

SHADOW - Main Result

Calculation: Kenfig Shadow Detailed

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

Height contours used: Height Contours: CONTOURLINE_ONLINEDATA_1.wpo

Obstacles used in calculation

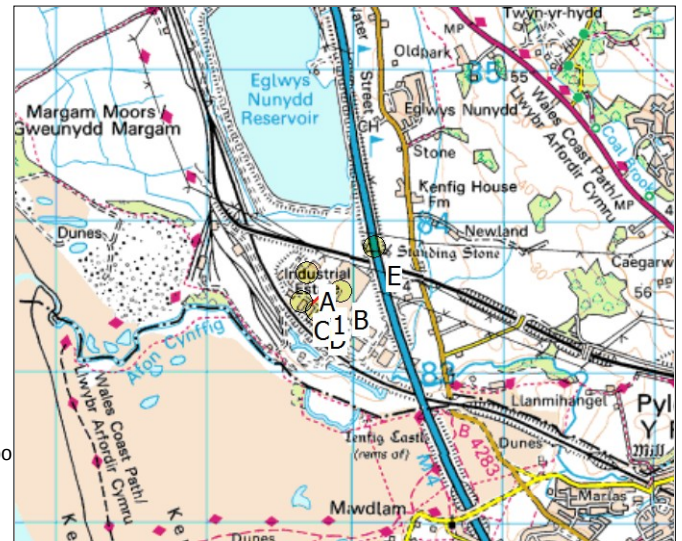
Receptor grid resolution: 10.0 m

All coordinates are in

British TM-OSGB36/Airy (GB/IE)

WTGs

	Easting	Northing	Z	Row data/Description	WTG type		Valid	Manuf.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data	
													Calculation distance	RPM
			[m]							[kW]	[m]	[m]	[m]	[RPM]
1	279,776	183,486	12.0	Kenfig WTG	Yes	VENSYS			70-1,500	1,500	70.0	65.0	1,453	19.0



Scale 1:50,000
 New WTG Shadow receptor

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	279,691	183,641	10.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	279,913	183,519	12.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	279,655	183,445	11.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	279,753	183,389	11.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	280,137	183,814	10.3	7.0	7.0	7.0	90.0	"Green house mode"	14.0

Calculation Results

Shadow receptor

Shadow, worst case

No.	Shadow hours per year	Shadow days per year	Max shadow hours per day
	[h/year]	[days/year]	[h/day]
A	175:18	159	1:29
B	212:13	167	1:45
C	96:26	75	1:36
D	0:00	0	0:00
E	44:25	96	0:40

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case
		[h/year]
1	Kenfig WTG	528:22

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

SHADOW - Calendar

Calculation: Kenfig Shadow DetailedShadow receptor: A - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (16)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	08:21	10:01 (1)	07:55	09:49 (1)	07:03	09:54 (1)
16:16	41	10:42 (1)	17:03	11:14 (1)	17:54	71
2	08:21	10:01 (1)	07:54	09:50 (1)	07:00	09:56 (1)
16:17	42	10:43 (1)	17:05	11:15 (1)	17:56	67
3	08:21	10:01 (1)	07:52	09:49 (1)	06:58	09:57 (1)
16:18	44	10:45 (1)	17:07	11:15 (1)	17:58	64
4	08:21	10:00 (1)	07:51	09:49 (1)	06:56	09:57 (1)
16:20	45	10:45 (1)	17:09	11:15 (1)	18:00	61
5	08:21	10:00 (1)	07:49	09:48 (1)	06:54	09:59 (1)
16:21	47	10:47 (1)	17:11	11:15 (1)	18:01	57
6	08:21	10:00 (1)	07:47	09:48 (1)	06:52	10:01 (1)
16:22	49	10:49 (1)	17:13	11:17 (1)	18:03	52
7	08:20	09:59 (1)	07:46	09:49 (1)	06:50	10:03 (1)
16:23	50	10:49 (1)	17:14	11:17 (1)	18:05	47
8	08:20	09:59 (1)	07:44	09:48 (1)	06:47	10:05 (1)
16:24	52	10:51 (1)	17:16	11:17 (1)	18:07	41
9	08:19	09:58 (1)	07:42	09:48 (1)	06:45	10:08 (1)
16:26	54	10:52 (1)	17:18	11:17 (1)	18:08	33
10	08:19	09:58 (1)	07:40	09:48 (1)	06:43	10:13 (1)
16:27	55	10:53 (1)	17:20	11:17 (1)	18:10	23
11	08:18	09:57 (1)	07:39	09:48 (1)	06:41	06:30
16:29	57	10:54 (1)	17:22	11:17 (1)	18:12	20:04
12	08:18	09:57 (1)	07:37	09:48 (1)	06:38	06:28
16:30	59	10:56 (1)	17:24	11:17 (1)	18:14	20:06
13	08:17	09:57 (1)	07:35	09:48 (1)	06:36	06:26
16:31	60	10:57 (1)	17:25	11:17 (1)	18:15	20:08
14	08:16	09:56 (1)	07:33	09:48 (1)	06:34	06:24
16:33	62	10:58 (1)	17:27	11:17 (1)	18:17	20:09
15	08:15	09:56 (1)	07:31	09:48 (1)	06:32	06:22
16:35	63	10:59 (1)	17:29	11:16 (1)	18:19	20:11
16	08:15	09:55 (1)	07:29	09:48 (1)	06:29	06:20
16:36	65	11:00 (1)	17:31	11:16 (1)	18:20	20:13
17	08:14	09:55 (1)	07:27	09:48 (1)	06:27	06:17
16:38	66	11:01 (1)	17:33	11:16 (1)	18:22	20:14
18	08:13	09:55 (1)	07:25	09:48 (1)	06:25	06:15
16:39	67	11:02 (1)	17:35	11:15 (1)	18:24	20:16
19	08:12	09:54 (1)	07:23	09:49 (1)	06:23	06:13
16:41	70	11:04 (1)	17:36	11:15 (1)	18:25	20:18
20	08:11	09:53 (1)	07:21	09:49 (1)	06:20	06:11
16:43	71	11:04 (1)	17:38	11:14 (1)	18:27	20:19
21	08:10	09:53 (1)	07:19	09:50 (1)	06:18	06:09
16:44	72	11:05 (1)	17:40	11:14 (1)	18:29	20:21
22	08:09	09:53 (1)	07:17	09:50 (1)	06:16	06:07
16:46	73	11:06 (1)	17:42	11:13 (1)	18:31	20:23
23	08:07	09:53 (1)	07:15	09:51 (1)	06:13	06:05
16:48	75	11:08 (1)	17:44	11:12 (1)	18:32	20:24
24	08:06	09:52 (1)	07:13	09:51 (1)	06:11	06:03
16:49	76	11:08 (1)	17:45	11:12 (1)	18:34	20:26
25	08:05	09:52 (1)	07:11	09:52 (1)	06:09	06:01
16:51	77	11:09 (1)	17:47	11:11 (1)	18:36	20:28
26	08:04	09:51 (1)	07:09	09:52 (1)	06:07	05:59
16:53	78	11:09 (1)	17:49	11:09 (1)	18:37	20:29
27	08:02	09:51 (1)	07:07	09:52 (1)	06:04	05:57
16:54	80	11:11 (1)	17:51	11:07 (1)	18:39	20:31
28	08:01	09:51 (1)	07:05	09:53 (1)	06:02	05:55
16:56	81	11:12 (1)	17:53	11:06 (1)	18:41	20:33
29	08:00	09:50 (1)	07:00	07:00	06:00	05:53
16:58	82	11:12 (1)	17:55	11:06 (1)	18:43	20:34
30	07:58	09:50 (1)	06:57	06:57	06:00	05:51
17:00	82	11:12 (1)	17:57	11:06 (1)	18:45	20:36
31	07:57	09:50 (1)	06:55	06:55	06:00	05:05
17:02	84	11:14 (1)	17:59	11:08 (1)	18:47	20:38
Potential sun hours	261	278	367	415	484	497
Total, worst case	1979	2383	516			

