

Regione Campania

Provincia di Avellino



COMUNE DI LACEDONIA



COMUNE DI AQUILONIA



COMUNE DI MONTEVERDE



PROGETTO PER LA REALIZZAZIONE DI UN IMPIANTO EOLICO ED OPERE CONNESSE, COMPOSTO DA 10 AEROGENERATORI DELLA POTENZA DI 6.2 MW, PER UNA POTENZA COMPLESSIVA DI 62 MW SITO NEI COMUNI DI LACEDONIA (AV), MONTEVERDE (AV) E AQUILONIA (AV) E DA UN SISTEMA DI ACCUMULO ELETTROCHIMICO DA 18.6 MW SITO NEL COMUNE DI LACEDONIA

STUDIO EVOLUZIONE OMBRA

RELAZIONE

A36 - 2.2

PROPONENTE:

SKI 20 s.r.l.
via Caradosso n.9
Milano 20123
P.Iva 12128910960



PROGETTO E SIA:

Progettista:

ing. Carlo RUSSO
Ordine Ing. della provincia di Avellino n. 1719
Via P.S. Mancini n. 77
83044 - Bisaccia (AV)
tel. +39 08271948030 cell. +39 3497834211
pec: carlo.russo@ingegneriavellino.it

TIMBRI:



EM./REV.	DATA	REDATTO	VERIFICATO	APPROVATO	DESCRIZIONE
01	Marzo 2023	Ing. Carlo Russo	Ing. Carlo Russo	Ing. Carlo Russo	Progetto Definitivo

PREMESSA

Il presente studio è relativo al calcolo degli effetti prodotti durante l'anno solare dall'ombreggiamento dovuto alla presenza degli aerogeneratori di progetto.

Il calcolo dell'ombra (Shadow) prevede una serie di ipotesi di partenza, riportati nella pagina seguente, in particolare si osserva che i risultati di Calcolo vengono rappresentati solo quando oltre il 20% del sole è coperto dall'aerogeneratore.

Nelle prossime pagine si riportano gli output di tale analisi che saranno poi commentati nel paragrafo conclusioni.

SHADOW - Risultato principale

Calcolo: Shadow P

Assunzioni sui calcoli d'ombra

Distanza massima di influenza
 Calcola solo quando oltre il 20% del sole è coperto dalla pala
 Consultare la tabella delle WTG

Altezza minima del sole sull'orizzonte 3 °
 Passo giornaliero del calcolo 1 giorni
 Passo temporale del calcolo 1 minuti
 I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

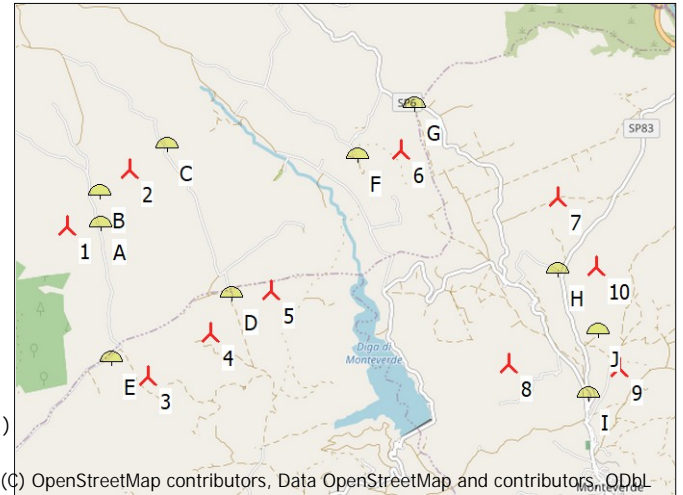
Il sole splende tutto il dì, dall'alba al tramonto
 Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
 La turbina è costantemente operativa

Per evitare di considerare l' ombreggiamento da WTG in realtà non direttamente visibili, prima del calcolo dell' ombra viene eseguito un calcolo ZVI. Quest' ultimo si basa sulle seguenti assunzioni.

