)
	16:33	17:42	18:42	27						18:09 (1)			21:47	21	20:58 (2)	22:17	42	21:15 (2)
25	08:34	07:27	06:13							17:41 (1)			04:50		20:36 (2)	04:31		20:33 (2)
	16:35	17:44	18:44	27						18:08 (1)			21:49	24	21:00 (2)	22:17	42	21:15 (2)
26	08:32	07:25	06:11							17:41 (1)			04:49		20:35 (2)	04:32		20:32 (2)
	16:37	17:47	18:47	28						18:09 (1)			21:50	26	21:01 (2)	22:17	42	21:14 (2)
27	08:30	07:22	06:08							17:41 (1)			04:47		20:34 (2)	04:32		20:33 (2)
	16:40	17:49	18:49	27						18:08 (1)			21:52	29	21:03 (2)	22:17	42	21:15 (2)
28	08:29	07:19	06:05							17:41 (1)			04:46		20:33 (2)	04:33		20:33 (2)
	16:42	17:51	18:51	26						18:07 (1)			21:53	30	21:03 (2)	22:17	42	21:15 (2)
29	08:27		07:03							18:42 (1)			04:44		20:32 (2)	04:33		20:34 (2)
	16:44		19:53	25						19:07 (1)			21:55	32	21:04 (2)	22:17	41	21:15 (2)
30	08:25		07:00							18:42 (1)			04:43		20:32 (2)	04:34		20:34 (2)
	16:46		19:55	23						19:05 (1)			21:57	33	21:05 (2)	22:16	41	21:15 (2)
31	08:23		06:57							18:42 (1)			04:42		20:31 (2)			
	16:48		19:57	21						19:03 (1)			21:58	34	21:05 (2)			
Potential sun hours	234	266	366							426			509			530		
Total, worst case				330						38			270			1217		
Sun reduction				0,40						0,47			0,59			0,57		
Oper. time red.				1,00						1,00			1,00			1,00		
Wind dir. red.				1,00						1,00			1,00			1,00		
Total reduction				0,40						0,47			0,59			0,57		
Total, real				133						18			159			693		

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
 Vilandes 3-6
 LV-1010 Riga
 0037167242411
 Laura Kurzemniece / laura.kurzemniece@environment.lv
 Calculated:
 07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Svareni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:35 22:16 41	20:35 (2) 21:16 (2)	05:21 21:35	06:23 20:20	07:23 18:59	07:29 16:41
2	04:36 22:16 41	20:34 (2) 21:15 (2)	05:23 21:32	06:25 20:18	07:25 18:57	07:31 16:39
3	04:36 22:15 40	20:35 (2) 21:15 (2)	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37
4	04:37 22:14 40	20:35 (2) 21:15 (2)	05:27 21:28	06:29 20:12	07:29 18:51	07:36 16:35
5	04:38 22:14 39	20:36 (2) 21:15 (2)	05:29 21:26	06:31 20:10	07:31 18:49	07:38 16:33
6	04:39 22:13 39	20:36 (2) 21:15 (2)	05:31 21:24	06:33 20:07	07:34 18:46	07:40 16:30
7	04:41 22:12 38	20:37 (2) 21:15 (2)	05:33 21:22	06:35 20:04	07:36 18:43	07:42 16:28
8	04:42 22:11 38	20:37 (2) 21:15 (2)	05:35 21:20	06:37 20:02	07:38 18:41	07:44 16:26
9	04:43 22:10 37	20:38 (2) 21:15 (2)	05:37 21:17	06:39 19:59	18:43 (1) 18:49 (1)	07:46 16:24
10	04:44 22:09 36	20:38 (2) 21:14 (2)	05:39 21:15	06:41 19:56	18:39 (1) 18:53 (1)	07:49 16:22
11	04:46 22:08 36	20:39 (2) 21:15 (2)	05:41 21:13	06:43 19:54	18:37 (1) 18:54 (1)	07:51 16:20
12	04:47 22:07 34	20:40 (2) 21:14 (2)	05:43 21:10	06:45 19:51	18:35 (1) 18:56 (1)	07:53 16:18
13	04:48 22:06 34	20:40 (2) 21:14 (2)	05:45 21:08	06:47 19:48	18:33 (1) 18:56 (1)	07:55 16:16
14	04:50 22:05 32	20:41 (2) 21:13 (2)	05:47 21:06	06:49 19:45	18:32 (1) 18:57 (1)	07:57 16:15
15	04:51 22:03 31	20:42 (2) 21:13 (2)	05:49 21:03	06:51 19:43	18:31 (1) 18:57 (1)	07:59 16:13
16	04:53 22:02 30	20:42 (2) 21:12 (2)	05:51 21:01	06:53 19:40	18:30 (1) 18:57 (1)	08:02 16:11
17	04:54 22:01 28	20:43 (2) 21:11 (2)	05:53 20:58	06:55 19:37	18:30 (1) 18:57 (1)	08:04 16:09
18	04:56 21:59 25	20:45 (2) 21:10 (2)	05:55 20:56	06:57 19:35	18:29 (1) 18:57 (1)	08:06 16:08
19	04:57 21:58 23	20:46 (2) 21:09 (2)	05:57 20:53	06:59 19:32	18:29 (1) 18:56 (1)	08:08 16:06
20	04:59 21:56 20	20:48 (2) 21:08 (2)	05:59 20:51	07:01 19:29	18:29 (1) 18:56 (1)	08:10 16:04
21	05:01 21:55 17	20:49 (2) 21:06 (2)	06:01 20:49	07:03 19:26	18:29 (1) 18:55 (1)	08:12 16:03
22	05:02 21:53 11	20:52 (2) 21:03 (2)	06:03 20:46	07:05 19:24	18:30 (1) 18:54 (1)	08:14 16:01
23	05:04 21:51	06:05 20:43	07:07 19:21	18:30 (1) 18:51 (1)	08:09 18:03	08:16 16:00
24	05:06 21:50	06:07 20:41	07:09 19:18	18:31 (1) 18:48 (1)	08:12 18:00	08:18 15:58
25	05:08 21:48	06:09 20:38	07:11 19:16	18:33 (1) 18:46 (1)	07:14 16:58	08:20 15:57
26	05:10 21:46	06:11 20:36	07:13 19:13	18:36 (1) 18:43 (1)	07:16 16:55	08:22 15:56
27	05:11 21:44	06:13 20:33	07:15 19:10	18:36 (1) 18:43 (1)	07:18 16:53	08:24 15:54
28	05:13 21:42	06:15 20:31	07:17 19:07	18:36 (1) 18:43 (1)	07:20 16:51	08:26 15:53
29	05:15 21:40	06:17 20:28	07:19 19:05	18:36 (1) 18:43 (1)	07:22 16:48	08:27 15:52
30	05:17 21:39	06:19 20:25	07:21 19:02	18:36 (1) 18:43 (1)	07:25 16:46	08:29 15:51
31	05:19 21:37	06:21 20:23	07:23 19:00	18:36 (1) 18:43 (1)	07:27 16:44	08:31 15:50
Potential sun hours	530	470	385	323	247	215
Total, worst case	710		376			
Sun reduction	0,48		0,46			
Oper. time red.	1,00		1,00			
Wind dir. red.	1,00		1,00			
Total reduction	0,48		0,46			
Total, real	339		174			