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

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

SHADOW - Calendar

Calculation: Kenfig Shadow DetailedShadow receptor: A - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (16)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October		November		December	
1	05:02	05:38	06:26	07:15		07:08		09:18 (1)	07:58
	21:36	21:05	20:04	18:55		16:50	89	10:47 (1)	16:10
2	05:02	05:39	06:28	07:16		07:09		09:18 (1)	07:59
	21:36	21:03	20:02	18:53		16:48	89	10:47 (1)	16:10
3	05:03	05:41	06:30	07:18		10:54 (1)		09:18 (1)	08:01
	21:36	21:02	19:59	18:51	16	11:10 (1)	88	10:46 (1)	16:09
4	05:04	05:42	06:31	07:20		10:47 (1)		09:18 (1)	08:02
	21:35	21:00	19:57	18:48	29	11:16 (1)	88	10:46 (1)	16:09
5	05:05	05:44	06:33	07:21		10:43 (1)		09:19 (1)	08:03
	21:35	20:58	19:55	18:46	38	11:21 (1)	87	10:46 (1)	16:08
6	05:05	05:45	06:34	07:23		10:40 (1)		09:19 (1)	08:04
	21:34	20:57	19:53	18:44	45	11:25 (1)	87	10:46 (1)	16:08
7	05:06	05:47	06:36	07:25		10:38 (1)		09:20 (1)	08:06
	21:34	20:55	19:50	18:42	50	11:28 (1)	86	10:46 (1)	16:07
8	05:07	05:48	06:38	07:26		10:35 (1)		09:19 (1)	08:07
	21:33	20:53	19:48	18:39	55	11:30 (1)	86	10:45 (1)	16:07
9	05:08	05:50	06:39	07:28		10:33 (1)		09:20 (1)	08:08
	21:32	20:51	19:46	18:37	59	11:32 (1)	85	10:45 (1)	16:07
10	05:09	05:51	06:41	07:30		10:32 (1)		09:20 (1)	08:09
	21:32	20:49	19:44	18:35	62	11:34 (1)	85	10:45 (1)	16:06
11	05:10	05:53	06:42	07:31		10:29 (1)		09:21 (1)	08:10
	21:31	20:47	19:41	18:33	66	11:35 (1)	83	10:44 (1)	16:06
12	05:11	05:55	06:44	07:33		10:28 (1)		09:22 (1)	08:11
	21:30	20:46	19:39	18:31	69	11:37 (1)	82	10:44 (1)	16:06
13	05:12	05:56	06:46	07:35		10:27 (1)		09:22 (1)	08:12
	21:29	20:44	19:37	18:28	71	11:38 (1)	82	10:44 (1)	16:06
14	05:13	05:58	06:47	07:36		10:26 (1)		09:23 (1)	08:13
	21:28	20:42	19:34	18:26	74	11:40 (1)	81	10:44 (1)	16:06
15	05:15	05:59	06:49	07:38		10:25 (1)		09:24 (1)	08:14
	21:27	20:40	19:32	18:24	76	11:41 (1)	80	10:44 (1)	16:06
16	05:16	06:01	06:50	07:40		10:24 (1)		09:25 (1)	08:15
	21:26	20:38	19:30	18:22	77	11:41 (1)	78	10:43 (1)	16:06
17	05:17	06:03	06:52	07:41		10:23 (1)		09:25 (1)	08:16
	21:25	20:36	19:27	18:20	79	11:42 (1)	77	10:42 (1)	16:07
18	05:18	06:04	06:54	07:43		10:22 (1)		09:26 (1)	08:17
	21:24	20:34	19:25	18:18	81	11:43 (1)	76	10:42 (1)	16:07
19	05:19	06:06	06:55	07:45		10:22 (1)		09:27 (1)	08:17
	21:23	20:32	19:23	18:16	82	11:44 (1)	75	10:42 (1)	16:07
20	05:21	06:07	06:57	07:47		10:21 (1)		09:28 (1)	08:18
	21:22	20:30	19:20	18:13	84	11:45 (1)	73	10:41 (1)	16:07
21	05:22	06:09	06:58	07:48		10:20 (1)		09:29 (1)	08:18
	21:21	20:28	19:18	18:11	84	11:44 (1)	72	10:41 (1)	16:08
22	05:23	06:10	07:00	07:50		10:19 (1)		09:30 (1)	08:19
	21:20	20:25	19:16	18:09	86	11:45 (1)	71	10:41 (1)	16:08
23	05:25	06:12	07:02	07:52		10:19 (1)		09:30 (1)	08:20
	21:18	20:23	19:14	18:07	87	11:46 (1)	70	10:40 (1)	16:09
24	05:26	06:14	07:03	07:53		10:19 (1)		09:32 (1)	08:20
	21:17	20:21	19:11	18:05	87	11:46 (1)	68	10:40 (1)	16:09
25	05:27	06:15	07:05	06:55		09:19 (1)		09:33 (1)	08:20
	21:16	20:19	19:09	17:03	87	10:46 (1)	66	10:39 (1)	16:10
26	05:29	06:17	07:06	06:57		09:19 (1)		09:33 (1)	08:21
	21:14	20:17	19:07	17:01	88	10:47 (1)	65	10:38 (1)	16:11
27	05:30	06:18	07:08	06:59		09:18 (1)		09:35 (1)	08:21
	21:13	20:15	19:04	16:59	89	10:47 (1)	63	10:38 (1)	16:12
28	05:32	06:20	07:10	07:00		09:17 (1)		09:36 (1)	08:21
	21:11	20:13	19:02	16:57	89	10:46 (1)	62	10:38 (1)	16:12
29	05:33	06:22	07:11	07:02		09:17 (1)		09:37 (1)	08:21
	21:10	20:10	19:00	16:56	89	10:46 (1)	60	10:37 (1)	16:13
30	05:35	06:23	07:13	07:04		09:17 (1)		09:38 (1)	08:21
	21:08	20:08	18:57	16:54	89	10:46 (1)	59	10:37 (1)	16:14
31	05:36	06:25		07:06		09:18 (1)			08:21
	21:07	20:06		16:52	88	10:46 (1)			16:15
Potential sun hours	500	453	381	332		268		246	1251
Total, worst case				2076		2313			

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)