Curve altimetriche usate: Elevation Grid Data Object: Ap_EMDGrid_0.wpg (1)
 Risoluzione del grigliato: 1,0 m

Tutte le coordinate sono in
 UTM (north)-WGS84 Zona: 33

WTG



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL
 Scala 1:100.000
 Nuova WTG Recettore d'ombra

Easting	Northing	Z	Dati/Descrizione	Tipo di WTG				Dati di ombra			
				Valida	Produttore	Tipo generatore	Potenza nominale	Diametro rotore	Altezza mozzo	Distanza di calcolo	giri/min
		[m]					[kW]	[m]	[m]	[m]	[giri/min]
1	537.721	4.542.159	779,5 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	
2	538.541	4.542.911	752,6 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	
3	538.797	4.540.185	742,9 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	
4	539.622	4.540.767	723,5 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	
5	540.418	4.541.324	606,3 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	
6	542.130	4.543.186	567,2 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	
7	544.204	4.542.589	478,5 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	
8	543.566	4.540.385	565,5 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	
9	545.025	4.540.325	581,0 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	
10	544.712	4.541.661	479,2 GAMESA 6200 170.0 !-! hub: 13... No	GAMESA	-6.200	6.200	170,0	135,0	2.500	0,0	

Recettore d'ombra-Immissione dati

n.	Easting	Northing	Z	Ampiezza	Height	Altezza s.l.t.	Gradi Sud	Inclinazione della finestra	Modo orientazione	Altezza osservatore
			[m]	[m]	[m]	[m]	[°]	[°]		[m]
A	538.160	4.542.145	828,7	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
B	538.144	4.542.563	825,6	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
C	539.034	4.543.194	659,9	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
D	539.900	4.541.240	667,5	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
E	538.301	4.540.385	812,8	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
F	541.548	4.543.075	562,6	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
G	542.300	4.543.744	612,3	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
H	544.211	4.541.573	536,7	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
I	544.621	4.539.945	664,9	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
J	544.751	4.540.780	578,2	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0

Risultati dei calcoli

Recettore d'ombra

Ombra, caso peggiore

n.	Ore d'ombra per anno	Giorni con ombra per anno	Massima durata dell'ombra per giorno
	[ore/anno]	[giorni/anno]	[ore/giorno]
A	45:30	86	0:53
B	88:03	88	1:12
C	66:47	82	1:03
D	109:26	109	1:37
E	76:15	108	1:08

continua alla pagina successiva...

SHADOW - Risultato principale

Calcolo: Shadow P

...continua dalla pagina precedente

Ombra, caso peggiore

n.	Ore d'ombra per anno [ore/anno]	Giorni con ombra per anno [giorni/anno]	Massima durata dell'ombra per giorno [ore/giorno]
F	0:00	0	0:00
G	0:00	0	0:00
H	0:01	1	0:01
I	0:00	0	0:00
J	75:47	108	1:08

Ombreggiamento totale sui recettori d'ombra causato da ciascuna WTG

n.	Nome	Caso peggiore [ore/anno]
1	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (1)	133:33
2	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (2)	66:47
3	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (3)	88:20
4	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (4)	96:50
5	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (5)	0:31
6	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (6)	0:00
7	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (8)	0:00
8	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (10)	15:14
9	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (12)	60:33
10	GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (13)	0:01

I tempi totali possono differire tra le tabelle per turbina e quelle per recettore, in quanto ciascuna WTG può dare ombreggiamento su 2 o più recettori contemporaneamente, e/o un recettore può subire ombreggiamento da 2 o più WTGs contemporaneamente.