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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Laura Kurzemniece / laura.kurzemniece@environment.lv
Calculated:
07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Vecbirznieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (164)
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December			
1	08:57	08:21	07:17	06:54	05:38	04:41	05:51 (3)	04:35	05:58 (3)	06:23	07:23	07:29	08:31		
	15:53	16:51	17:53	19:59	21:02	21:59	06:06 (3)	22:15	21:34	20:20	18:59	16:41	15:50		
2	08:57	08:19	07:14	06:52	05:36	04:40	05:52 (3)	04:36	05:59 (3)	06:25	07:25	07:31	08:32		
	15:55	16:53	17:55	20:01	21:04	22:00	06:05 (3)	22:15	21:32	20:17	18:57	16:39	15:49		
3	08:57	08:17	07:12	06:49	05:33	04:39	05:54 (3)	04:37	05:59 (3)	06:27	07:27	07:33	08:34		
	15:56	16:55	17:58	20:03	21:06	22:02	06:05 (3)	22:14	21:30	20:15	18:54	16:37	15:48		
4	08:56	08:15	07:09	06:46	05:31	04:38	05:55 (3)	04:38	05:57 (3)	06:29	07:29	07:35	08:36		
	15:57	16:57	18:00	20:05	21:08	22:03	9 06:04 (3)	22:14	21:28	20:12	18:51	16:35	15:48		
5	08:56	08:13	07:06	06:44	05:29	04:37	05:57 (3)	04:39	05:59 (3)	06:31	07:31	07:37	08:37		
	15:59	17:00	18:02	20:07	21:10	22:04	5 06:02 (3)	22:13	21:26	20:09	18:49	16:33	15:47		
6	08:55	08:11	07:04	06:41	05:27	04:36		04:40	05:59 (3)	06:33	07:33	07:40	08:39		
	16:00	17:02	18:04	20:09	21:12	22:06		22:12	21:24	6 06:11 (3)	20:07	18:46	16:31	15:46	
7	08:55	08:09	07:01	06:38	05:24	04:35	05:53 (3)	04:41	05:53 (3)	06:35	07:35	07:42	08:40		
	16:01	17:04	18:06	20:11	21:14	9 06:02 (3)	22:07	22:12	21:21	20:04	18:43	16:28	15:45		
8	08:54	08:07	06:59	06:36	05:22	05:51 (3)	04:34	04:42	06:03 (3)	06:37	07:37	07:44	08:42		
	16:03	17:06	18:08	20:14	21:16	13 06:04 (3)	22:08	22:11	6 06:09 (3)	21:19	20:01	18:41	16:26	15:45	
9	08:53	08:04	06:56	06:33	05:20	05:49 (3)	04:34	04:43	06:01 (3)	06:37	06:39	07:40	07:46	08:43	
	16:05	17:09	18:10	20:16	21:18	17 06:06 (3)	22:09	22:10	10 06:11 (3)	21:17	19:59	18:38	16:24	15:44	
10	08:52	08:02	06:53	06:30	05:18	05:48 (3)	04:33	04:44	06:00 (3)	06:39	06:41	07:42	07:48	08:44	
	16:06	17:11	18:13	20:18	21:20	19 06:07 (3)	22:10	22:09	12 06:12 (3)	21:15	19:56	18:35	16:22	15:44	
11	08:52	08:00	06:51	06:28	05:16	05:47 (3)	04:32	04:46	06:00 (3)	06:41	06:43	07:44	07:50	08:46	
	16:08	17:13	18:15	20:20	21:22	20 06:07 (3)	22:11	22:08	14 06:14 (3)	21:12	19:53	18:33	16:20	15:44	
12	08:51	07:58	06:48	06:25	05:14	05:47 (3)	04:32	04:47	05:59 (3)	06:43	06:45	07:46	07:53	08:47	
	16:10	17:15	18:17	20:22	21:24	22 06:09 (3)	22:12	22:07	16 06:15 (3)	21:10	19:51	18:30	16:18	15:43	
13	08:50	07:56	06:45	06:23	05:12	05:46 (3)	04:31	04:48	05:58 (3)	06:45	06:47	07:48	07:55	08:48	
	16:11	17:18	18:19	20:24	21:26	23 06:09 (3)	22:12	22:05	17 06:15 (3)	21:08	19:48	18:28	16:17	15:43	
14	08:49	07:53	06:43	06:20	05:10	05:46 (3)	04:31	04:50	05:58 (3)	06:47	06:49	07:50	07:57	08:49	
	16:13	17:20	18:21	20:26	21:28	23 06:09 (3)	22:13	22:04	18 06:16 (3)	21:05	19:45	18:25	16:15	15:43	
15	08:47	07:51	06:40	06:17	05:08	05:45 (3)	04:31	04:51	05:58 (3)	06:49	06:51	07:52	07:59	08:50	
	16:15	17:22	18:23	20:28	21:30	25 06:10 (3)	22:14	22:03	19 06:17 (3)	21:03	19:43	18:23	16:13	15:43	
16	08:46	07:49	06:37	06:15	05:06	05:46 (3)	04:30	04:53	05:57 (3)	06:51	06:53	07:54	08:01	08:51	
	16:17	17:24	18:25	20:30	21:32	24 06:10 (3)	22:14	22:02	20 06:17 (3)	21:00	19:40	18:20	16:11	15:43	
17	08:45	07:46	06:35	06:12	05:04	05:45 (3)	04:30	04:54	05:57 (3)	06:53	06:55	07:56	08:03	08:52	
	16:19	17:27	18:27	20:32	21:34	25 06:10 (3)	22:15	22:00	22 06:19 (3)	21:08	19:37	18:17	16:09	15:43	
18	08:44	07:44	06:32	06:10	05:02	05:45 (3)	04:30	04:56	05:56 (3)	06:55	06:57	07:58	08:05	08:53	
	16:21	17:29	18:30	20:34	21:36	25 06:10 (3)	22:15	21:59	23 06:19 (3)	21:06	19:34	18:15	16:08	15:43	
19	08:42	07:42	06:29	06:07	05:00	05:45 (3)	04:30	04:58	05:56 (3)	06:57	06:59	08:01	08:07	08:54	
	16:23	17:31	18:32	20:37	21:37	26 06:11 (3)	22:16	21:57	23 06:19 (3)	21:03	19:32	18:12	16:06	15:43	
20	08:41	07:39	06:27	06:05	04:59	05:45 (3)	04:30	04:59	05:56 (3)	06:59	07:01	08:03	08:09	08:54	
	16:25	17:33	18:34	20:39	21:39	25 06:10 (3)	22:16	21:56	24 06:20 (3)	21:01	19:29	18:10	16:04	15:44	
21	08:40	07:37	06:24	06:02	04:57	05:46 (3)	04:30	05:01	05:56 (3)	06:01	07:03	08:05	08:12	08:55	
	16:27	17:36	18:36	20:41	21:41	25 06:11 (3)	22:17	21:54	24 06:20 (3)	21:08	19:26	18:07	16:03	15:44	
22	08:38	07:34	06:21	06:00	04:55	05:45 (3)	04:30	05:03	05:55 (3)	06:03	07:05	08:07	08:14	08:55	
	16:29	17:38	18:38	20:43	21:43	25 06:10 (3)	22:17	21:53	25 06:20 (3)	21:06	19:24	18:05	16:01	15:45	
23	08:37	07:32	06:19	05:57	04:54	05:46 (3)	04:31	05:04	05:56 (3)	06:05	07:07	08:09	08:16	08:56	
	16:31	17:40	18:40	20:45	21:45	24 06:10 (3)	22:17	21:51	25 06:21 (3)	21:03	19:21	18:03	16:00	15:45	
24	08:35	07:29	06:16	05:55	04:52	05:46 (3)	04:31	05:06	05:55 (3)	06:07	07:09	08:11	08:18	08:56	
	16:33	17:42	18:42	20:47	21:46	23 06:09 (3)	22:17	21:49	25 06:20 (3)	21:01	19:18	18:00	15:59	15:46	
25	08:33	07:27	06:13	05:52	04:50	05:47 (3)	04:31	05:08	05:56 (3)	06:09	07:11	07:13	08:19	08:57	
	16:35	17:44	18:44	20:49	21:48	22 06:09 (3)	22:17	21:47	25 06:21 (3)	21:08	19:15	16:58	15:57	15:46	
26	08:32	07:24	06:11	05:50	04:49	05:47 (3)	04:32	05:10	05:56 (3)	06:31	07:13	07:16	08:21	08:57	
	16:37	17:47	18:46	20:51	21:50	22 06:09 (3)	22:17	21:46	25 06:21 (3)	21:06	19:13	16:55	15:56	15:47	
27	08:30	07:22	06:08	05:47	04:47	05:48 (3)	04:32	05:12	05:55 (3)	06:13	07:15	07:18	08:23	08:57	
	16:40	17:49	18:48	20:53	21:51	21 06:09 (3)	22:17	21:44	26 06:21 (3)	21:03	19:10	16:53	15:55	15:48	
28	08:28	07:19	06:05	05:45	04:46	05:49 (3)	04:33	05:13	05:56 (3)	06:15	07:17	07:20	08:25	08:57	
	16:42	17:51	18:51	20:55	21:53	20 06:09 (3)	22:17	21:42	25 06:21 (3)	21:00	19:07	16:51	15:53	15:49	
29	08:27	07:02	05:43	04:45		05:49 (3)	04:34	05:15	05:56 (3)	06:17	07:19	07:22	08:27	08:57	
	16:44		19:53	20:57	21:55	18 06:07 (3)	22:16	21:40	25 06:21 (3)	21:08	19:05	16:48	15:52	15:50	
30	08:25	07:00	05:40	04:43		05:49 (3)	04:34	05:17	05:56 (3)	06:19	07:21	07:24	08:29	08:57	
	16:46		19:55	21:00	21:56	18 06:07 (3)	22:16	21:38	24 06:20 (3)	21:05	19:02	16:46	15:51	15:51	
31	08:23	06:57			04:42	05:50 (3)		05:19	05:57 (3)	06:21		07:26		08:57	
	16:48		19:57		21:58	16 06:06 (3)		21:36	22 06:19 (3)	21:03		16:44		15:52	
Potential sun hours	235	266	366	426	508	529		530		470		385	324	247	216
Total, worst case					530		53		495		92				
Sun reduction					0,59		0,57		0,48		0,51				
Oper. time red.					1,00		1,00		1,00		1,00				
Wind dir. red.					1,00		1,00		1,00		1,00				
Total reduction					0,59		0,57		0,48		0,51				
Total, real					311		30		236		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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Vecdimanti - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:52	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:35 22:15	05:22 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:05	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:34	08:35 15:47
5	08:55 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:25	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:03 18:04	06:41 20:09	05:26 21:12	04:35 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:38 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:06	04:40 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:10	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:11	04:47 22:06	05:42 21:10	06:45 19:50	07:45 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:33	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:28	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:56 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:31 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:49 20:51	04:48 21:50	04:31 22:17	05:09 21:45	06:10 20:35	07:13 19:12	08:15 18:15	08:21 15:56	08:57 15:47
27	08:30 16:39	07:21 17:48	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:12 20:33	07:15 19:10	08:17 18:10	08:23 16:53	08:57 15:48
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:14 20:30	07:17 19:07	08:19 18:10	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:15	08:27 16:48	08:57 15:49
30	08:24 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:15	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:15		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Vecdzilnas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:17 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:30 15:50
2	08:57 15:54	08:19 16:52	07:14 17:55	06:51 20:01	05:35 21:04	04:39 22:00	04:35 22:15	05:22 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:57 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:34	08:36 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:35 22:06	04:39 22:12	05:30 21:23	06:33 20:07	07:33 18:46	07:39 16:30	08:39 15:46
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:42 15:44
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:59	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:18	05:18 21:20	04:32 22:10	04:44 22:09	05:38 21:15	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:46 15:43
12	08:51 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:12	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:53 16:18	08:47 15:43
13	08:50 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:08	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
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15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:42
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:05 21:32	04:30 22:14	04:52 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:42
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:36	04:30 22:15	04:56 21:59	05:54 20:56	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:03 18:10	08:09 16:04	08:54 15:43
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:56 21:41	04:30 22:17	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:53	06:02 20:46	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:37 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:45	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:41	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:49 20:51	04:48 21:50	04:31 22:17	05:09 21:46	06:10 20:35	07:13 19:13	08:15 18:15	08:21 15:55	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:47
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:32 22:17	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:05	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:55	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
30	08:25 16:46		07:00 19:55	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:05	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:22		07:26 18:43		08:57 15:51
Potential sun hours	235	266	366	426	508	530	530	470	385	323	247	215
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Assumptions for shadow calculations