SHADOW - Calendar

Calculation: Kenfig Shadow DetailedShadow receptor: B - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (17)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March		April		May		June				
1	08:21	07:55	07:03		06:53		16:44 (1)	05:49	16:43 (1)	05:04	17:26 (1)		
	16:16	17:03	17:54		19:47	96	18:20 (1)	20:37	93	18:16 (1)	21:22	21	17:47 (1)
2	08:21	07:54	07:00		06:51		16:43 (1)	05:47		16:44 (1)	05:04		17:28 (1)
	16:17	17:05	17:56		19:49	98	18:21 (1)	20:39	91	18:15 (1)	21:24	17	17:45 (1)
3	08:21	07:52	06:58		06:48		16:43 (1)	05:45		16:45 (1)	05:03		17:32 (1)
	16:18	17:07	17:58		19:51	98	18:21 (1)	20:41	90	18:15 (1)	21:25	9	17:41 (1)
4	08:21	07:51	06:56		06:46		16:42 (1)	05:43		16:46 (1)	05:02		
	16:20	17:09	18:00		19:52	100	18:22 (1)	20:42	88	18:14 (1)	21:26		
5	08:21	07:49	06:54		06:44		16:41 (1)	05:42		16:47 (1)	05:02		
	16:21	17:11	18:01		19:54	101	18:22 (1)	20:44	86	18:13 (1)	21:27		
6	08:20	07:47	06:52		06:42		16:40 (1)	05:40		16:47 (1)	05:01		
	16:22	17:13	18:03		19:56	102	18:22 (1)	20:46	85	18:12 (1)	21:28		
7	08:20	07:46	06:50		06:39		16:40 (1)	05:38		16:49 (1)	05:00		
	16:23	17:14	18:05		19:57	102	18:22 (1)	20:47	83	18:12 (1)	21:28		
8	08:20	07:44	06:47		06:37		16:39 (1)	05:36		16:50 (1)	05:00		
	16:24	17:16	18:07		19:59	104	18:23 (1)	20:49	81	18:11 (1)	21:29		
9	08:19	07:42	06:45		06:35		16:38 (1)	05:35		16:51 (1)	04:59		
	16:26	17:18	18:08		20:01	104	18:22 (1)	20:50	80	18:11 (1)	21:30		
10	08:19	07:40	06:43		06:33		16:38 (1)	05:33		16:52 (1)	04:59		
	16:27	17:20	18:10		20:02	104	18:22 (1)	20:52	78	18:10 (1)	21:31		
11	08:18	07:39	06:41		06:30		16:38 (1)	05:31		16:54 (1)	04:59		
	16:29	17:22	18:12		20:04	104	18:22 (1)	20:54	76	18:10 (1)	21:32		
12	08:18	07:37	06:38		06:28		16:38 (1)	05:30		16:54 (1)	04:58		
	16:30	17:24	18:14		20:06	104	18:22 (1)	20:55	74	18:08 (1)	21:32		
13	08:17	07:35	06:36		16:34 (1)		16:38 (1)	05:28		16:56 (1)	04:58		
	16:31	17:25	18:15	8	20:08	104	18:22 (1)	20:57	72	18:08 (1)	21:33		
14	08:16	07:33	06:34		16:25 (1)		16:38 (1)	05:26		16:57 (1)	04:58		
	16:33	17:27	18:17	27	20:09	104	18:22 (1)	20:58	70	18:07 (1)	21:34		
15	08:15	07:31	06:32		16:19 (1)		16:38 (1)	05:25		16:58 (1)	04:58		
	16:35	17:29	18:19	37	20:11	104	18:22 (1)	21:00	68	18:06 (1)	21:34		
16	08:15	07:29	06:29		16:15 (1)		16:37 (1)	05:23		16:59 (1)	04:57		
	16:36	17:31	18:20	45	20:13	104	18:21 (1)	21:01	66	18:05 (1)	21:35		
17	08:14	07:27	06:27		16:12 (1)		16:37 (1)	05:22		17:01 (1)	04:57		
	16:38	17:33	18:22	51	20:14	104	18:21 (1)	21:03	63	18:04 (1)	21:35		
18	08:13	07:25	06:25		16:08 (1)		16:37 (1)	05:20		17:02 (1)	04:57		
	16:39	17:35	18:24	56	20:16	104	18:21 (1)	21:04	62	18:04 (1)	21:36		
19	08:12	07:23	06:23		16:06 (1)		16:37 (1)	05:19		17:03 (1)	04:57		
	16:41	17:36	18:25	61	20:18	104	18:21 (1)	21:06	59	18:02 (1)	21:36		
20	08:11	07:21	06:20		16:03 (1)		16:37 (1)	05:18		17:04 (1)	04:57		
	16:42	17:38	18:27	66	20:19	104	18:21 (1)	21:07	57	18:01 (1)	21:36		
21	08:10	07:19	06:18		16:00 (1)		16:38 (1)	05:16		17:06 (1)	04:58		
	16:44	17:40	18:29	70	20:21	102	18:20 (1)	21:09	55	18:01 (1)	21:36		
22	08:09	07:17	06:16		15:59 (1)		16:38 (1)	05:15		17:08 (1)	04:58		
	16:46	17:42	18:31	73	20:23	102	18:20 (1)	21:10	52	18:00 (1)	21:37		
23	08:07	07:15	06:13		15:57 (1)		16:38 (1)	05:14		17:09 (1)	04:58		
	16:48	17:44	18:32	76	20:24	101	18:19 (1)	21:11	50	17:59 (1)	21:37		
24	08:06	07:13	06:11		15:55 (1)		16:39 (1)	05:13		17:11 (1)	04:58		
	16:49	17:45	18:34	80	20:26	100	18:19 (1)	21:13	47	17:58 (1)	21:37		
25	08:05	07:11	06:09		15:53 (1)		16:39 (1)	05:11		17:12 (1)	04:59		
	16:51	17:47	18:36	82	20:28	99	18:18 (1)	21:14	45	17:57 (1)	21:37		
26	08:04	07:09	06:07		15:52 (1)		16:40 (1)	05:10		17:14 (1)	04:59		
	16:53	17:49	18:37	85	20:29	98	18:18 (1)	21:15	42	17:56 (1)	21:37		
27	08:02	07:07	06:04		15:51 (1)		16:40 (1)	05:09		17:16 (1)	04:59		
	16:54	17:51	18:39	87	20:31	97	18:17 (1)	21:17	39	17:55 (1)	21:37		
28	08:01	07:05	06:02		15:49 (1)		16:42 (1)	05:08		17:17 (1)	05:00		
	16:56	17:52	18:41	89	20:33	96	18:18 (1)	21:18	36	17:53 (1)	21:37		
29	08:00		07:00		16:48 (1)		16:42 (1)	05:07		17:19 (1)	05:01		
	16:58		19:42	91	20:34	95	18:17 (1)	21:19	33	17:52 (1)	21:37		
30	07:58		06:57		16:47 (1)		16:43 (1)	05:06		17:21 (1)	05:01		
	17:00		19:44	93	20:36	93	18:16 (1)	21:20	29	17:50 (1)	21:36		
31	07:57		06:55		16:46 (1)			05:05		17:23 (1)			
	17:02		19:46	94	18:20 (1)			21:21	25	17:48 (1)			
Potential sun hours	261	278	367		415		484		497				
Total, worst case				1271		3032		1975			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)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Kenfig Shadow DetailedShadow receptor: B - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (17)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:02	05:38	17:04 (1) 06:26	16:37 (1) 07:15	07:08	07:58
	21:36	21:05	18:19 (1) 20:04	18:21 (1) 18:55	16:50	16:10
2	05:02	05:39	17:03 (1) 06:28	16:37 (1) 07:16	07:09	07:59
	21:36	21:03	18:19 (1) 20:02	18:21 (1) 18:53	16:48	16:10
3	05:03	05:41	17:02 (1) 06:30	16:36 (1) 07:18	07:11	08:01
	21:36	21:02	18:20 (1) 19:59	18:20 (1) 18:51	16:46	16:09
4	05:04	05:42	17:00 (1) 06:31	16:36 (1) 07:20	07:13	08:02
	21:35	21:00	18:21 (1) 19:57	18:20 (1) 18:48	16:45	16:09
5	05:05	05:44	17:00 (1) 06:33	16:36 (1) 07:21	07:15	08:03
	21:35	20:58	18:22 (1) 19:55	18:18 (1) 18:46	16:43	16:08
6	05:05	05:45	16:58 (1) 06:34	16:36 (1) 07:23	07:16	08:04
	21:34	20:57	18:22 (1) 19:53	18:18 (1) 18:44	16:41	16:08
7	05:06	05:47	16:57 (1) 06:36	16:36 (1) 07:25	07:18	08:06
	21:34	20:55	18:23 (1) 19:50	18:17 (1) 18:42	16:39	16:07
8	05:07	05:48	16:56 (1) 06:38	16:36 (1) 07:26	07:20	08:07
	21:33	20:53	18:23 (1) 19:48	18:16 (1) 18:39	16:38	16:07
9	05:08	17:42 (1) 05:50	16:55 (1) 06:39	16:37 (1) 07:28	07:22	08:08
	21:32	17:46 (1) 20:51	18:24 (1) 19:46	18:16 (1) 18:37	16:36	16:07
10	05:09	17:37 (1) 05:51	16:54 (1) 06:41	16:36 (1) 07:30	07:23	08:09
	21:32	17:51 (1) 20:49	18:24 (1) 19:44	18:14 (1) 18:35	16:35	16:06
11	05:10	17:34 (1) 05:53	16:53 (1) 06:42	16:37 (1) 07:31	07:25	08:10
	21:31	17:54 (1) 20:47	18:24 (1) 19:41	18:14 (1) 18:33	16:33	16:06
12	05:11	17:32 (1) 05:55	16:52 (1) 06:44	16:37 (1) 07:33	07:27	08:11
	21:30	17:56 (1) 20:46	18:24 (1) 19:39	18:12 (1) 18:31	16:32	16:06
13	05:12	17:30 (1) 05:56	16:50 (1) 06:46	16:38 (1) 07:35	07:29	08:12
	21:29	17:58 (1) 20:44	18:24 (1) 19:37	18:11 (1) 18:28	16:30	16:06
14	05:13	17:28 (1) 05:58	16:50 (1) 06:47	16:38 (1) 07:36	07:30	08:13
	21:28	17:59 (1) 20:42	18:25 (1) 19:34	18:09 (1) 18:26	16:29	16:06
15	05:15	17:27 (1) 05:59	16:48 (1) 06:49	16:39 (1) 07:38	07:32	08:14
	21:27	18:01 (1) 20:40	18:24 (1) 19:32	18:08 (1) 18:24	16:27	16:06
16	05:16	17:25 (1) 06:01	16:48 (1) 06:50	16:39 (1) 07:40	07:34	08:15
	21:26	18:02 (1) 20:38	18:25 (1) 19:30	18:06 (1) 18:22	16:26	16:06
17	05:17	17:24 (1) 06:03	16:46 (1) 06:52	16:40 (1) 07:41	07:36	08:16
	21:25	18:05 (1) 20:36	18:25 (1) 19:27	18:05 (1) 18:20	16:24	16:07
18	05:18	17:23 (1) 06:04	16:46 (1) 06:54	16:41 (1) 07:43	07:37	08:17
	21:24	18:06 (1) 20:34	18:25 (1) 19:25	18:04 (1) 18:18	16:23	16:07
19	05:19	17:21 (1) 06:06	16:44 (1) 06:55	16:42 (1) 07:45	07:39	08:17
	21:23	18:07 (1) 20:32	18:25 (1) 19:23	18:02 (1) 18:16	16:22	16:07
20	05:21	17:20 (1) 06:07	16:44 (1) 06:57	16:43 (1) 07:47	07:41	08:18
	21:22	18:08 (1) 20:30	18:25 (1) 19:20	18:00 (1) 18:13	16:21	16:07
21	05:22	17:18 (1) 06:09	16:44 (1) 06:58	16:44 (1) 07:48	07:42	08:18
	21:21	18:09 (1) 20:28	18:26 (1) 19:18	17:58 (1) 18:11	16:20	16:08
22	05:23	17:17 (1) 06:10	16:42 (1) 07:00	16:45 (1) 07:50	07:44	08:19
	21:19	18:11 (1) 20:25	18:25 (1) 19:16	17:56 (1) 18:09	16:18	16:08
23	05:25	17:16 (1) 06:12	16:42 (1) 07:02	16:46 (1) 07:52	07:46	08:20
	21:18	18:11 (1) 20:23	18:25 (1) 19:14	17:53 (1) 18:07	16:17	16:09
24	05:26	17:14 (1) 06:14	16:41 (1) 07:03	16:48 (1) 07:53	07:47	08:20
	21:17	18:12 (1) 20:21	18:25 (1) 19:11	17:51 (1) 18:05	16:16	16:09
25	05:27	17:13 (1) 06:15	16:41 (1) 07:05	16:51 (1) 06:55	07:49	08:20
	21:16	18:13 (1) 20:19	18:25 (1) 19:09	17:49 (1) 17:03	16:15	16:10
26	05:29	17:12 (1) 06:17	16:40 (1) 07:06	16:52 (1) 06:57	07:50	08:21
	21:14	18:14 (1) 20:17	18:24 (1) 19:07	17:45 (1) 17:01	16:14	16:11
27	05:30	17:10 (1) 06:18	16:39 (1) 07:08	16:55 (1) 06:59	07:52	08:21
	21:13	18:15 (1) 20:15	18:24 (1) 19:04	17:42 (1) 16:59	16:13	16:11
28	05:32	17:09 (1) 06:20	16:38 (1) 07:10	16:59 (1) 07:00	07:53	08:21
	21:11	18:15 (1) 20:13	18:23 (1) 19:02	17:39 (1) 16:57	16:13	16:12
29	05:33	17:08 (1) 06:22	16:38 (1) 07:11	17:02 (1) 07:02	07:55	08:21
	21:10	18:17 (1) 20:10	18:23 (1) 19:00	17:34 (1) 16:56	16:12	16:13
30	05:35	17:07 (1) 06:23	16:37 (1) 07:13	17:09 (1) 07:04	07:56	08:21
	21:08	18:17 (1) 20:08	18:22 (1) 18:57	17:27 (1) 16:54	16:11	16:14
31	05:36	17:06 (1) 06:25	16:38 (1)	07:06		08:21
	21:07	18:19 (1) 20:06	18:22 (1)	16:52		16:15
Potential sun hours	500	453	381	332	268	246
Total, worst case	1053	2937	2418			

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

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

Project:

South Wales

Licensed user:

Infinite Renewables Limited
 Number One, Waterton Park
 GB-BRIDGEND CF31 3PH, Wales
 +44 1656 644477
 Rob Smith / robsmith484@gmail.com
 Calculated:
 29/03/2022 17:40/3.5.576