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: A - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)
Assunzioni sui calcoli d'ombra

- I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:
- Il sole splende tutto il di, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre		
1	07:24 16:40	07:10 17:15	06:35 17:49	06:44 19:23	17:54 (1) 18:41 (1)	05:58 19:54	05:29 20:24	05:30 20:35	05:54 20:16	06:24 19:33	17:47 (1) 18:19 (1)	06:54 18:42	06:28 16:56	07:03 16:31
2	07:24 16:41	07:09 17:16	06:33 17:50	06:42 19:24	17:54 (1) 18:40 (1)	05:57 19:56	05:29 20:25	05:30 20:35	05:55 20:15	06:25 19:31	17:47 (1) 18:21 (1)	06:55 18:41	06:30 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:51	06:40 19:25	17:53 (1) 18:37 (1)	05:55 19:57	05:28 20:25	05:31 20:35	05:55 20:14	06:26 19:30	17:47 (1) 18:22 (1)	06:56 18:39	06:31 16:53	07:05 16:31
4	07:24 16:43	07:07 17:18	06:30 17:52	06:39 19:26	17:51 (1) 18:35 (1)	05:54 19:58	05:28 20:26	05:31 20:34	05:56 20:13	06:27 19:28	17:47 (1) 18:24 (1)	06:57 18:37	06:32 16:52	07:06 16:31
5	07:24 16:44	07:06 17:20	06:28 17:53	06:37 19:27	17:51 (1) 18:33 (1)	05:53 19:59	05:28 20:27	05:32 20:34	05:57 20:11	06:28 19:26	17:47 (1) 18:25 (1)	06:58 18:36	06:33 16:51	07:07 16:30
6	07:24 16:45	07:05 17:21	06:27 17:54	06:36 19:28	17:50 (1) 18:31 (1)	05:52 20:00	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:25	17:47 (1) 18:27 (1)	06:59 18:34	06:34 16:50	07:08 16:30
7	07:24 16:46	07:04 17:22	06:25 17:56	06:34 19:29	17:50 (1) 18:28 (1)	05:51 20:01	05:27 20:28	05:33 20:34	05:59 20:09	06:30 19:23	17:46 (1) 18:28 (1)	07:01 18:32	06:36 16:49	07:09 16:30
8	07:24 16:47	07:03 17:23	06:24 17:57	06:32 19:30	17:50 (1) 18:27 (1)	05:49 20:02	05:27 20:29	05:34 20:33	06:00 20:08	06:31 19:21	17:47 (1) 18:30 (1)	07:02 18:31	06:37 16:48	07:10 16:30
9	07:24 16:48	07:02 17:25	06:22 17:58	06:31 19:31	17:49 (1) 18:24 (1)	05:48 20:03	05:26 20:29	05:34 20:33	06:01 20:07	06:32 19:20	17:47 (1) 18:31 (1)	07:03 18:29	06:38 16:47	07:11 16:30
10	07:24 16:49	07:01 17:26	06:20 17:59	06:29 19:32	17:49 (1) 18:23 (1)	05:47 20:04	05:26 20:30	05:35 20:33	06:02 20:05	06:33 19:18	17:47 (1) 18:32 (1)	07:04 18:28	06:39 16:46	07:12 16:30
11	07:23 16:50	07:00 17:27	06:19 18:00	06:27 19:33	17:48 (1) 18:20 (1)	05:46 20:05	05:26 20:30	05:36 20:32	06:03 20:04	06:34 19:16	17:47 (1) 18:34 (1)	07:05 18:26	06:40 16:45	07:13 16:30
12	07:23 16:51	06:58 17:28	06:17 18:01	06:26 19:34	17:48 (1) 18:18 (1)	05:45 20:06	05:26 20:31	05:36 20:32	06:04 20:03	06:35 19:15	17:47 (1) 18:35 (1)	07:06 18:24	06:42 16:44	07:14 16:30
13	07:23 16:52	06:57 17:30	06:15 18:02	06:24 19:35	17:48 (1) 18:17 (1)	05:44 20:07	05:26 20:31	05:37 20:31	06:05 20:01	06:36 19:13	17:48 (1) 18:37 (1)	07:07 18:23	06:43 16:43	07:14 16:31
14	07:22 16:53	06:56 17:31	06:14 18:03	06:23 19:36	17:48 (1) 18:14 (1)	05:43 20:08	05:26 20:32	05:38 20:31	06:06 20:00	06:37 19:11	17:47 (1) 18:37 (1)	07:08 18:21	06:44 16:42	07:15 16:31
15	07:22 16:54	06:54 17:32	06:12 18:04	10 17:34 (1) 06:21 19:38	17:48 (1) 18:13 (1)	05:42 20:09	05:26 20:32	05:39 20:30	06:07 19:59	06:38 19:10	17:48 (1) 18:39 (1)	07:09 18:20	06:45 16:41	07:16 16:31
16	07:22 16:55	06:53 17:33	06:10 18:05	17 17:44 (1) 06:20 19:39	17:48 (1) 18:10 (1)	05:41 20:10	05:26 20:33	05:39 20:30	06:08 19:57	06:39 19:08	17:48 (1) 18:40 (1)	07:10 18:18	06:46 16:40	07:17 16:31