Shadow receptor: Viesturu muiža - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (227)

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:55 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:01	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:15	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:07 18:02	06:44 20:07	05:29 21:10	04:37 22:05	04:39 22:13	05:29 21:26	06:31 20:10	07:31 18:49	07:38 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:06	04:40 22:13	05:31 21:24	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:02	08:09 17:04	07:01 18:06	06:39 20:12	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:22	06:35 20:04	07:36 18:43	07:42 16:29	08:40 15:45
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9	08:53 16:05	08:05 17:09	06:56 18:11	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:40 18:38	07:46 16:24	08:43 15:44
10	08:53 16:06	08:02 17:11	06:53 18:13	06:31 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:39 21:15	06:41 19:56	07:42 18:36	07:49 16:22	08:45 15:44
11	08:52 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:13	06:43 19:53	07:44 18:33	07:51 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:19	08:47 15:43
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14	08:49 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:05	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
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16	08:47 16:17	07:49 17:24	06:37 18:26	06:15 20:30	05:06 21:32	04:30 22:15	04:53 22:02	05:51 21:01	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
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18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:35	05:02 21:36	04:30 22:16	04:56 21:59	05:55 20:56	06:57 19:35	07:59 18:15	08:06 16:08	08:53 15:43
19	08:43 16:23	07:42 17:31	06:29 18:32	06:07 20:37	05:00 21:38	04:30 22:16	04:58 21:58	05:57 20:53	06:59 19:32	08:01 18:13	08:08 16:06	08:54 15:43
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22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:14 16:01	08:56 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:16 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:47	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:57 15:46
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26	08:32 16:38	07:24 17:47	06:11 18:47	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:15	08:22 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:47 20:53	04:47 21:52	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:24 16:53	08:57 15:48
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29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:17	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
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Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Virši - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:30 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:57	07:31 16:39	08:32 15:49
3	08:57 15:56	08:17 16:55	07:12 17:58	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:14	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:36 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
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31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:26 16:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Shadow receptor: Veverzemnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:05	04:39 22:01	04:37 22:14	05:25 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:38 22:03	04:37 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
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31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 16:43		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Vitoli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (238)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:55 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
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24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:47	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:18 15:59	08:57 15:46
25	08:34 16:35	07:27 17:45	06:13 18:44	05:52 20:49	04:50 21:48	04:32 22:17	05:08 21:48	06:09 20:38	07:11 19:16	08:13 18:05	08:20 16:58	08:57 15:46
26	08:32 16:38	07:24 17:47	06:11 18:47	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:36	07:13 19:13	08:16 18:05	08:22 16:55	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:49	05:48 20:53	04:48 21:52	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:03	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:17	05:14 21:42	06:15 20:31	07:17 19:08	08:20 18:01	08:25 16:51	08:58 15:49
29	08:27 16:44		07:03 19:53	05:43 20:58	04:45 21:55	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:58 15:50
30	08:25 16:46		07:00 19:55	05:40 21:00	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:58 15:51
31	08:23 16:49		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 16:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Zarini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	19:44 (3) 04:41	20:48 (4) 04:35	20:55 (4) 05:21	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:52 20:01	05:35 21:03	19:58 (3) 04:40	21:13 (4) 04:36	21:18 (4) 05:23	06:25 20:17	07:25 18:56	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	19:54 (3) 04:39	21:13 (4) 04:37	21:21 (4) 05:25	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	20:49 (4) 04:37	21:14 (4) 04:38	21:20 (4) 05:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:44 20:07	05:29 21:10	20:49 (4) 04:37	21:14 (4) 04:40	21:20 (4) 05:30	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:26 21:12	20:49 (4) 04:41	21:14 (4) 04:41	21:20 (4) 05:32	06:33 20:07	07:33 18:46	07:39 16:30	08:39 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	20:49 (4) 04:41	21:14 (4) 04:41	21:20 (4) 05:32	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:36 20:13	05:22 21:16	20:50 (4) 04:42	21:14 (4) 04:42	21:21 (4) 05:34	06:37 20:01	07:37 18:41	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	20:50 (4) 04:43	21:14 (4) 04:43	21:21 (4) 05:36	06:39 20:01	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	20:51 (4) 04:44	21:15 (4) 04:44	21:21 (4) 05:38	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:15	06:28 20:20	05:16 21:22	20:50 (4) 04:46	21:15 (4) 04:46	21:21 (4) 05:40	06:43 20:05	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	20:51 (4) 04:47	21:15 (4) 04:47	21:22 (4) 05:42	06:45 19:52	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:12 21:26	20:52 (4) 04:48	21:15 (4) 04:48	21:22 (4) 05:44	06:47 19:49	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:10 21:28	20:52 (4) 04:50	21:15 (4) 04:50	21:22 (4) 05:46	06:49 19:48	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	20:52 (4) 04:51	21:15 (4) 04:51	21:22 (4) 05:48	06:51 19:47	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	20:52 (4) 04:53	21:15 (4) 04:53	21:22 (4) 05:50	06:53 19:46	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	20:52 (4) 04:54	21:15 (4) 04:54	21:22 (4) 05:52	06:55 19:45	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:10 20:34	05:02 21:35	20:53 (4) 04:56	21:15 (4) 04:56	21:22 (4) 05:54	06:57 19:45	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	20:53 (4) 04:57	21:15 (4) 04:57	21:22 (4) 05:55	06:59 19:44	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	20:52 (4) 04:59	21:15 (4) 04:59	21:22 (4) 05:58	07:01 19:43	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:25	07:36 17:33	06:24 18:34	06:02 20:41	04:57 21:41	20:51 (4) 04:57	21:15 (4) 04:57	21:22 (4) 05:58	07:03 19:43	08:05 18:10	08:11 16:04	08:55 15:43
22	08:38 16:27	07:34 17:35	06:21 18:36	05:59 20:43	04:55 21:41	20:50 (4) 04:58	21:14 (4) 05:02	21:21 (4) 06:03	07:05 19:43	08:07 18:10	08:13 16:03	08:55 15:44
23	08:36 16:31	07:32 17:38	06:18 18:38	05:57 20:43	04:53 21:43	20:50 (4) 04:58	21:14 (4) 05:04	21:21 (4) 06:05	07:07 19:44	08:09 18:10	08:15 16:01	08:56 15:44
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	20:49 (4) 04:59	21:14 (4) 05:06	21:21 (4) 06:07	07:09 19:44	08:11 18:10	08:17 16:00	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	20:48 (4) 04:59	21:13 (4) 05:08	21:20 (4) 06:09	07:11 19:44	08:13 18:10	08:19 16:00	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	20:48 (4) 04:59	21:12 (4) 05:09	21:19 (4) 06:11	07:13 19:45	08:15 18:10	08:21 16:00	08:57 15:47
27	08:30 16:39	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	20:48 (4) 04:59	21:12 (4) 05:11	21:19 (4) 06:13	07:15 19:46	08:17 18:10	08:23 16:00	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	20:48 (4) 04:59	21:12 (4) 05:13	21:19 (4) 06:15	07:17 19:48	08:19 18:10	08:25 16:00	08:57 15:49
29	08:26 16:44	07:02 17:52	05:42 18:52	04:44 20:57	04:44 21:54	20:48 (4) 04:59	21:12 (4) 05:15	21:19 (4) 06:17	07:19 19:51	08:22 18:10	08:27 16:00	08:57 15:49
30	08:24 16:46	07:00 17:55	05:40 18:55	04:43 20:59	04:43 21:56	20:48 (4) 04:59	21:12 (4) 05:17	21:19 (4) 06:19	07:21 19:52	08:24 18:10	08:29 16:00	08:57 15:50
31	08:23 16:48	06:57 17:57	05:42 18:57	04:42 20:59	04:42 21:57	20:48 (4) 04:59	21:12 (4) 05:17	21:19 (4) 06:21	07:22 19:53	08:25 18:10	08:30 16:00	08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	247	216
Total, worst case				359	284	704	544	387				
Sun reduction				0,47	0,59	0,57	0,48	0,51				
Oper. time red.				1,00	1,00	1,00	1,00	1,00				
Wind dir. red.				1,00	1,00	1,00	1,00	1,00				
Total reduction				0,47	0,59	0,57	0,48	0,51				
Total, real				167	167	401	260	197				