SHADOW - Calendar

Calculation: Kenfig Shadow DetailedShadow receptor: C - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (18)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:21 16:16	07:55 17:03	07:03 17:54	06:53 19:47	05:49 20:37	05:05 21:22	06:43 (1) 08:06 (1)	05:02 21:36	06:43 (1) 08:17 (1)	05:38 21:05	06:26 20:04	07:15 18:55	07:08 16:50
2	08:21 16:17	07:54 17:05	07:00 17:56	06:51 19:49	05:47 20:39	05:04 21:24	06:42 (1) 08:06 (1)	05:02 21:36	06:44 (1) 08:17 (1)	05:39 21:03	06:28 20:02	07:16 18:53	07:09 16:48
3	08:21 16:18	07:52 17:07	06:58 17:58	06:48 19:51	05:45 20:41	05:03 21:25	06:41 (1) 08:07 (1)	05:03 21:36	06:44 (1) 08:16 (1)	05:41 21:02	06:30 19:59	07:18 18:51	07:11 16:46
4	08:21 16:20	07:51 17:09	06:56 18:00	06:46 19:52	05:43 20:42	05:02 21:26	06:41 (1) 08:08 (1)	05:04 21:35	06:45 (1) 08:16 (1)	05:42 21:00	06:31 19:57	07:20 18:48	07:13 16:45
5	08:21 16:21	07:49 17:11	06:54 18:01	06:44 19:54	05:42 20:44	05:02 21:27	06:40 (1) 08:08 (1)	05:05 21:35	06:46 (1) 08:16 (1)	05:44 20:58	06:33 19:55	07:21 18:46	07:15 16:43
6	08:21 16:22	07:47 17:13	06:52 18:03	06:42 19:56	05:40 20:46	05:01 21:28	06:40 (1) 08:10 (1)	05:05 21:34	06:47 (1) 08:16 (1)	05:45 20:57	06:34 19:53	07:23 18:44	07:16 16:41
7	08:20 16:23	07:46 17:14	06:50 18:05	06:39 19:57	05:38 20:47	05:00 21:28	06:40 (1) 08:10 (1)	05:06 21:34	06:46 (1) 08:15 (1)	05:47 20:55	06:36 19:50	07:25 18:42	07:18 16:39
8	08:20 16:25	07:44 17:16	06:47 18:07	06:37 19:59	05:36 20:49	05:00 21:29	06:40 (1) 08:11 (1)	05:07 21:33	06:47 (1) 08:15 (1)	05:48 20:53	06:38 19:48	07:26 18:39	07:20 16:38
9	08:19 16:26	07:42 17:18	06:45 18:08	06:35 20:01	05:35 20:50	04:59 21:30	06:40 (1) 08:12 (1)	05:08 21:32	06:48 (1) 08:14 (1)	05:50 20:51	06:39 19:46	07:28 18:37	07:22 16:36
10	08:19 16:27	07:40 17:20	06:43 18:10	06:33 20:02	05:33 20:52	04:59 21:31	06:39 (1) 08:12 (1)	05:09 21:32	06:49 (1) 08:14 (1)	05:51 20:49	06:41 19:44	07:30 18:35	07:23 16:35
11	08:18 16:29	07:39 17:22	06:41 18:12	06:30 20:04	05:31 20:54	04:59 21:32	06:39 (1) 08:12 (1)	05:10 21:31	06:50 (1) 08:13 (1)	05:53 20:47	06:42 19:41	07:31 18:33	07:25 16:33
12	08:18 16:30	07:37 17:24	06:38 18:14	06:28 20:06	05:30 20:55	04:58 21:32	06:39 (1) 08:13 (1)	05:11 21:30	06:51 (1) 08:13 (1)	05:55 20:46	06:44 19:39	07:33 18:31	07:27 16:32
13	08:17 16:32	07:35 17:25	06:36 18:15	06:26 20:08	05:28 20:57	04:58 21:33	06:38 (1) 08:13 (1)	05:12 21:29	06:52 (1) 08:12 (1)	05:56 20:44	06:46 19:37	07:35 18:28	07:29 16:30
14	08:16 16:33	07:33 17:27	06:34 18:17	06:24 20:09	05:26 20:58	04:58 21:34	06:38 (1) 08:13 (1)	05:13 21:28	06:53 (1) 08:11 (1)	05:58 20:42	06:47 19:34	07:36 18:26	07:30 16:29
15	08:15 16:35	07:31 17:29	06:32 18:19	06:22 20:11	05:25 21:00	04:58 21:34	06:39 (1) 08:14 (1)	05:15 21:27	06:54 (1) 08:10 (1)	05:59 20:40	06:49 19:32	07:38 18:24	07:32 16:27
16	08:15 16:36	07:29 17:31	06:29 18:20	06:20 20:13	05:23 21:01	04:57 21:35	06:39 (1) 08:14 (1)	05:16 21:26	06:55 (1) 08:09 (1)	06:01 20:38	06:50 19:30	07:40 18:22	07:34 16:26
17	08:14 16:38	07:27 17:33	06:27 18:22	06:17 20:14	05:22 21:03	04:57 21:35	06:39 (1) 08:15 (1)	05:17 21:25	06:57 (1) 08:09 (1)	06:03 20:36	06:52 19:27	07:41 18:20	07:36 16:24
18	08:13 16:39	07:25 17:35	06:25 18:24	06:15 20:16	05:20 21:04	04:57 21:36	06:39 (1) 08:15 (1)	05:18 21:24	06:58 (1) 08:08 (1)	06:04 20:34	06:54 19:25	07:43 18:18	07:37 16:23
19	08:12 16:41	07:23 17:36	06:23 18:25	06:13 20:18	05:19 21:06	04:57 21:36	06:39 (1) 08:15 (1)	05:19 21:23	06:59 (1) 08:06 (1)	06:06 20:32	06:55 19:23	07:45 18:16	07:39 16:22
20	08:11 16:43	07:21 17:38	06:20 18:27	06:11 20:19	05:18 21:07	04:57 21:36	06:40 (1) 08:16 (1)	05:21 21:22	07:00 (1) 08:05 (1)	06:07 20:30	06:57 19:20	07:47 18:13	07:41 16:21
21	08:10 16:44	07:19 17:40	06:18 18:29	06:09 20:21	05:16 21:09	04:58 21:36	06:40 (1) 08:16 (1)	05:22 21:21	07:02 (1) 08:03 (1)	06:09 20:28	06:58 19:18	07:48 18:11	07:42 16:20
22	08:09 16:46	07:17 17:42	06:16 18:31	06:07 20:23	05:15 21:10	04:58 21:37	06:40 (1) 08:16 (1)	05:23 21:19	07:04 (1) 08:02 (1)	06:10 20:25	07:00 19:16	07:50 18:09	07:44 16:18
23	08:07 16:48	07:15 17:44	06:13 18:32	06:05 20:24	05:14 21:11	04:58 21:37	06:40 (1) 08:16 (1)	05:25 21:18	07:06 (1) 08:00 (1)	06:12 20:23	07:02 19:14	07:52 18:07	07:46 16:17
24	08:06 16:49	07:13 17:45	06:11 18:34	06:03 20:26	05:13 21:13	04:58 21:37	06:41 (1) 08:17 (1)	05:26 21:17	07:08 (1) 07:58 (1)	06:14 20:21	07:03 19:11	07:53 18:05	07:47 16:16
25	08:05 16:51	07:11 17:47	06:09 18:36	06:01 20:28	05:11 21:14	04:59 21:37	06:41 (1) 08:17 (1)	05:27 21:16	07:10 (1) 07:55 (1)	06:15 20:19	07:05 19:09	06:55 17:03	07:49 16:15
26	08:04 16:53	07:09 17:49	06:07 18:37	05:59 20:29	05:10 21:15	04:59 21:37	06:41 (1) 08:16 (1)	05:29 21:14	07:13 (1) 07:53 (1)	06:17 20:17	07:06 19:07	06:57 17:01	07:50 16:14
27	08:02 16:55	07:07 17:51	06:04 18:39	05:57 20:31	05:09 21:17	05:00 21:37	06:42 (1) 08:17 (1)	05:30 21:13	07:17 (1) 07:49 (1)	06:18 20:15	07:08 19:04	06:59 16:59	07:52 16:13
28	08:01 16:56	07:05 17:53	06:02 18:41	05:55 20:33	05:08 21:18	05:00 21:37	06:41 (1) 08:16 (1)	05:32 21:11	07:21 (1) 07:44 (1)	06:20 20:13	07:10 19:02	07:00 16:57	07:53 16:13
29	08:00 16:58		07:00 19:42	05:53 20:34	05:07 21:19	05:01 21:37	06:42 (1) 08:17 (1)	05:33 21:10		06:22 19:00	07:11 16:56	07:02 16:56	07:55 16:12
30	07:58 17:00		06:57 19:44	05:51 20:36	05:06 21:20	05:01 21:37	06:42 (1) 08:16 (1)	05:35 21:08		06:23 20:08	07:13 18:57	07:04 16:54	07:56 16:11
31	07:57 17:02		06:55 19:46		05:05 21:21	05:01 21:37		05:36 21:07		06:25 20:06		07:06 16:52	08:21 16:15
Potential sun hours	261	278	367	415	484	497	500	453	381	332	268	246	
Total, worst case					990	2789	2007						

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

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

South Wales

Licensed user:

Infinite Renewables Limited
 Number One, Waterton Park
 GB-BRIDGEND CF31 3PH, Wales
 +44 1656 644477
 Rob Smith / robsmith484@gmail.com
 Calculated:
 29/03/2022 17:40/3.5.576