17	07:21 16:56	06:52 17:34	06:09 18:07	23 17:45 (1) 06:18 19:40	17:48 (1) 18:09 (1)	05:40 20:11	05:26 20:29	05:40 19:56	06:09 19:56	1 17:58 (1) 06:40 19:06	17:49 (1) 18:42 (1)	07:11 18:17	06:47 16:39	07:17 16:31
18	07:21 16:58	06:50 17:36	06:07 18:08	28 17:47 (1) 06:17 19:41	17:48 (1) 18:06 (1)	05:39 20:12	05:26 20:28	05:41 19:54	06:10 19:54	3 18:00 (1) 06:41 19:04	17:50 (1) 18:42 (1)	07:12 18:15	06:49 16:38	07:18 16:32
19	07:20 16:59	06:49 17:37	06:05 18:09	33 17:48 (1) 06:15 19:42	17:48 (1) 18:05 (1)	05:38 20:13	05:26 20:34	05:42 20:28	06:11 19:53	6 18:02 (1) 06:42 19:03	17:51 (1) 18:40 (1)	07:14 18:14	06:50 16:38	07:19 16:32
20	07:20 17:00	06:48 17:38	06:04 18:10	36 17:48 (1) 06:14 19:43	17:48 (1) 18:02 (1)	05:37 20:14	05:26 20:34	05:43 20:27	06:12 19:51	8 18:03 (1) 06:43 19:01	17:55 (1) 18:38 (1)	07:15 18:12	06:51 16:37	07:19 16:33
21	07:19 17:01	06:46 17:39	06:02 18:11	39 17:11 (1) 06:12 19:44	17:49 (1) 18:01 (1)	05:36 20:15	05:26 20:34	05:43 20:26	06:13 19:50	10 18:04 (1) 06:44 18:59	17:54 (1) 18:37 (1)	07:16 18:11	06:52 16:36	07:20 16:33
22	07:18 17:02	06:45 17:40	06:00 18:12	43 17:08 (1) 06:11 19:45	17:49 (1) 17:58 (1)	05:36 20:16	05:27 20:34	05:44 20:25	06:14 19:49	12 17:54 (1) 06:45 18:58	17:54 (1) 18:56 (1)	07:17 18:09	06:53 16:36	07:20 16:34
23	07:18 17:04	06:43 17:42	05:59 18:13	46 17:06 (1) 06:09 19:46	17:49 (1) 17:57 (1)	05:35 20:16	05:27 20:35	05:45 20:25	06:15 19:47	14 17:53 (1) 06:46 18:56	17:53 (1) 18:57 (1)	07:18 18:08	06:54 16:35	07:21 16:34
24	07:17 17:05	06:42 17:43	05:57 18:14	48 17:05 (1) 06:08 19:47	17:49 (1) 17:55 (1)	05:34 20:17	05:27 20:35	05:46 20:24	06:16 19:45	17 17:51 (1) 06:47 18:54	17:51 (1) 18:54 (1)	07:19 18:06	06:56 16:34	07:21 16:35
25	07:16 17:06	06:41 17:44	05:55 18:15	51 17:03 (1) 06:06 19:48	17:50 (1) 17:53 (1)	05:33 20:18	05:27 20:35	05:47 20:23	06:17 19:44	18 17:51 (1) 06:48 18:52	17:51 (1) 18:50 (1)	07:20 18:52	06:57 16:34	07:22 16:35
26	07:16 17:07	06:39 17:45	05:54 18:16	53 17:01 (1) 06:05 19:49	17:51 (1) 17:54 (1)	05:33 20:19	05:28 20:35	05:48 20:22	06:18 19:42	21 17:50 (1) 06:49 18:51	17:50 (1) 18:51 (1)	07:21 17:04	06:58 16:33	07:22 16:36
27	07:15 17:08	06:38 17:46	05:52 18:17	52 17:00 (1) 06:03 19:50	17:52 (1) 17:52 (1)	05:32 20:20	05:28 20:35	05:49 20:21	06:19 19:41	23 17:49 (1) 06:50 18:49	17:49 (1) 18:42 (1)	07:22 18:12	06:59 16:33	07:22 16:36
28	07:14 17:10	06:36 17:47	05:50 18:18	51 16:59 (1) 06:02 19:51	17:50 (1) 17:50 (1)	05:31 20:21	05:28 20:35	05:50 20:20	06:20 19:39	25 17:49 (1) 06:51 18:47	17:49 (1) 18:41 (1)	07:23 18:12	07:00 16:32	07:23 16:37
29	07:13 17:11	06:49 19:19	06:49 19:19	50 17:57 (1) 06:01 19:52	17:57 (1) 18:47 (1)	06:01 20:22	05:29 20:35	05:51 20:19	06:21 19:38	26 17:49 (1) 06:52 18:15 (1)	17:49 (1) 18:46 (1)	07:24 18:46	07:01 16:38	07:23 16:38
30	07:12 17:12	06:47 19:21	06:47 19:21	49 17:57 (1) 05:59 19:53	17:57 (1) 18:46 (1)	05:59 20:22	05:29 20:35	05:52 20:18	06:22 19:36	29 17:48 (1) 06:53 18:17 (1)	17:48 (1) 18:44 (1)	07:25 18:44	07:02 16:39	07:23 16:39
31	07:11 17:13	06:45 19:22	06:45 19:22	48 17:55 (1) 06:00 18:43 (1)	17:55 (1) 18:43 (1)	05:59 20:23	05:30 20:23	05:53 20:17	06:23 19:35	30 17:48 (1) 06:54 18:18 (1)	17:48 (1) 18:18 (1)	07:26 18:18 (1)	07:03 16:39	07:23 16:39
Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	1130	345	298	288	
Totale, caso peggiore			677	680				243						