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

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

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Zeltini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (175)
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:28 16:41	08:30 15:50
2	08:57 15:54	08:19 16:53	07:14 17:55	06:51 20:01	05:35 21:03	04:39 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:56 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:14	05:24 21:30	06:27 20:14	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 16:00	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:36 22:05	04:39 22:12	05:30 21:23	06:33 20:06	07:33 18:46	07:39 16:30	08:38 15:46
7	08:54 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:06	04:40 22:11	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:06 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:41 15:45
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:12	06:30 20:17	05:18 21:20	04:33 22:10	04:44 22:09	05:38 21:14	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:50 18:14	06:28 20:20	05:16 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:45 15:43
12	08:50 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:11	04:47 22:06	05:42 21:10	06:45 19:50	07:46 18:30	07:52 16:18	08:47 15:43
13	08:49 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:05	05:44 21:07	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:48 16:13	07:53 17:20	06:42 18:21	06:20 20:26	05:09 21:28	04:31 22:13	04:50 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:13	08:50 15:43
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:01	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:33	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:29	06:09 20:34	05:02 21:35	04:30 22:15	04:56 21:59	05:54 20:55	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:53 15:43
20	08:41 16:25	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:50	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:39 16:27	07:36 17:35	06:24 18:36	06:02 20:40	04:57 21:41	04:30 22:16	05:01 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:52	06:02 20:45	07:05 19:23	08:07 18:05	08:13 16:01	08:55 15:44
23	08:36 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:44	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:06 20:40	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:08 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:46	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:09 21:45	06:10 20:35	07:13 19:12	08:15 18:15	08:21 15:56	08:57 15:47
27	08:30 16:39	07:22 17:48	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:13 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:48
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:10	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:54	04:33 22:16	05:15 21:40	06:17 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
30	08:24 16:46		06:59 19:54	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:15	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:22		07:26 18:15		08:57 15:51
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Ziemeļnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:50	07:16 17:53	06:54 19:59	05:38 21:01	04:40 21:59	04:34 22:16	05:20 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:31 15:50
2	08:57 15:54	08:19 16:52	07:14 17:55	06:51 20:01	05:35 21:04	04:39 22:00	04:35 22:15	05:22 21:32	06:25 20:17	07:31 18:56	07:31 16:39	08:32 15:49
3	08:57 15:55	08:17 16:55	07:11 17:57	06:49 20:03	05:33 21:06	04:38 22:02	04:36 22:15	05:24 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 17:59	06:46 20:05	05:31 21:08	04:37 22:03	04:37 22:14	05:26 21:28	06:29 20:12	07:29 18:51	07:35 16:34	08:36 15:47
5	08:56 15:58	08:13 16:59	07:06 18:02	06:43 20:07	05:28 21:10	04:36 22:04	04:38 22:13	05:28 21:26	06:31 20:09	07:31 18:48	07:37 16:32	08:37 15:46
6	08:55 15:59	08:11 17:01	07:04 18:04	06:41 20:09	05:26 21:12	04:35 22:06	04:39 22:12	05:30 21:23	06:33 20:07	07:33 18:46	07:39 16:30	08:39 15:46
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:40 22:12	05:32 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:58 18:08	06:35 20:13	05:22 21:16	04:34 22:08	04:41 22:11	05:34 21:19	06:37 20:01	07:37 18:40	07:44 16:26	08:42 15:44
9	08:53 16:04	08:04 17:08	06:56 18:10	06:33 20:15	05:20 21:18	04:33 22:09	04:43 22:10	05:36 21:17	06:39 19:58	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:10	06:53 18:12	06:30 20:18	05:17 21:20	04:32 22:10	04:44 22:09	05:38 21:15	06:41 19:56	07:41 18:35	07:48 16:22	08:44 15:43
11	08:51 16:07	08:00 17:13	06:50 18:14	06:28 20:20	05:15 21:22	04:32 22:11	04:45 22:08	05:40 21:12	06:43 19:53	07:43 18:33	07:50 16:20	08:46 15:43
12	08:51 16:09	07:58 17:15	06:48 18:17	06:25 20:22	05:13 21:24	04:31 22:12	04:47 22:07	05:42 21:10	06:45 19:50	07:46 18:30	07:53 16:18	08:47 15:43
13	08:50 16:11	07:55 17:17	06:45 18:19	06:22 20:24	05:11 21:26	04:31 22:12	04:48 22:06	05:44 21:08	06:47 19:48	07:48 18:27	07:55 16:16	08:48 15:43
14	08:49 16:13	07:53 17:19	06:42 18:21	06:20 20:26	05:09 21:28	04:30 22:13	04:49 22:04	05:46 21:05	06:49 19:45	07:50 18:25	07:57 16:14	08:49 15:42
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:07 21:30	04:30 22:14	04:51 22:03	05:48 21:03	06:51 19:42	07:52 18:22	07:59 16:12	08:50 15:42
16	08:46 16:17	07:48 17:24	06:37 18:25	06:15 20:30	05:05 21:32	04:30 22:14	04:52 22:02	05:50 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:42