SHADOW - Calendar

Calculation: Kenfig Shadow DetailedShadow receptor: D - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (19)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:21 16:16	07:55 17:03	07:03 17:54	06:53 19:47	05:49 20:37	05:05 21:22	05:02 21:36	05:38 21:05	06:26 20:04	07:15 18:55	07:08 16:50	07:58 16:10
2	08:21 16:17	07:54 17:05	07:00 17:56	06:51 19:49	05:47 20:39	05:04 21:24	05:02 21:36	05:39 21:03	06:28 20:02	07:16 18:53	07:09 16:48	07:59 16:10
3	08:21 16:18	07:52 17:07	06:58 17:58	06:48 19:51	05:45 20:41	05:03 21:25	05:03 21:36	05:41 21:02	06:30 19:59	07:18 18:51	07:11 16:46	08:01 16:09
4	08:21 16:20	07:51 17:09	06:56 18:00	06:46 19:52	05:43 20:42	05:02 21:26	05:04 21:35	05:42 21:00	06:31 19:57	07:20 18:48	07:13 16:45	08:02 16:09
5	08:21 16:21	07:49 17:11	06:54 18:01	06:44 19:54	05:42 20:44	05:02 21:27	05:05 21:35	05:44 20:58	06:33 19:55	07:21 18:46	07:15 16:43	08:03 16:08
6	08:21 16:22	07:47 17:13	06:52 18:03	06:42 19:56	05:40 20:46	05:01 21:28	05:05 21:34	05:45 20:57	06:34 19:53	07:23 18:44	07:16 16:41	08:04 16:08
7	08:20 16:23	07:46 17:14	06:50 18:05	06:39 19:57	05:38 20:47	05:00 21:28	05:06 21:34	05:47 20:55	06:36 19:50	07:25 18:42	07:18 16:39	08:06 16:07
8	08:20 16:24	07:44 17:16	06:47 18:07	06:37 19:59	05:36 20:49	05:00 21:29	05:07 21:33	05:48 20:53	06:38 19:48	07:26 18:39	07:20 16:38	08:07 16:07
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10	08:19 16:27	07:40 17:20	06:43 18:10	06:33 20:02	05:33 20:52	04:59 21:31	05:09 21:32	05:51 20:49	06:41 19:44	07:30 18:35	07:23 16:35	08:09 16:06
11	08:18 16:29	07:39 17:22	06:41 18:12	06:30 20:04	05:31 20:54	04:59 21:32	05:10 21:31	05:53 20:47	06:42 19:41	07:31 18:33	07:25 16:33	08:10 16:06
12	08:18 16:30	07:37 17:24	06:38 18:14	06:28 20:06	05:30 20:55	04:58 21:32	05:11 21:30	05:55 20:46	06:44 19:39	07:33 18:31	07:27 16:32	08:11 16:06
13	08:17 16:32	07:35 17:25	06:36 18:15	06:26 20:08	05:28 20:57	04:58 21:33	05:12 21:29	05:56 20:44	06:46 19:37	07:35 18:28	07:29 16:30	08:12 16:06
14	08:16 16:33	07:33 17:27	06:34 18:17	06:24 20:09	05:26 20:58	04:58 21:34	05:13 21:28	05:58 20:42	06:47 19:34	07:36 18:26	07:30 16:29	08:13 16:06
15	08:15 16:35	07:31 17:29	06:32 18:19	06:22 20:11	05:25 21:00	04:58 21:34	05:15 21:27	05:59 20:40	06:49 19:32	07:38 18:24	07:32 16:27	08:14 16:06
16	08:15 16:36	07:29 17:31	06:29 18:20	06:20 20:13	05:23 21:01	04:57 21:35	05:16 21:26	06:01 20:38	06:50 19:30	07:40 18:22	07:34 16:26	08:15 16:06
17	08:14 16:38	07:27 17:33	06:27 18:22	06:17 20:14	05:22 21:03	04:57 21:35	05:17 21:25	06:03 20:36	06:52 19:27	07:41 18:20	07:36 16:24	08:16 16:07
18	08:13 16:39	07:25 17:35	06:25 18:24	06:15 20:16	05:20 21:04	04:57 21:36	05:18 21:24	06:04 20:34	06:54 19:25	07:43 18:18	07:37 16:23	08:17 16:07
19	08:12 16:41	07:23 17:36	06:23 18:25	06:13 20:18	05:19 21:06	04:57 21:36	05:19 21:23	06:06 20:32	06:55 19:23	07:45 18:16	07:39 16:22	08:17 16:07
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22	08:09 16:46	07:17 17:42	06:16 18:31	06:07 20:23	05:15 21:10	04:58 21:37	05:23 21:19	06:10 20:25	07:00 19:16	07:50 18:09	07:44 16:18	08:19 16:08
23	08:07 16:48	07:15 17:44	06:13 18:32	06:05 20:24	05:14 21:11	04:58 21:37	05:25 21:18	06:12 20:23	07:02 19:14	07:52 18:07	07:46 16:17	08:20 16:09
24	08:06 16:49	07:13 17:45	06:11 18:34	06:03 20:26	05:13 21:13	04:58 21:37	05:26 21:17	06:14 20:21	07:03 19:11	07:53 18:05	07:47 16:16	08:20 16:09
25	08:05 16:51	07:11 17:47	06:09 18:36	06:01 20:28	05:11 21:14	04:59 21:37	05:27 21:16	06:15 20:19	07:05 19:09	06:55 17:03	07:49 16:15	08:20 16:10
26	08:04 16:53	07:09 17:49	06:07 18:37	05:59 20:29	05:10 21:15	04:59 21:37	05:29 21:14	06:17 20:17	07:06 19:07	06:57 17:01	07:50 16:14	08:21 16:11
27	08:02 16:54	07:07 17:51	06:04 18:39	05:57 20:31	05:09 21:17	05:00 21:37	05:30 21:13	06:18 20:15	07:08 19:04	06:59 16:59	07:52 16:13	08:21 16:12
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29	08:00 16:58		07:00 19:42	05:53 20:34	05:07 21:19	05:01 21:37	05:33 21:10	06:22 20:10	07:11 19:00	07:02 16:56	07:55 16:12	08:21 16:13
30	07:58 17:00		06:57 19:44	05:51 20:36	05:06 21:20	05:01 21:37	05:35 21:08	06:23 20:08	07:13 18:57	07:04 16:54	07:56 16:11	08:21 16:14
31	07:57 17:02		06:55 19:46		05:05 21:21		05:36 21:07	06:25 20:06		07:06 16:52		08:21 16:15
Potential sun hours Total, worst case	261	278	367	415	484	497	500	453	381	332	268	246

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

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

South Wales

Licensed user:

Infinite Renewables Limited
 Number One, Waterton Park
 GB-BRIDGEND CF31 3PH, Wales
 +44 1656 644477
 Rob Smith / robsmith484@gmail.com
 Calculated:
 29/03/2022 17:40/3.5.576

SHADOW - Calendar

Calculation: Kenfig Shadow DetailedShadow receptor: E - Shadow Receptor: 7.0 × 7.0 Azimuth: 0.0° Slope: 90.0° (20)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

		January		February		March		April		May		June		July		August		September		October		November		December
1	08:21	15:23 (1)	07:55	15:31 (1)	07:03	06:53	05:49	05:04	05:02	05:38	06:26	07:15	07:08	07:58	15:06 (1)									
	16:16	15:41 (1)	17:03	16:02 (1)	17:54	19:47	20:37	21:22	21:36	21:05	20:04	18:55	16:50	16:10	31	15:37 (1)								
2	08:21	15:23 (1)	07:54	15:33 (1)	07:00	06:51	05:47	05:04	05:02	05:39	06:28	07:16	07:09	07:59	15:07 (1)									
	16:17	15:43 (1)	17:05	16:02 (1)	17:56	19:49	20:39	21:24	21:36	21:03	20:02	18:53	16:48	16:10	30	15:37 (1)								
3	08:21	15:23 (1)	07:52	15:34 (1)	06:58	06:48	05:45	05:03	05:03	05:41	06:30	07:18	07:11	08:01	15:07 (1)									
	16:18	15:44 (1)	17:07	16:01 (1)	17:58	19:51	20:41	21:25	21:36	21:02	19:59	18:51	16:46	16:09	28	15:35 (1)								
4	08:21	15:23 (1)	07:51	15:35 (1)	06:56	06:46	05:43	05:02	05:04	05:42	06:31	07:20	07:13	15:12 (1)	08:02	15:08 (1)								
	16:20	15:45 (1)	17:09	16:00 (1)	18:00	19:52	20:42	21:26	21:35	21:00	19:57	18:48	16:45	13	15:25 (1)	16:09	27	15:35 (1)						
5	08:21	15:23 (1)	07:49	15:37 (1)	06:54	06:44	05:42	05:01	05:05	05:44	06:33	07:21	07:15	15:10 (1)	08:03	15:09 (1)								
	16:21	15:47 (1)	17:11	15:58 (1)	18:01	19:54	20:44	21:27	21:35	20:58	19:55	18:46	16:43	17	15:27 (1)	16:08	25	15:34 (1)						
6	08:20	15:24 (1)	07:47	15:40 (1)	06:52	06:42	05:40	05:01	05:05	05:45	06:34	07:23	07:16	15:08 (1)	08:04	15:10 (1)								
	16:22	15:48 (1)	17:13	15:57 (1)	18:03	19:56	20:46	21:28	21:34	20:57	19:53	18:44	16:41	21	15:29 (1)	16:08	24	15:34 (1)						
7	08:20	15:23 (1)	07:46	15:43 (1)	06:50	06:39	05:38	05:00	05:06	05:47	06:36	07:25	07:18	15:05 (1)	08:06	15:10 (1)								
	16:23	15:49 (1)	17:14	15:55 (1)	18:05	19:57	20:47	21:28	21:34	20:55	19:50	18:42	16:39	25	15:30 (1)	16:07	24	15:34 (1)						
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	16:24	15:51 (1)	17:16	15:51 (1)	18:07	19:59	20:49	21:29	21:33	20:53	19:48	18:39	16:38	28	15:31 (1)	16:07	22	15:33 (1)						
9	08:19	15:24 (1)	07:42	15:48 (1)	06:45	06:35	05:34	04:59	05:08	05:50	06:39	07:28	07:22	15:02 (1)	08:08	15:11 (1)								
	16:26	15:52 (1)	17:18	15:52 (1)	18:08	20:01	20:50	21:30	21:32	20:51	19:46	18:37	16:36	30	15:32 (1)	16:07	21	15:32 (1)						
10	08:19	15:24 (1)	07:40	15:49 (1)	06:43	06:33	05:33	04:59	05:09	05:51	06:41	07:30	07:23	15:01 (1)	08:09	15:12 (1)								
	16:27	15:53 (1)	17:20	15:53 (1)	18:10	20:02	20:52	21:31	21:32	20:49	19:43	18:35	16:35	32	15:33 (1)	16:06	20	15:32 (1)						
11	08:18	15:23 (1)	07:39	15:48 (1)	06:41	06:30	05:31	04:59	05:10	05:53	06:42	07:31	07:25	15:01 (1)	08:10	15:14 (1)								
	16:29	15:55 (1)	17:22	15:55 (1)	18:12	20:04	20:54	21:32	21:31	20:47	19:41	18:33	16:33	33	15:34 (1)	16:06	19	15:33 (1)						
12	08:18	15:24 (1)	07:37	15:57 (1)	06:38	06:28	05:30	04:58	05:11	05:55	06:44	07:33	07:27	15:00 (1)	08:11	15:14 (1)								
	16:30	15:57 (1)	17:24	15:57 (1)	18:13	20:06	20:55	21:32	21:33	20:46	19:39	18:31	16:30	35	15:35 (1)	16:06	18	15:32 (1)						
13	08:17	15:24 (1)	07:35	15:54 (1)	06:36	06:26	05:28	04:56	05:12	05:56	06:46	07:35	07:29	15:00 (1)	08:12	15:15 (1)								
	16:31	15:59 (1)	17:25	15:59 (1)	18:15	20:07	20:57	21:33	21:29	20:44	19:37	18:28	16:30	36	15:36 (1)	16:06	17	15:32 (1)						
14	08:16	15:24 (1)	07:33	15:54 (1)	06:34	06:24	05:26	04:58	05:13	05:58	06:47	07:36	07:30	15:00 (1)	08:13	15:16 (1)								
	16:33	16:00 (1)	17:27	15:57 (1)	18:17	20:09	20:58	21:34	21:28	20:42	19:34	18:26	16:29	37	15:37 (1)	16:06	16	15:32 (1)						
15	08:15	15:24 (1)	07:31	15:54 (1)	06:32	06:22	05:25	04:58	05:15	05:59	06:49	07:38	07:32	15:00 (1)	08:14	15:16 (1)								
	16:34	16:01 (1)	17:29	15:55 (1)	18:19	20:11	21:00	21:34	21:27	20:40	19:32	18:24	16:27	37	15:37 (1)	16:06	15	15:31 (1)						
16	08:15	15:24 (1)	07:29	15:54 (1)	06:29	06:20	05:23	04:57	05:16	06:01	06:50	07:40	07:34	15:00 (1)	08:15	15:17 (1)								
	16:36	16:02 (1)	17:31	15:55 (1)	18:20	20:13	21:01	21:35	21:26	20:38	19:30	18:22	16:26	38	15:38 (1)	16:06	15	15:32 (1)						
17	08:14	15:24 (1)	07:27	15:54 (1)	06:27	06:17	05:22	04:57	05:17	06:02	06:52	07:41	07:36	14:59 (1)	08:16	15:17 (1)								
	16:38	16:02 (1)	17:33	15:55 (1)	18:22	20:14	21:03	21:35	21:25	20:36	19:27	18:20	16:24	39	15:38 (1)	16:07	15	15:32 (1)						
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24	08:06	15:25 (1)	07:13	15:56 (1)	06:11	06:03	05:13	04:58	05:26	06:14	07:03	07:53	07:47	15:01 (1)	08:20	15:21 (1)								
	16:49	16:04 (1)	17:45	15:57 (1)	18:34	20:26	21:13	21:37	21:17	20:21	19:11	18:05	16:16	39	15:40 (1)	16:09	14	15:35 (1)						
25	08:05	15:26 (1)	07:11	15:56 (1)	06:09	06:01	05:11	04:59	05:27	06:15	07:05	06:55	07:49	15:02 (1)	08:20	15:21 (1)								
	16:51	16:05 (1)	17:47	15:57 (1)	18:36	20:28	21:14	21:37	21:16	20:19	19:09	17:03	16:15	38	15:40 (1)	16:10	14	15:35 (1)						
26	08:04	15:26 (1)	07:09	15:57 (1)	06:07	05:59	05:10	04:59	05:29	06:17	07:06	06:57	07:50	15:02 (1)	08:21	15:21 (1)								
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27	08:02	15:27 (1)	07:07	15:58 (1)	06:04	05:57	05:09	04:59	05:30	06:18	07:08	06:59	07:52	15:03 (1)	08:21	15:23 (1)								
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28	08:01	15:28 (1)	07:05	15:59 (1)	06:02	05:55	05:06	04:58	05:32	06:20	07:10	07:02	07:54	15:04 (1)	08:21	15:24 (1)								
	16:56	16:06 (1)	17:52	16:00 (1)	18:41	20:33	21:18	21:37	21:11	20:13	19:02	16:57	16:13	36	15:40 (1)	16:12	15	15:38 (1)						
29	08:00	15:28 (1)	07:03	16:00 (1)	07:00	05:53	05:07	05:00	05:33	06:22	07:11	07:02	07:55	15:04 (1)	08:21	15:23 (1)								
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	17:00	16:03 (1)	17:48	16:03 (1)	19:44	20:36	21:20	21:37	21:08	20:08	18:57	16:54	16:11	33	15:38 (1)	16:14	17	15:40 (1)						
31	07:57	15:30 (1)	07:01	16:03 (1)	06:55	05:05	05:05	05:05	05:36	06:25	07:06	07:06	07:56	15:06 (1)	08:21	15:23 (1)								
	17:02	16:03 (1)	17:49	16:04 (1)	19:46	21:21	21:21	21:07	21:07	20:06	16:52	16:15	16:15	18	15:41 (1)									
Potential sun hours	261		278		367	415	484	497	500	453	381	332	268		246									
Total, worst case	1017	162																						