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: B - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il di, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre			
1	07:24	14:54 (1)	07:10	15:26 (1)	06:35	06:44	05:58	05:29	05:30	05:54	06:24	06:54	06:28	07:03	14:43 (1)
2	16:40	71 16:05 (1)	17:15	29 15:55 (1)	17:49	19:23	19:54	20:24	20:35	20:16	19:33	18:42	16:56	16:31	67 15:50 (1)
3	07:24	14:55 (1)	07:09	15:30 (1)	06:33	06:42	05:57	05:29	05:30	05:55	06:25	06:55	06:30	07:04	14:43 (1)
4	16:41	70 16:05 (1)	17:16	22 15:52 (1)	17:50	19:24	19:56	20:25	20:35	20:15	19:31	18:41	16:54	16:31	68 15:51 (1)
5	07:24	14:55 (1)	07:08	15:35 (1)	06:31	06:40	05:55	05:28	05:31	05:55	06:26	06:56	06:31	07:05	14:43 (1)
6	16:42	71 16:06 (1)	17:17	13 15:48 (1)	17:51	19:25	19:57	20:25	20:35	20:14	19:30	18:39	16:53	16:31	68 15:51 (1)
7	07:24	14:56 (1)	07:07	15:30	06:30	06:39	05:54	05:28	05:31	05:56	06:27	06:57	06:32	07:06	14:43 (1)
8	16:43	70 16:06 (1)	17:18	17:52	19:26	19:58	20:26	20:34	20:13	19:28	18:37	16:52	16:31	69 15:52 (1)	
9	07:24	14:56 (1)	07:06	15:28	06:28	06:37	05:53	05:28	05:32	05:57	06:28	06:58	06:33	07:07	14:43 (1)
10	16:44	70 16:06 (1)	17:20	17:53	19:27	19:59	20:27	20:34	20:11	19:26	18:36	16:51	16:30	69 15:52 (1)	
11	07:24	14:57 (1)	07:05	15:29	06:27	06:36	05:52	05:27	05:32	05:58	06:29	06:59	06:34	07:08	14:43 (1)
12	16:45	69 16:07 (1)	17:21	17:54	19:28	20:00	20:28	20:34	20:10	19:25	18:34	16:50	16:30	70 15:53 (1)	
13	07:24	14:58 (1)	07:04	15:25	06:34	06:51	05:27	05:33	05:59	06:30	07:01	06:36	07:09	14:43 (1)	
14	16:46	69 16:07 (1)	17:22	17:56	19:29	20:01	20:28	20:34	20:09	19:23	18:32	16:49	16:30	70 15:53 (1)	
15	07:24	14:59 (1)	07:03	15:26	06:32	06:49	05:27	05:34	06:00	06:31	07:02	06:37	15:05 (1)	07:10	14:44 (1)
16	16:47	69 16:08 (1)	17:23	17:57	19:30	20:02	20:29	20:33	20:08	19:21	18:31	16:48	14 15:19 (1)	16:30	70 15:54 (1)
17	07:24	14:59 (1)	07:02	15:27	06:31	06:48	05:26	05:34	06:01	06:32	07:03	06:38	15:00 (1)	07:11	14:44 (1)
18	16:48	68 16:07 (1)	17:25	17:58	19:31	20:03	20:29	20:33	20:07	19:20	18:29	16:47	23 15:23 (1)	16:30	71 15:55 (1)
19	07:24	14:59 (1)	07:01	15:28	06:29	06:47	05:26	05:35	06:02	06:33	07:04	06:39	14:57 (1)	07:12	14:45 (1)
20	16:49	69 16:08 (1)	17:26	17:59	19:32	20:04	20:30	20:33	20:05	19:18	18:28	16:46	29 15:26 (1)	16:30	70 15:55 (1)
21	07:23	15:00 (1)	07:00	16:19	06:27	06:46	05:26	05:36	06:03	06:34	07:05	06:40	14:55 (1)	07:13	14:44 (1)