17	08:45 16:19	07:46 17:26	06:34 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:52 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:42
18	08:44 16:20	07:44 17:28	06:32 18:29	06:09 20:34	05:02 21:36	04:30 22:16	04:56 21:59	05:54 20:56	06:57 19:34	07:58 18:15	08:05 16:07	08:53 15:43
19	08:42 16:22	07:41 17:31	06:29 18:31	06:07 20:36	05:00 21:37	04:30 22:16	04:57 21:57	05:56 20:53	06:59 19:31	08:00 18:12	08:07 16:06	08:54 15:43
20	08:41 16:24	07:39 17:33	06:26 18:34	06:04 20:38	04:58 21:39	04:30 22:16	04:59 21:56	05:58 20:51	07:01 19:29	08:02 18:10	08:09 16:04	08:54 15:43
21	08:40 16:26	07:37 17:35	06:24 18:36	06:02 20:41	04:56 21:41	04:30 22:17	05:00 21:54	06:00 20:48	07:03 19:26	08:05 18:07	08:11 16:02	08:55 15:44
22	08:38 16:29	07:34 17:37	06:21 18:38	05:59 20:43	04:55 21:43	04:30 22:17	05:02 21:53	06:02 20:46	07:05 19:23	08:07 18:05	08:14 16:01	08:56 15:44
23	08:37 16:31	07:32 17:40	06:18 18:40	05:57 20:45	04:53 21:45	04:30 22:17	05:04 21:51	06:04 20:43	07:07 19:21	08:09 18:02	08:16 15:59	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:54 20:47	04:51 21:46	04:30 22:17	05:06 21:49	06:06 20:41	07:09 19:18	08:11 18:00	08:17 15:58	08:56 15:45
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:07 21:47	06:08 20:38	07:11 19:15	08:13 18:15	08:19 15:57	08:57 15:46
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27	08:30 16:39	07:22 17:48	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:11 21:44	06:12 20:33	07:15 19:10	08:18 18:10	08:23 16:53	08:57 15:47
28	08:28 16:41	07:19 17:51	06:05 18:50	05:45 20:55	04:46 21:53	04:32 22:17	05:13 21:42	06:14 20:30	07:17 19:07	08:20 18:10	08:25 16:50	08:57 15:48
29	08:26 16:44		07:02 19:52	05:42 20:57	04:44 21:55	04:33 22:16	05:15 21:40	06:16 20:28	07:19 19:04	08:22 18:10	08:27 16:48	08:57 15:49
30	08:25 16:46		06:59 19:55	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:10	08:29 16:46	08:57 15:50
31	08:23 16:48		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:22		07:26 18:10		08:57 15:51
Potential sun hours	235	266	366	426	508	530	530	470	385	323	247	215
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Zustreni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:54 19:59	05:38 21:02	04:41 21:59	04:35 22:15	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:41	08:30 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:00	04:36 22:15	05:23 21:32	06:25 20:17	07:31 18:57	07:31 16:39	08:32 15:49
3	08:56 15:56	08:17 16:55	07:12 17:57	06:49 20:03	05:33 21:06	04:39 22:02	04:37 22:14	05:25 21:30	06:27 20:15	07:27 18:54	07:33 16:37	08:34 15:48
4	08:56 15:57	08:15 16:57	07:09 18:00	06:46 20:05	05:31 21:08	04:38 22:03	04:38 22:14	05:27 21:28	06:29 20:12	07:29 18:51	07:35 16:35	08:35 15:48
5	08:56 15:59	08:13 17:00	07:06 18:02	06:44 20:07	05:29 21:10	04:37 22:04	04:39 22:13	05:29 21:26	06:31 20:09	07:31 18:49	07:37 16:33	08:37 15:47
6	08:55 16:00	08:11 17:02	07:04 18:04	06:41 20:09	05:27 21:12	04:36 22:05	04:40 22:12	05:31 21:23	06:33 20:07	07:33 18:46	07:40 16:31	08:39 15:46
7	08:55 16:01	08:09 17:04	07:01 18:06	06:38 20:11	05:24 21:14	04:35 22:07	04:41 22:12	05:33 21:21	06:35 20:04	07:35 18:43	07:42 16:28	08:40 15:45
8	08:54 16:03	08:07 17:06	06:59 18:08	06:36 20:13	05:22 21:16	04:34 22:08	04:42 22:11	05:35 21:19	06:37 20:01	07:37 18:41	07:44 16:26	08:42 15:45
9	08:53 16:05	08:04 17:09	06:56 18:10	06:33 20:16	05:20 21:18	04:34 22:09	04:43 22:10	05:37 21:17	06:39 19:59	07:39 18:38	07:46 16:24	08:43 15:44
10	08:52 16:06	08:02 17:11	06:53 18:13	06:30 20:18	05:18 21:20	04:33 22:10	04:44 22:09	05:39 21:15	06:41 19:56	07:42 18:35	07:48 16:22	08:44 15:44
11	08:51 16:08	08:00 17:13	06:51 18:15	06:28 20:20	05:16 21:22	04:32 22:11	04:46 22:08	05:41 21:12	06:43 19:53	07:44 18:33	07:50 16:20	08:46 15:44
12	08:51 16:10	07:58 17:15	06:48 18:17	06:25 20:22	05:14 21:24	04:32 22:12	04:47 22:07	05:43 21:10	06:45 19:51	07:46 18:30	07:53 16:18	08:47 15:43
13	08:50 16:11	07:56 17:18	06:45 18:19	06:23 20:24	05:12 21:26	04:31 22:12	04:48 22:05	05:45 21:08	06:47 19:48	07:48 18:28	07:55 16:17	08:48 15:43
14	08:48 16:13	07:53 17:20	06:43 18:21	06:20 20:26	05:10 21:28	04:31 22:13	04:50 22:04	05:47 21:05	06:49 19:45	07:50 18:25	07:57 16:15	08:49 15:43
15	08:47 16:15	07:51 17:22	06:40 18:23	06:17 20:28	05:08 21:30	04:31 22:14	04:51 22:03	05:49 21:03	06:51 19:42	07:52 18:23	07:59 16:13	08:50 15:43
16	08:46 16:17	07:49 17:24	06:37 18:25	06:15 20:30	05:06 21:32	04:30 22:14	04:53 22:02	05:51 21:00	06:53 19:40	07:54 18:20	08:01 16:11	08:51 15:43
17	08:45 16:19	07:46 17:27	06:35 18:27	06:12 20:32	05:04 21:34	04:30 22:15	04:54 22:00	05:53 20:58	06:55 19:37	07:56 18:17	08:03 16:09	08:52 15:43
18	08:44 16:21	07:44 17:29	06:32 18:30	06:10 20:34	05:02 21:36	04:30 22:15	04:56 21:59	05:55 20:56	06:57 19:34	07:58 18:15	08:05 16:08	08:53 15:43
19	08:42 16:23	07:41 17:31	06:29 18:32	06:07 20:36	05:00 21:37	04:30 22:16	04:58 21:57	05:57 20:53	06:59 19:32	08:00 18:12	08:07 16:06	08:54 15:43
20	08:41 16:25	07:39 17:33	06:27 18:34	06:05 20:39	04:59 21:39	04:30 22:16	04:59 21:56	05:59 20:51	07:01 19:29	08:03 18:10	08:09 16:04	08:54 15:44
21	08:40 16:27	07:37 17:35	06:24 18:36	06:02 20:41	04:57 21:41	04:30 22:16	05:01 21:54	06:01 20:48	07:03 19:26	08:05 18:07	08:11 16:03	08:55 15:44
22	08:38 16:29	07:34 17:38	06:21 18:38	06:00 20:43	04:55 21:43	04:30 22:17	05:03 21:53	06:03 20:46	07:05 19:24	08:07 18:05	08:13 16:01	08:55 15:45