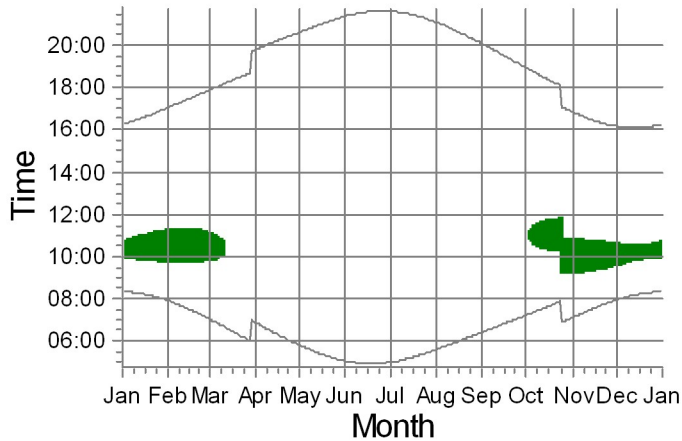
Table layout: For each day in each month the following matrix apply

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)

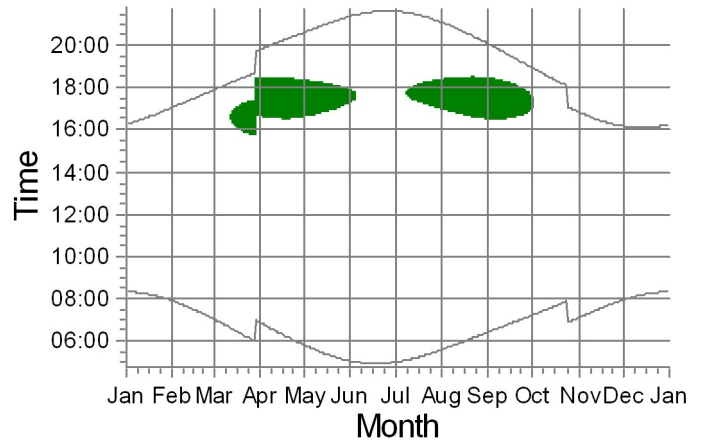
SHADOW - Calendar, graphical

Calculation: Kenfig Shadow Detailed

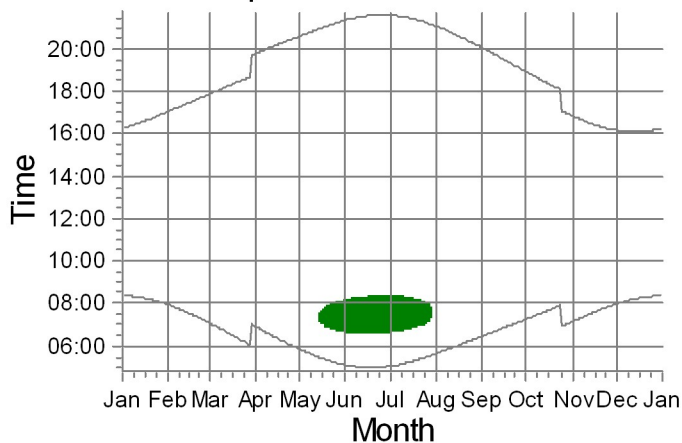
A: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° S



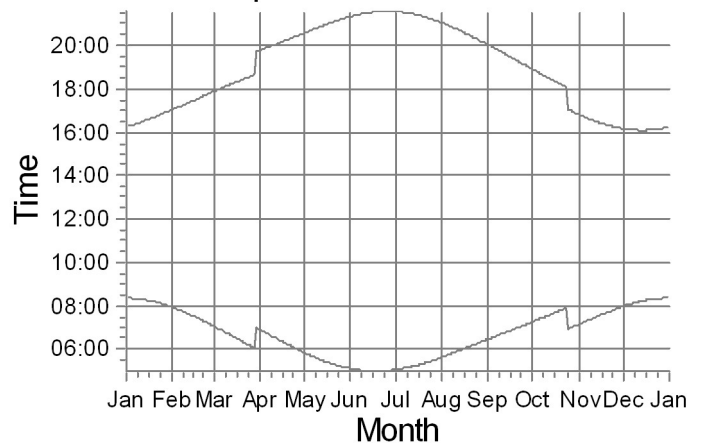
B: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° S



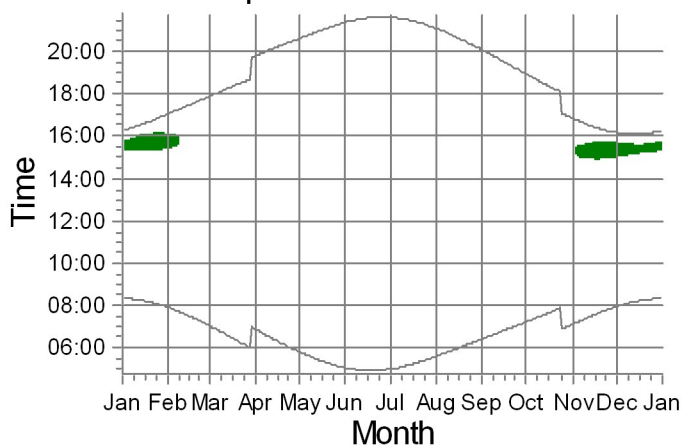
C: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° S



D: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° S



E: Shadow Receptor: 7.0 × 7.0 Azimuth: 0.0° S



WTGs



1: Kenfig WTG

Project:

South Wales

Licensed user:

Infinite Renewables Limited
 Number One, Waterton Park
 GB-BRIDGEND CF31 3PH, Wales
 +44 1656 644477
 Rob Smith / robsmith484@gmail.com
 Calculated:
 29/03/2022 17:40/3.5.576