22	16:50	68 16:08 (1)	17:27	18:00	19:33	20:05	20:30	20:32	20:04	19:16	18:26	16:45	34 15:29 (1)	16:30	71 15:55 (1)
23	07:23	15:02 (1)	06:58	16:17	06:26	06:45	05:26	05:36	06:04	06:35	07:06	06:42	14:53 (1)	07:14	14:45 (1)
24	16:51	66 16:08 (1)	17:28	18:01	19:34	20:06	20:31	20:32	20:03	19:15	18:24	16:44	38 15:31 (1)	16:30	71 15:56 (1)
25	07:23	15:02 (1)	06:57	16:15	06:24	06:44	05:26	05:37	06:05	06:36	07:07	06:43	14:51 (1)	07:14	14:45 (1)
26	16:52	66 16:08 (1)	17:30	18:02	19:35	20:07	20:31	20:31	20:01	19:13	18:23	16:43	42 15:33 (1)	16:31	71 15:56 (1)
27	07:22	15:03 (1)	06:56	16:14	06:23	06:43	05:26	05:38	06:06	06:37	07:08	06:44	14:51 (1)	07:15	14:46 (1)
28	16:53	65 16:08 (1)	17:31	18:03	19:36	20:08	20:32	20:31	20:00	19:11	18:21	16:42	44 15:35 (1)	16:31	71 15:57 (1)
29	07:22	15:03 (1)	06:54	16:12	06:21	06:42	05:26	05:39	06:07	06:38	07:09	06:45	14:49 (1)	07:16	14:47 (1)
30	16:54	65 16:08 (1)	17:32	18:04	19:38	20:09	20:32	20:30	19:59	19:10	18:20	16:41	47 15:36 (1)	16:31	71 15:58 (1)
31	07:22	15:04 (1)	06:53	16:10	06:20	06:41	05:26	05:39	06:08	06:39	07:10	06:46	14:48 (1)	07:17	14:46 (1)
32	16:55	64 16:08 (1)	17:33	18:05	19:39	20:10	20:33	20:30	19:57	19:08	18:18	16:40	49 15:37 (1)	16:31	72 15:58 (1)
33	07:21	15:05 (1)	06:52	16:09	06:18	06:40	05:26	05:40	06:09	06:40	07:11	06:48	14:47 (1)	07:17	14:47 (1)
34	16:56	63 16:08 (1)	17:34	18:07	19:40	20:11	20:33	20:29	19:56	19:06	18:17	16:39	51 15:38 (1)	16:31	72 15:59 (1)
35	07:21	15:06 (1)	06:51	16:07	06:17	06:39	05:26	05:41	06:10	06:41	07:12	06:49	14:47 (1)	07:18	14:47 (1)
36	16:58	62 16:08 (1)	17:36	18:08	19:41	20:12	20:33	20:28	19:54	19:04	18:15	16:38	53 15:40 (1)	16:32	72 15:59 (1)
37	07:20	15:07 (1)	06:49	16:05	06:15	06:38	05:26	05:42	06:11	06:42	07:14	06:50	14:46 (1)	07:19	14:48 (1)
38	16:59	61 16:08 (1)	17:37	18:09	19:42	20:13	20:34	20:28	19:53	19:03	18:14	16:38	55 15:41 (1)	16:32	71 15:59 (1)
39	07:20	15:08 (1)	06:48	16:04	06:14	06:37	05:26	05:43	06:12	06:43	07:15	06:51	14:45 (1)	07:19	14:49 (1)
40	17:00	60 16:08 (1)	17:38	18:10	19:43	20:14	20:34	20:27	19:51	19:01	18:12	16:37	56 15:41 (1)	16:33	71 16:00 (1)
41	07:19	15:09 (1)	06:46	16:02	06:12	06:36	05:26	05:43	06:13	06:44	07:16	06:52	14:44 (1)	07:20	14:49 (1)
42	17:01	58 16:07 (1)	17:39	18:11	19:44	20:15	20:34	20:26	19:50	18:59	18:11	16:36	58 15:42 (1)	16:33	71 16:00 (1)