23	08:37 16:31	07:32 17:40	06:19 18:40	05:57 20:45	04:54 21:45	04:31 22:17	05:04 21:51	06:05 20:43	07:07 19:21	08:09 18:03	08:15 16:00	08:56 15:45
24	08:35 16:33	07:29 17:42	06:16 18:42	05:55 20:47	04:52 21:46	04:31 22:17	05:06 21:49	06:07 20:41	07:09 19:18	08:11 18:00	08:17 15:59	08:56 15:46
25	08:33 16:35	07:27 17:44	06:13 18:44	05:52 20:49	04:50 21:48	04:31 22:17	05:08 21:47	06:09 20:38	07:11 19:15	08:13 18:05	08:19 15:57	08:57 15:46
26	08:32 16:37	07:24 17:47	06:10 18:46	05:50 20:51	04:49 21:50	04:32 22:17	05:10 21:46	06:11 20:35	07:13 19:13	08:16 18:05	08:21 15:56	08:57 15:47
27	08:30 16:40	07:22 17:49	06:08 18:48	05:47 20:53	04:47 21:51	04:32 22:17	05:12 21:44	06:13 20:33	07:15 19:10	08:18 18:03	08:23 16:53	08:57 15:48
28	08:28 16:42	07:19 17:51	06:05 18:51	05:45 20:55	04:46 21:53	04:33 22:16	05:13 21:42	06:15 20:30	07:17 19:07	08:20 18:01	08:25 16:51	08:57 15:49
29	08:26 16:44		07:02 19:53	05:43 20:57	04:45 21:54	04:34 22:16	05:15 21:40	06:17 20:28	07:19 19:05	08:22 18:05	08:27 16:48	08:57 15:50
30	08:25 16:46		07:00 19:55	05:40 20:59	04:43 21:56	04:34 22:16	05:17 21:38	06:19 20:25	07:21 19:02	08:24 18:00	08:29 16:46	08:57 15:51
31	08:23 16:48		06:57 19:57		04:42 21:57		05:19 21:36	06:21 20:23		07:26 16:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Zviedri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (196)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57	08:21	07:17	06:54	05:38	04:41	04:35	05:21	06:23	07:23	07:29	08:31
	15:53	16:51	17:53	19:59	21:02	21:59	22:15	21:34	20:20	18:59	16:41	15:50
2	08:57	08:19	07:14	06:52	05:36	04:40	04:36	05:23	06:25	07:25	07:31	08:32
	15:55	16:53	17:55	20:01	21:04	22:00	22:15	21:32	20:17	18:57	16:39	15:49
3	08:57	08:17	07:12	06:49	05:33	04:39	04:37	05:25	06:27	07:27	07:33	08:34
	15:56	16:55	17:58	20:03	21:06	22:02	22:14	21:30	20:15	18:54	16:37	15:48
4	08:56	08:15	07:09	06:46	05:31	04:38	04:38	05:27	06:29	07:29	07:35	08:36
	15:57	16:57	18:00	20:05	21:08	22:03	22:14	21:28	20:12	18:51	16:35	15:48
5	08:56	08:13	07:06	06:44	05:29	04:37	04:39	05:29	06:31	07:31	07:37	08:37
	15:59	17:00	18:02	20:07	21:10	22:04	22:13	21:26	20:09	18:49	16:33	15:47
6	08:55	08:11	07:04	06:41	05:27	04:36	04:40	05:31	06:33	07:33	07:40	08:39
	16:00	17:02	18:04	20:09	21:12	22:06	22:12	21:24	20:07	18:46	16:31	15:46
7	08:55	08:09	07:01	06:38	05:24	04:35	04:41	05:33	06:35	07:35	07:42	08:40
	16:02	17:04	18:06	20:11	21:14	22:07	22:12	21:21	20:04	18:43	16:28	15:45
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	16:06	17:11	18:13	20:18	21:20	22:10	22:09	21:15	19:56	18:36	16:22	15:44
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	16:10	17:15	18:17	20:22	21:24	22:12	22:07	21:10	19:51	18:30	16:19	15:43
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	16:12	17:18	18:19	20:24	21:26	22:12	22:06	21:08	19:48	18:28	16:17	15:43
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	16:13	17:20	18:21	20:26	21:28	22:13	22:04	21:05	19:45	18:25	16:15	15:43
15	08:47	07:51	06:40	06:17	05:08	04:31	04:51	05:49	06:51	07:52	07:59	08:50
	16:15	17:22	18:23	20:28	21:30	22:14	22:03	21:03	19:43	18:23	16:13	15:43
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	16:17	17:24	18:25	20:30	21:32	22:14	22:02	21:01	19:40	18:20	16:11	15:43
17	08:45	07:46	06:35	06:12	05:04	04:30	04:54	05:53	06:55	07:56	08:03	08:52
	16:19	17:27	18:28	20:32	21:34	22:15	22:00	20:58	19:37	18:17	16:09	15:43
18	08:44	07:44	06:32	06:10	05:02	04:30	04:56	05:55	06:57	07:58	08:05	08:53
	16:21	17:29	18:30	20:34	21:36	22:15	21:59	20:56	19:34	18:15	16:08	15:43
19	08:42	07:42	06:29	06:07	05:00	04:30	04:58	05:57	06:59	08:01	08:07	08:54
	16:23	17:31	18:32	20:37	21:37	22:16	21:57	20:53	19:32	18:12	16:06	15:43
20	08:41	07:39	06:27	06:05	04:59	04:30	04:59	05:59	07:01	08:03	08:10	08:54
	16:25	17:33	18:34	20:39	21:39	22:16	21:56	20:51	19:29	18:10	16:04	15:44
21	08:40	07:37	06:24	06:02	04:57	04:30	05:01	06:01	07:03	08:05	08:12	08:55
	16:27	17:36	18:36	20:41	21:41	22:17	21:54	20:48	19:26	18:07	16:03	15:44
22	08:38	07:34	06:21	06:00	04:55	04:31	05:03	06:03	07:05	08:07	08:14	08:55
	16:29	17:38	18:38	20:43	21:43	22:17	21:53	20:46	19:24	18:05	16:01	15:45
23	08:37	07:32	06:19	05:57	04:54	04:31	05:04	06:05	07:07	08:09	08:16	08:56
	16:31	17:40	18:40	20:45	21:45	22:17	21:51	20:43	19:21	18:03	16:00	15:45
24	08:35	07:29	06:16	05:55	04:52	04:31	05:06	06:07	07:09	08:11	08:18	08:56
	16:33	17:42	18:42	20:47	21:46	22:17	21:49	20:41	19:18	18:00	15:59	15:46
25	08:33	07:27	06:13	05:52	04:50	04:31	05:08	06:09	07:11	08:13	08:19	08:57
	16:35	17:44	18:44	20:49	21:48	22:17	21:47	20:38	19:15	17:58	15:57	15:46
26	08:32	07:24	06:11	05:50	04:49	04:32	05:10	06:11	07:13	08:16	08:21	08:57
	16:37	17:47	18:46	20:51	21:50	22:17	21:46	20:36	19:13	17:55	15:56	15:47
27	08:30	07:22	06:08	05:47	04:47	04:32	05:12	06:13	07:15	08:18	08:23	08:57
	16:40	17:49	18:48	20:53	21:51	22:17	21:44	20:33	19:10	17:53	15:55	15:48
28	08:28	07:19	06:05	05:45	04:46	04:33	05:13	06:15	07:17	08:20	08:25	08:57
	16:42	17:51	18:51	20:55	21:53	22:17	21:42	20:30	19:07	17:51	15:53	15:49
29	08:27		07:02	05:43	04:45	04:34	05:15	06:17	07:19	08:22	08:27	08:57
	16:44		19:53	20:57	21:55	22:16	21:40	20:28	19:05	17:48	15:52	15:50
30	08:25		07:00	05:40	04:43	04:34	05:17	06:19	07:21	08:24	08:29	08:57
	16:46		19:55	21:00	21:56	22:16	21:38	20:25	19:02	17:46	15:51	15:51
31	08:23		06:57		04:42		05:19	06:21		07:26		08:57
	16:48		19:57		21:58		21:36	20:23		16:44		15:52
Potential sun hours	235	266	366	426	508	529	530	470	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)
	Minutes with flicker		