SHADOW - Calendar per WTG

Calculation: Kenfig Shadow Detailed WTG: 1 - Kenfig WTG

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	08:21 15:23-15:41/18 16:16 10:01-10:42/41	07:55 15:31-16:02/31 17:03 09:49-11:14/85	07:03 09:54-11:05/71 17:54	06:53 16:44-18:20/96 19:47	05:49 16:43-18:16/93 20:37	05:04 06:43-08:06/83 21:22 17:26-17:47/21
2	08:21 15:23-15:43/20 16:17 10:01-10:43/42	07:54 15:33-16:02/29 17:05 09:50-11:15/85	07:00 09:56-11:03/67 17:56	06:51 16:43-18:21/98 19:49	05:47 16:44-18:15/91 20:39	05:04 06:42-08:06/84 21:24 17:28-17:45/17
3	08:21 15:23-15:44/21 16:18 10:01-10:45/44	07:52 15:34-16:01/27 17:07 09:49-11:15/86	06:58 09:57-11:01/64 17:58	06:48 16:43-18:21/98 19:51	05:45 16:45-18:15/90 20:41	05:03 06:41-08:07/86 21:25 17:32-17:41/9
4	08:21 15:23-15:45/22 16:20 10:00-10:45/45	07:51 15:35-16:00/25 17:09 09:49-11:15/86	06:56 09:57-10:58/61 18:00	06:46 16:42-18:22/100 19:52	05:43 16:46-18:14/88 20:42	05:02 06:41-08:08/87 21:26
5	08:21 15:23-15:47/24 16:21 10:00-10:47/47	07:49 15:37-15:58/21 17:11 09:48-11:15/87	06:54 09:59-10:56/57 18:01	06:44 16:41-18:22/101 19:54	05:42 16:47-18:13/86 20:44	05:02 06:40-08:08/88 21:27
6	08:21 15:24-15:48/24 16:22 10:00-10:49/49	07:47 15:40-15:57/17 17:13 09:49-11:17/88	06:52 10:01-10:53/52 18:03	06:42 16:40-18:22/102 19:56	05:40 16:47-18:12/85 20:46	05:01 06:40-08:10/90 21:28
7	08:20 15:23-15:49/26 16:23 09:59-10:49/50	07:46 15:43-15:55/12 17:14 09:49-11:17/88	06:50 10:03-10:50/47 18:05	06:39 16:40-18:22/102 19:57	05:38 16:49-18:12/83 20:47	05:00 06:40-08:10/90 21:28
8	08:20 15:24-15:51/27 16:24 09:59-10:51/52	07:44 09:48-11:17/89 17:16	06:47 10:05-10:46/41 18:07	06:37 16:39-18:23/104 19:59	05:36 16:50-18:11/81 20:49	05:00 06:40-08:11/91 21:29
9	08:19 15:24-15:52/28 16:26 09:58-10:52/54	07:42 09:48-11:17/89 17:18	06:45 10:08-10:41/33 18:08	06:35 16:38-18:22/104 20:01	05:35 16:51-18:11/80 20:50	04:59 06:40-08:12/92 21:30
10	08:19 15:24-15:53/29 16:27 09:58-10:53/55	07:40 09:48-11:17/89 17:20	06:43 10:13-10:36/23 18:10	06:33 16:38-18:22/104 20:02	05:33 16:52-18:10/78 20:52	04:59 06:39-08:12/93 21:31
11	08:18 15:23-15:55/32 16:29 09:57-10:54/57	07:39 09:48-11:17/89 17:22	06:41 18:12	06:30 16:38-18:22/104 20:04	05:31 16:54-18:10/76 20:54	04:59 06:39-08:12/93 21:32
12	08:18 15:24-15:57/33 16:30 09:57-10:56/59	07:37 09:48-11:17/89 17:24	06:38 18:14	06:28 16:38-18:22/104 20:06	05:30 16:54-18:08/74 20:55	04:58 06:39-08:13/94 21:32
13	08:17 15:24-15:59/35 16:31 09:57-10:57/60	07:35 09:48-11:17/89 17:25	06:36 16:34-16:42/8 18:15	06:26 16:38-18:22/104 20:08	05:28 16:56-18:08/72 20:57	04:58 06:38-08:13/95 21:33
14	08:16 15:24-16:00/36 16:33 09:56-10:58/62	07:33 09:48-11:17/89 17:27	06:34 16:25-16:52/27 18:17	06:24 16:38-18:22/104 20:09	05:26 16:57-18:07/70 20:58	04:58 06:38-08:13/95 21:34
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16	08:15 15:24-16:02/38 16:36 09:55-11:00/65	07:29 09:48-11:16/88 17:31	06:29 16:15-17:00/45 18:20	06:20 16:37-18:21/104 20:13	05:23 07:08-07:36/28 21:01	04:57 06:39-08:14/95 21:35
17	08:14 15:24-16:02/38 16:38 09:55-11:01/66	07:27 09:48-11:16/88 17:33	06:27 16:12-17:03/51 18:22	06:17 16:37-18:21/104 20:14	05:22 07:05-07:40/35 21:03	04:57 06:39-08:15/96 21:35
18	08:13 15:24-16:03/39 16:39 09:55-11:02/67	07:25 09:48-11:15/87 17:35	06:25 16:08-17:04/56 18:24	06:15 16:37-18:21/104 20:16	05:20 07:02-07:44/42 21:04	04:57 06:39-08:15/96 21:36
19	08:12 15:25-16:04/39 16:41 09:54-11:04/70	07:23 09:49-11:15/86 17:36	06:23 16:06-17:07/61 18:25	06:13 16:37-18:21/104 20:18	05:19 06:58-07:46/48 21:06	04:57 06:39-08:15/96 21:36
20	08:11 15:24-16:03/39 16:43 09:53-11:04/71	07:21 09:49-11:14/85 17:38	06:20 16:03-17:09/66 18:27	06:11 16:37-18:21/104 20:19	05:18 06:56-07:48/52 21:07	04:57 06:40-08:16/96 21:36
21	08:10 15:24-16:04/40 16:44 09:53-11:05/72	07:19 09:50-11:14/84 17:40	06:18 16:00-17:10/70 18:29	06:09 16:38-18:20/102 20:21	05:16 06:55-07:51/56 21:09	04:58 06:40-08:16/96 21:36
22	08:09 15:25-16:04/39 16:46 09:53-11:06/73	07:17 09:50-11:13/83 17:42	06:16 15:59-17:12/73 18:31	06:07 16:38-18:20/102 20:23	05:15 06:53-07:53/60 21:10	04:58 06:40-08:16/96 21:37
23	08:07 15:26-16:05/39 16:48 09:53-11:08/75	07:15 09:51-11:12/81 17:44	06:13 15:57-17:13/76 18:32	06:05 16:38-18:19/101 20:24	05:14 06:51-07:54/63 21:11	04:58 06:40-08:16/96 21:37
24	08:06 15:25-16:04/39 16:49 09:52-11:08/76	07:13 09:51-11:12/81 17:45	06:11 15:55-17:15/80 18:34	06:03 16:39-18:19/100 20:26	05:13 06:50-07:56/66 21:13	04:58 06:41-08:17/96 21:37
25	08:05 15:26-16:05/39 16:51 09:52-11:09/77	07:11 09:52-11:11/79 17:47	06:09 15:53-17:15/82 18:36	06:01 16:39-18:18/99 20:28	05:11 06:49-07:58/69 21:14	04:59 06:41-08:17/96 21:37
26	08:04 15:26-16:04/38 16:53 09:51-11:09/78	07:09 09:52-11:09/77 17:49	06:07 15:52-17:17/85 18:37	05:59 16:40-18:18/98 20:29	05:10 06:48-07:59/71 21:15	04:59 06:41-08:16/95 21:37
27	08:02 15:27-16:05/38 16:54 09:51-11:11/80	07:07 09:52-11:07/75 17:51	06:04 15:51-17:18/87 18:39	05:57 16:40-18:17/97 20:31	05:09 06:47-08:00/73 21:17	05:00 06:42-08:17/95 21:37
28	08:01 15:28-16:05/37 16:56 09:51-11:12/81	07:05 09:53-11:06/73 17:53	06:02 15:49-17:18/89 18:41	05:55 16:42-18:18/96 20:33	05:08 06:46-08:01/75 21:18	05:00 06:41-08:16/95 21:37
29	08:00 15:28-16:04/36 16:58 09:50-11:12/82		07:00 16:48-18:19/91 19:42	05:53 16:42-18:17/95 20:34	05:07 06:45-08:02/77 21:19	05:01 06:42-08:17/95 21:37
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31	07:57 15:30-16:03/33 17:02 09:50-11:14/84		06:55 16:46-18:20/94 19:46		05:05 06:43-08:04/81 21:21	
Potential sun hours	261	278	367	415	484	497
Sum of minutes with flicker	2996	2545	1787	3032	2965	2836

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

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

Project:

South Wales

Licensed user:

Infinite Renewables Limited
 Number One, Waterton Park
 GB-BRIDGEND CF31 3PH, Wales
 +44 1656 644477
 Rob Smith / robsmith484@gmail.com
 Calculated:
 29/03/2022 17:40/3.5.576