43	07:18	15:10 (1)	06:45	16:00	06:11	06:36	05:27	05:44	06:14	06:45	07:17	06:53	14:44 (1)	07:20	14:50 (1)
44	17:02	56 16:06 (1)	17:40	18:12	19:45	20:16	20:34	20:25	19:49	18:58	18:09	16:36	60 15:44 (1)	16:33	71 16:01 (1)
45	07:18	15:11 (1)	06:43	16:05	06:09	06:35	05:27	05:45	06:15	06:46	07:18	06:54	14:44 (1)	07:21	14:50 (1)
46	17:03	55 16:06 (1)	17:42	18:13	19:46	20:16	20:35	20:25	19:47	18:56	18:08	16:35	61 15:45 (1)	16:34	71 16:01 (1)
47	07:17	15:13 (1)	06:42	16:04	06:08	06:34	05:27	05:46	06:16	06:47	07:19	06:56	14:43 (1)	07:21	14:50 (1)
48	17:05	53 16:06 (1)	17:43	18:14	19:47	20:17	20:35	20:24	19:45	18:54	18:06	16:34	62 15:45 (1)	16:35	71 16:01 (1)
49	07:16	15:14 (1)	06:41	16:05	06:06	06:33	05:27	05:47	06:17	06:48	07:20	06:57	14:43 (1)	07:22	14:51 (1)
50	17:06	51 16:05 (1)	17:44	18:15	19:48	20:18	20:35	20:23	19:44	18:52	17:05	16:34	63 15:46 (1)	16:35	71 16:02 (1)
51	07:16	15:15 (1)	06:39	16:04	06:05	06:33	05:28	05:48	06:18	06:49	07:21	06:58	14:42 (1)	07:22	14:51 (1)
52	17:07	49 16:04 (1)	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:51	17:04	16:33	64 15:46 (1)	16:36	72 16:03 (1)
53	07:15	15:16 (1)	06:38	16:03	06:03	06:32	05:28	05:49	06:19	06:50	07:23	06:59	14:42 (1)	07:22	14:51 (1)
54	17:08	47 16:03 (1)	17:46	18:17	19:50	20:20	20:35	20:21	19:41	18:49	17:02	16:33	65 15:47 (1)	16:36	72 16:03 (1)
55	07:14	15:18 (1)	06:36	16:05	06:02	06:31	05:28	05:50	06:20	06:51	07:24	07:00	14:43 (1)	07:23	14:52 (1)
56	17:10	44 16:02 (1)	17:47	18:18	19:51	20:21	20:35	20:20	19:39	18:47	17:01	16:32	65 15:48 (1)	16:37	72 16:04 (1)
57	07:13	15:19 (1)	06:35	16:04	06:01	06:31	05:29	05:51	06:21	06:52	07:25	07:01	14:43 (1)	07:23	14:53 (1)
58	17:11	42 16:01 (1)	17:48	18:19	19:52	20:22	20:35	20:19	19:38	18:46	17:00	16:32	66 15:49 (1)	16:38	71 16:04 (1)
59	07:12	15:21 (1)	06:34	16:07	06:05	06:30	05:29	05:52	06:22	06:53	07:26	07:02	14:43 (1)	07:23	14:53 (1)
60	17:12	38 15:59 (1)	17:49	18:21	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:32	67 15:50 (1)	16:39	71 16:04 (1)
61	07:11	15:24 (1)	06:33	16:06	06:04	06:29	05:28	05:51	06:23	06:54	07:27	07:03	14:43 (1)	07:24	14:53 (1)
62	17:13	33 15:57 (1)	17:50	18:22	19:22	20:23	20:37	20:17	19:35	18:43	16:57	16:39	68 15:51 (1)	16:39	72 16:05 (1)
Ore potenziali eliofanía	297		297	369	399	448	452	459	428	375	345	298	288	2190	
Totale, caso peggiore	1863	64										1166			