Project:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Atini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (200)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April	May	June
1	08:57		09:49 (9)	08:21		10:09 (9)	07:17		08:55 (10)	06:54	05:38	04:41
	15:53	70	12:37 (8)	16:50	18	12:31 (8)	17:53	38	09:33 (10)	19:59	21:02	21:59
2	08:57		09:50 (9)	08:19			07:14		08:56 (10)	06:52	05:35	04:39
	15:54	70	12:38 (8)	16:53			17:55	35	09:31 (10)	20:01	21:04	22:01
3	08:57		09:49 (9)	08:17			07:12		08:57 (10)	06:49	05:33	04:38
	15:55	73	12:39 (8)	16:55			17:57	33	09:30 (10)	20:03	21:06	22:02
4	08:56		09:49 (9)	08:15			07:09		08:59 (10)	06:46	05:31	04:37
	15:57	73	12:39 (8)	16:57			18:00	29	09:28 (10)	20:05	21:08	22:03
5	08:56		09:50 (9)	08:13		09:08 (10)	07:06		09:00 (10)	06:44	05:29	04:36
	15:58	74	12:40 (8)	16:59	15	09:23 (10)	18:02	25	09:25 (10)	20:07	21:10	22:05
6	08:55		09:50 (9)	08:11		09:06 (10)	07:04		09:03 (10)	06:41	05:26	04:36
	16:00	74	12:40 (8)	17:02	20	09:26 (10)	18:04	20	09:23 (10)	20:09	21:12	22:06
7	08:55		09:50 (9)	08:09		09:03 (10)	07:01		09:07 (10)	06:38	05:24	04:35
	16:01	75	12:40 (8)	17:04	25	09:28 (10)	18:06	11	09:18 (10)	20:11	21:14	22:07
8	08:54		09:50 (9)	08:07		09:01 (10)	06:59			06:36	05:22	04:34
	16:03	76	12:41 (8)	17:06	29	09:30 (10)	18:08			20:14	21:16	22:08
9	08:53		09:50 (9)	08:05		09:00 (10)	06:56			06:33	05:20	04:33
	16:04	76	12:41 (8)	17:08	32	09:32 (10)	18:10			20:16	21:18	22:09
10	08:53		09:50 (9)	08:02		08:58 (10)	06:53			06:30	05:18	04:33
	16:06	77	12:42 (8)	17:11	35	09:33 (10)	18:13			20:18	21:20	22:10
11	08:52		09:51 (9)	08:00		08:58 (10)	06:51			06:28	05:16	04:32
	16:08	77	12:42 (8)	17:13	36	09:34 (10)	18:15			20:20	21:22	22:11
12	08:51		09:50 (9)	07:58		08:57 (10)	06:48			06:25	05:14	04:31
	16:09	78	12:42 (8)	17:15	39	09:36 (10)	18:17			20:22	21:24	22:12
13	08:50		09:51 (9)	07:56		08:56 (10)	06:45			06:23	05:11	04:31
	16:11	77	12:42 (8)	17:17	40	09:36 (10)	18:19			20:24	21:26	22:13
14	08:49		09:51 (9)	07:53		08:56 (10)	06:43			06:20	05:09	04:31
	16:13	77	12:43 (8)	17:20	41	09:37 (10)	18:21			20:26	21:28	22:13
15	08:48		09:51 (9)	07:51		08:55 (10)	06:40			06:17	05:08	04:30
	16:15	77	12:43 (8)	17:22	42	09:37 (10)	18:23			20:28	21:30	22:14
16	08:47		09:52 (9)	07:49		08:54 (10)	06:37			06:15	05:06	04:30
	16:17	76	12:43 (8)	17:24	44	09:38 (10)	18:25			20:30	21:32	22:15
17	08:45		09:51 (9)	07:46		08:54 (10)	06:35			06:12	05:04	04:30
	16:19	77	12:43 (8)	17:26	44	09:38 (10)	18:27			20:32	21:34	22:15
18	08:44		09:52 (9)	07:44		08:54 (10)	06:32			06:10	05:02	04:30
	16:21	77	12:44 (8)	17:29	45	09:39 (10)	18:30			20:35	21:36	22:16
19	08:43		09:52 (9)	07:42		08:53 (10)	06:29			06:07	05:00	04:30
	16:23	76	12:43 (8)	17:31	45	09:38 (10)	18:32			20:37	21:38	22:16
20	08:41		09:53 (9)	07:39		08:53 (10)	06:27			06:05	04:58	04:30
	16:25	74	12:43 (8)	17:33	46	09:39 (10)	18:34			20:39	21:40	22:17
21	08:40		09:54 (9)	07:37		08:53 (10)	06:24			06:02	04:57	04:30
	16:27	73	12:43 (8)	17:35	46	09:39 (10)	18:36			20:41	21:41	22:17
22	08:38		09:54 (9)	07:34		08:52 (10)	06:21			06:00	04:55	04:30
	16:29	72	12:43 (8)	17:38	46	09:38 (10)	18:38			20:43	21:43	22:17
23	08:37		09:54 (9)	07:32		08:53 (10)	06:19			05:57	04:53	04:30
	16:31	70	12:42 (8)	17:40	45	09:38 (10)	18:40			20:45	21:45	22:17
24	08:35		09:55 (9)	07:29		08:53 (10)	06:16			05:55	04:52	04:31
	16:33	68	12:42 (8)	17:42	44	09:37 (10)	18:42			20:47	21:47	22:17
25	08:34		09:56 (9)	07:27		08:54 (10)	06:13			05:52	04:50	04:31
	16:35	65	12:41 (8)	17:44	43	09:37 (10)	18:44			20:49	21:48	22:17
26	08:32		09:56 (9)	07:24		08:53 (10)	06:10			05:50	04:49	04:31
	16:37	63	12:41 (8)	17:46	43	09:36 (10)	18:46			20:51	21:50	22:17
27	08:30		09:57 (9)	07:22		08:54 (10)	06:08			05:47	04:47	04:32
	16:39	60	12:40 (8)	17:49	41	09:35 (10)	18:48			20:53	21:52	22:17
28	08:28		09:59 (9)	07:19		08:55 (10)	06:05			05:45	04:46	04:33
	16:42	54	12:39 (8)	17:51	40	09:35 (10)	18:51			20:55	21:53	22:17
29	08:27		10:00 (9)				07:02			05:42	04:44	04:33
	16:44	49	12:38 (8)				19:53			20:58	21:55	22:17
30	08:25		10:02 (9)				07:00			05:40	04:43	04:34
	16:46	42	12:36 (8)				19:55			21:00	21:56	22:16
31	08:23		10:04 (9)				06:57				04:42	
	16:48	34	12:34 (8)				19:57				21:58	
Potential sun hours	234			266			366		426	508	530	
Total, worst case		2154		944			191					
Sun reduction		0,11		0,19			0,40					
Oper. time red.		1,00		1,00			1,00					
Wind dir. red.		1,00		1,00			1,00					
Total reduction		0,11		0,19			0,40					
Total, real		228		181			77					