SHADOW - Calendar per WTG

Calculation: Kenfig Shadow Detailed WTG: 1 - Kenfig WTG

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

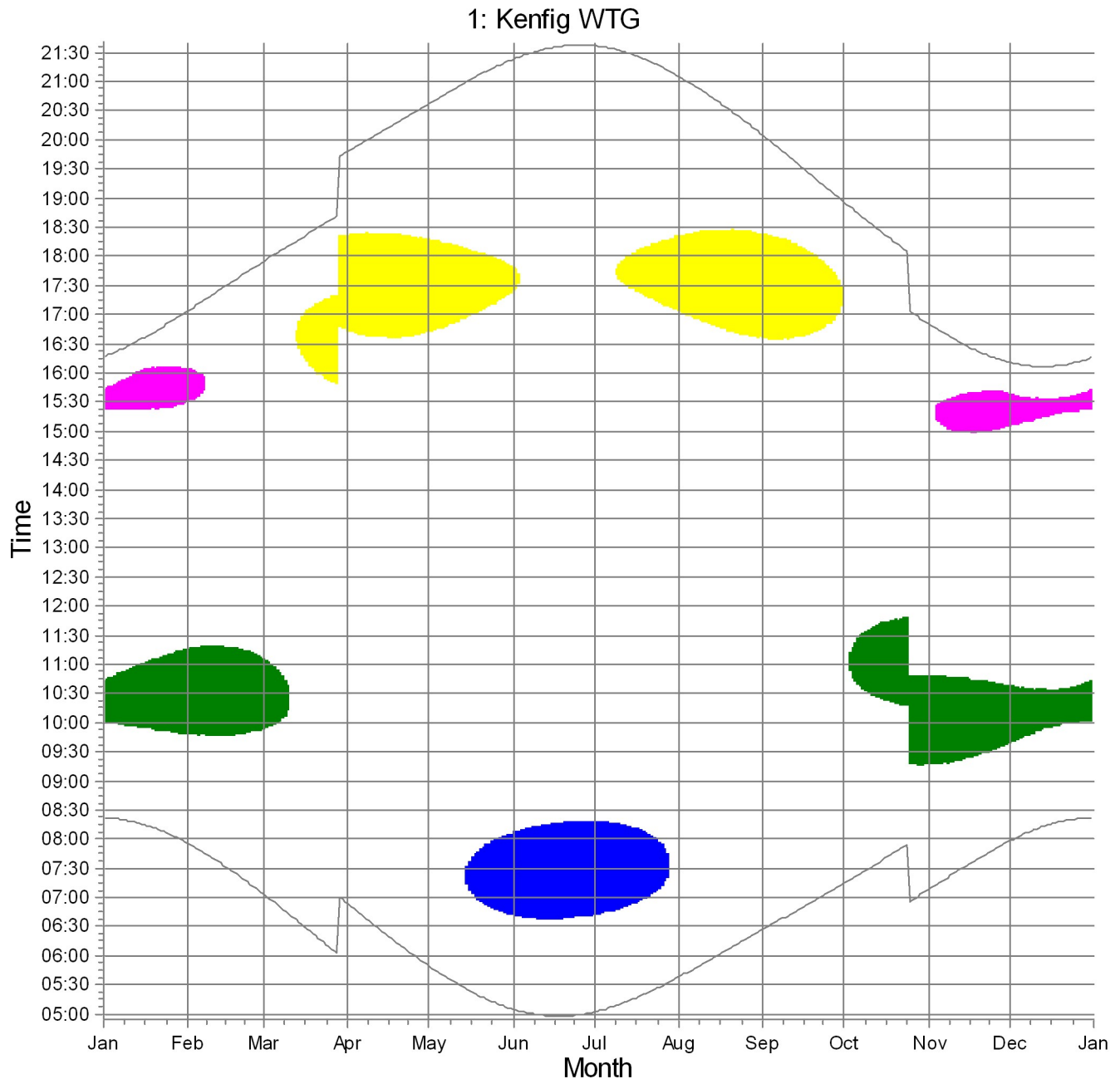
	July	August	September	October	November	December
1	05:02 06:43-08:17/94 21:36	05:38 17:04-18:19/75 21:05	06:26 16:37-18:21/104 20:04	07:15 18:55	07:08 09:18-10:47/89 16:50	07:58 15:06-15:37/31 16:10 09:39-10:36/57
2	05:02 06:44-08:17/93 21:36	05:39 17:03-18:19/76 21:03	06:28 16:37-18:21/104 20:02	07:16 18:53	07:09 09:18-10:47/89 16:48	07:59 15:07-15:37/30 16:10 09:41-10:36/55
3	05:03 06:44-08:16/92 21:36	05:41 17:02-18:20/78 21:02	06:30 16:36-18:20/104 19:59	07:18 10:54-11:10/16 18:51	07:11 09:18-10:46/88 16:46	08:01 15:07-15:35/28 16:09 09:41-10:35/54
4	05:04 06:45-08:16/91 21:35	05:42 17:00-18:21/81 21:00	06:31 16:36-18:20/104 19:57	07:20 10:47-11:16/29 18:48	07:13 15:12-15:25/13 16:45 09:18-10:46/88	08:02 15:08-15:35/27 16:09 09:43-10:35/52
5	05:05 06:46-08:16/90 21:35	05:44 17:00-18:22/82 20:58	06:33 16:36-18:18/102 19:55	07:21 10:43-11:21/38 18:46	07:15 15:10-15:27/17 16:43 09:19-10:46/87	08:03 15:09-15:34/25 16:08 09:44-10:34/50
6	05:05 06:47-08:16/89 21:34	05:45 16:58-18:22/84 20:57	06:34 16:36-18:18/102 19:53	07:23 10:40-11:25/45 18:44	07:16 15:08-15:29/21 16:41 09:19-10:46/87	08:04 15:10-15:34/24 16:08 09:46-10:35/49
7	05:06 06:46-08:15/89 21:34	05:47 16:57-18:23/86 20:55	06:36 16:36-18:17/101 19:50	07:25 10:38-11:28/50 18:42	07:18 15:05-15:30/25 16:39 09:20-10:46/86	08:06 15:10-15:34/24 16:07 09:47-10:34/47
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10	05:09 06:49-08:14/85 21:32	05:51 16:54-18:24/90 20:49	06:41 16:36-18:14/98 19:44	07:30 10:32-11:34/62 18:35	07:23 15:01-15:33/32 16:35 09:20-10:45/85	08:09 15:12-15:32/20 16:06 09:50-10:32/42
11	05:10 06:50-08:13/83 21:31	05:53 16:53-18:24/91 20:47	06:42 16:37-18:14/97 19:41	07:31 10:29-11:35/66 18:33	07:25 15:01-15:34/33 16:33 09:21-10:44/83	08:10 15:14-15:33/19 16:06 09:52-10:33/41
12	05:11 06:51-08:13/82 21:30	05:55 16:52-18:24/92 20:46	06:44 16:37-18:12/95 19:39	07:33 10:28-11:37/69 18:31	07:27 15:00-15:35/35 16:32 09:22-10:44/82	08:11 15:14-15:32/18 16:06 09:53-10:33/40
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14	05:13 06:53-08:11/78 21:28	05:58 16:50-18:25/95 20:42	06:47 16:38-18:09/91 19:34	07:36 10:26-11:40/74 18:26	07:30 15:00-15:37/37 16:29 09:23-10:44/81	08:13 15:16-15:32/16 16:06 09:55-10:33/38
15	05:15 06:54-08:10/76 21:27	05:59 16:48-18:24/96 20:40	06:49 16:39-18:08/89 19:32	07:38 10:25-11:41/76 18:24	07:32 15:00-15:37/37 16:27 09:24-10:44/80	08:14 15:16-15:31/15 16:06 09:55-10:32/37
16	05:16 06:55-08:09/74 21:26	06:01 16:48-18:25/97 20:38	06:50 16:39-18:06/87 19:30	07:40 10:24-11:41/77 18:22	07:34 15:00-15:38/38 16:26 09:25-10:43/78	08:15 15:17-15:32/15 16:06 09:56-10:32/36
17	05:17 06:57-08:09/72 21:25	06:03 16:46-18:25/99 20:36	06:52 16:40-18:05/85 19:27	07:41 10:23-11:42/79 18:20	07:36 14:59-15:38/39 16:24 09:25-10:42/77	08:16 15:17-15:32/15 16:07 09:57-10:32/35
18	05:18 06:58-08:08/70 21:24	06:04 16:46-18:25/99 20:34	06:54 16:41-18:04/83 19:25	07:43 10:22-11:43/81 18:18	07:37 14:59-15:38/39 16:23 09:26-10:42/76	08:17 15:18-15:32/14 16:07 09:58-10:32/34
19	05:19 06:59-08:06/67 21:23	06:06 16:44-18:25/101 20:32	06:55 16:42-18:02/80 19:23	07:45 10:22-11:44/82 18:16	07:39 15:00-15:39/39 16:22 09:27-10:42/75	08:17 15:18-15:32/14 16:07 09:58-10:32/34
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22	05:23 07:04-08:02/58 21:19	06:10 16:42-18:25/103 20:25	07:00 16:45-17:56/71 19:16	07:50 10:19-11:45/86 18:09	07:44 15:01-15:40/39 16:18 09:30-10:41/71	08:19 15:20-15:34/14 16:08 10:00-10:33/33
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26	05:29 07:13-07:53/40 21:14	06:17 16:40-18:24/104 20:17	07:06 16:52-17:45/53 19:07	06:57 09:19-10:47/88 17:01	07:50 15:02-15:40/38 16:14 09:33-10:38/65	08:21 15:21-15:36/15 16:11 10:01-10:36/35
27	05:30 07:17-07:49/32 21:13	06:18 16:39-18:24/105 20:15	07:08 16:55-17:42/47 19:04	06:59 09:18-10:47/89 16:59	07:52 15:03-15:40/37 16:13 09:35-10:38/63	08:21 15:23-15:37/15 16:12 10:02-10:37/35
28	05:32 07:21-07:44/23 21:11	06:20 16:38-18:23/105 20:13	07:10 16:59-17:39/40 19:02	07:00 09:17-10:46/89 16:57	07:53 15:04-15:40/36 16:13 09:36-10:38/62	08:21 15:23-15:38/15 16:12 10:02-10:38/36
29	05:33 17:08-18:17/69 21:10	06:22 16:38-18:23/105 20:10	07:11 17:02-17:34/32 19:00	07:02 09:17-10:46/89 16:56	07:55 15:04-15:39/35 16:12 09:37-10:37/60	08:21 15:23-15:39/16 16:13 10:02-10:39/37
30	05:35 17:07-18:17/70 21:08	06:23 16:37-18:22/105 20:08	07:13 17:09-17:27/18 18:57	07:04 09:17-10:46/89 16:54	07:56 15:05-15:38/33 16:11 09:38-10:37/59	08:21 15:23-15:40/17 16:14 10:02-10:40/38
31	05:36 17:06-18:19/73 21:07	06:25 16:38-18:22/104 20:06		07:06 09:18-10:46/88 16:52		08:21 15:23-15:41/18 16:15 10:02-10:41/39
Potential sun hours	500	453	381	332	268	246
Sum of minutes with flicker	3060	2937	2418	2076	3225	1825

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

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

SHADOW - Calendar per WTG, graphical

Calculation: Kenfig Shadow Detailed WTG: 1 - Kenfig WTG



Shadow receptors

	A: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (16)
	B: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (17)
	C: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (18)
	E: Shadow Receptor: 7.0 × 7.0 Azimuth: 0.0° Slope: 90.0° (20)

SHADOW - Map

Calculation: Kenfig Shadow Detailed