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

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme

Shadow receptor: Atini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° 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
0,80	1,82	4,75	6,63	9,63	10,06	8,16	7,72	5,94	2,93	0,63	0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October		November		December	
1	04:35	05:21	06:23	07:23		07:29	08:28 (10)	08:31	09:33 (9)
	22:16	21:34	20:20	18:59		16:41	34 09:02 (10)	15:50	76 12:24 (8)
2	04:35	05:23	06:25	07:25		07:31	08:30 (10)	08:33	09:34 (9)
	22:15	21:32	20:17	18:57		16:39	31 09:01 (10)	15:49	76 12:25 (8)
3	04:36	05:25	06:27	07:27		07:33	08:31 (10)	08:34	09:33 (9)
	22:15	21:30	20:15	18:54		16:37	28 08:59 (10)	15:48	76 12:24 (8)
4	04:37	05:26	06:29	07:29		07:35	08:33 (10)	08:36	09:34 (9)
	22:14	21:28	20:12	18:51		16:35	24 08:57 (10)	15:47	76 12:25 (8)
5	04:38	05:28	06:31	07:31		07:38	08:36 (10)	08:37	09:35 (9)
	22:14	21:26	20:09	18:49		16:32	19 08:55 (10)	15:46	75 12:26 (8)
6	04:39	05:30	06:33	07:33		07:40	08:39 (10)	08:39	09:36 (9)
	22:13	21:24	20:07	18:46		16:30	13 08:52 (10)	15:46	74 12:26 (8)
7	04:40	05:32	06:35	07:35		07:42		08:40	09:36 (9)
	22:12	21:22	20:04	18:43	16	09:56 (10)		15:45	74 12:26 (8)
8	04:42	05:34	06:37	07:37		09:36 (10)		08:42	09:37 (9)
	22:11	21:19	20:01	18:41	23	09:59 (10)		15:45	73 12:27 (8)
9	04:43	05:36	06:39	07:40		09:35 (10)		08:43	09:37 (9)
	22:10	21:17	19:59	18:38	27	10:02 (10)		15:44	73 12:27 (8)
10	04:44	05:38	06:41	07:42		09:33 (10)		08:45	09:39 (9)
	22:09	21:15	19:56	18:35	31	10:04 (10)	20 12:02 (8)	15:44	72 12:28 (8)
11	04:45	05:40	06:43	07:44		09:31 (10)		08:46	09:39 (9)
	22:08	21:12	19:53	18:33	34	10:05 (10)	34 12:05 (8)	15:43	71 12:28 (8)
12	04:47	05:42	06:45	07:46		09:29 (10)		08:47	09:41 (9)
	22:07	21:10	19:51	18:30	37	10:06 (10)	43 12:08 (8)	15:43	70 12:29 (8)
13	04:48	05:44	06:47	07:48		09:28 (10)		08:48	09:41 (9)
	22:06	21:08	19:48	18:28	39	10:07 (10)	50 12:10 (8)	15:43	70 12:29 (8)
14	04:50	05:46	06:49	07:50		09:27 (10)		08:49	09:42 (9)
	22:05	21:05	19:45	18:25	41	10:08 (10)	55 12:12 (8)	15:43	68 12:29 (8)
15	04:51	05:48	06:51	07:52		09:26 (10)		08:50	09:42 (9)
	22:03	21:03	19:43	18:22	42	10:08 (10)	60 12:13 (8)	15:43	68 12:29 (8)
16	04:53	05:50	06:53	07:54		09:25 (10)		08:51	09:43 (9)
	22:02	21:01	19:40	18:20	44	10:09 (10)	63 12:14 (8)	15:43	67 12:30 (8)
17	04:54	05:52	06:55	07:56		09:24 (10)		08:52	09:44 (9)
	22:01	20:58	19:37	18:17	45	10:09 (10)	65 12:15 (8)	15:43	67 12:30 (8)
18	04:56	05:54	06:57	07:58		09:24 (10)		08:53	09:45 (9)
	21:59	20:56	19:34	18:15	45	10:09 (10)	68 12:16 (8)	15:43	66 12:31 (8)
19	04:57	05:56	06:59	08:01		09:24 (10)		08:54	09:45 (9)
	21:58	20:53	19:32	18:12	45	10:09 (10)	70 12:17 (8)	15:43	67 12:32 (8)
20	04:59	05:59	07:01	08:03		09:23 (10)		08:55	09:45 (9)
	21:56	20:51	19:29	18:10	46	10:09 (10)	72 12:18 (8)	15:43	66 12:31 (8)
21	05:01	06:01	07:03	08:05		09:23 (10)		08:55	09:46 (9)
	21:55	20:48	19:26	18:07	46	10:09 (10)	73 12:18 (8)	15:44	66 12:32 (8)
22	05:02	06:03	07:05	08:07		09:24 (10)		08:56	09:46 (9)
	21:53	20:46	19:24	18:05	45	10:09 (10)	74 12:19 (8)	15:44	66 12:32 (8)
23	05:04	06:05	07:07	08:09		09:23 (10)		08:56	09:47 (9)
	21:51	20:43	19:21	18:02	46	10:09 (10)	76 12:20 (8)	15:45	66 12:33 (8)
24	05:06	06:07	07:09	08:11		09:23 (10)		08:57	09:47 (9)
	21:49	20:41	19:18	18:00	45	10:08 (10)	77 12:21 (8)	15:45	68 12:34 (8)
25	05:08	06:09	07:11	07:14		08:24 (10)		08:57	09:47 (9)
	21:48	20:38	19:15	16:58	44	09:08 (10)	76 12:21 (8)	15:46	67 12:34 (8)
26	05:09	06:11	07:13	07:16		08:24 (10)		08:57	09:48 (9)
	21:46	20:36	19:13	16:55	43	09:07 (10)	76 12:21 (8)	15:47	66 12:34 (8)
27	05:11	06:13	07:15	07:18		08:24 (10)		08:58	09:48 (9)
	21:44	20:33	19:10	16:53	42	09:06 (10)	77 12:22 (8)	15:48	68 12:35 (8)
28	05:13	06:15	07:17	07:20		08:25 (10)		08:58	09:48 (9)
	21:42	20:30	19:07	16:50	41	09:06 (10)	78 12:23 (8)	15:48	68 12:35 (8)
29	05:15	06:17	07:19	07:22		08:26 (10)		08:58	09:48 (9)
	21:40	20:28	19:05	16:48	39	09:05 (10)	78 12:24 (8)	15:49	70 12:36 (8)
30	05:17	06:19	07:21	07:24		08:26 (10)		08:58	09:49 (9)
	21:38	20:25	19:02	16:46	38	09:04 (10)	78 12:24 (8)	15:50	70 12:37 (8)
31	05:19	06:21		07:27		08:28 (10)		08:58	09:49 (9)
	21:36	20:23		16:44	36	09:04 (10)		15:51	70 12:37 (8)
Potential sun hours	530	470	385	323		247		215	
Total, worst case				980		1512		2170	
Sun reduction				0,28		0,08		0,07	
Oper. time red.				1,00		1,00		1,00	
Wind dir. red.				1,00		1,00		1,00	
Total reduction				0,28		0,08		0,07	
Total, real				275		116		162	

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes 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:

flickering_Nordex_N175_Stelpe1_kumulativa_ietekme

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

07.04.2025 11:54/4.1.254

SHADOW - Calendar

Calculation: Flickering_Nordex_N175_kumulativa_ietekme Shadow receptor: Aki - Shadow Receptor: $1,0 \times 1,0$ Azimuth: $3,1^\circ$ Slope: $90,0^\circ$ (228)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0,80 1,82 4,75 6,63 9,63 10,06 8,16 7,72 5,94 2,93 0,63 0,52

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:57 15:53	08:21 16:51	07:17 17:53	06:55 19:59	05:38 21:02	04:41 21:59	04:35 22:16	05:21 21:34	06:23 20:20	07:23 18:59	07:29 16:42	08:31 15:50
2	08:57 15:55	08:19 16:53	07:14 17:55	06:52 20:01	05:36 21:04	04:40 22:01	04:36 22:15	05:23 21:32	06:25 20:17	07:25 18:57	07:31 16:39	08:32 15:49
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31	08:23 16:49		06:57 19:57		04:42 21:58		05:19 21:36	06:21 20:23		07:27 18:44		08:57 15:52
Potential sun hours	235	266	366	426	508	529	530	470	385	323	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)
	Minutes with flicker		