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento)
Tramonto (hh:mm)Minuti d'ombra Fine ombreggiamento (hh:mm) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: C - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il di, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre	
1	07:24 16:40	07:10 17:15	06:34 17:49	15:17 (2) 19:23	06:44 19:54	05:58 20:24	05:29 20:35	05:30 20:16	05:53 19:33	06:24 18:42	15:57 (2) 16:54 (2)	06:28 16:56	07:03 16:31
2	07:24 16:41	07:09 17:16	06:33 17:50	15:17 (2) 19:24	06:42 19:56	05:57 20:25	05:29 20:35	05:30 20:15	05:54 19:31	06:25 18:41	15:56 (2) 16:54 (2)	06:30 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:51	15:16 (2) 19:25	06:40 19:57	05:55 20:25	05:28 20:35	05:31 20:14	05:55 19:30	06:26 18:39	15:55 (2) 16:55 (2)	06:31 16:53	07:05 16:31
4	07:24 16:43	07:07 17:18	06:30 17:52	15:17 (2) 19:26	06:39 19:58	05:54 20:26	05:28 20:34	05:31 20:13	05:56 19:28	06:27 18:37	15:54 (2) 16:54 (2)	06:32 16:52	07:06 16:31
5	07:24 16:44	07:06 17:20	06:28 17:53	15:16 (2) 19:27	06:37 19:59	05:53 20:27	05:27 20:34	05:32 20:11	05:57 19:26	06:28 18:36	15:53 (2) 16:54 (2)	06:33 16:51	07:07 16:30
6	07:24 16:45	07:05 17:21	06:27 17:54	15:17 (2) 19:28	06:35 20:00	05:52 20:27	05:27 20:34	05:32 20:10	05:58 19:25	06:29 18:34	15:53 (2) 16:55 (2)	06:34 16:50	07:08 16:30
7	07:24 16:46	07:04 17:22	06:25 17:55	15:16 (2) 19:29	06:34 20:01	05:50 20:28	05:27 20:34	05:33 20:09	05:59 19:23	06:30 18:32	15:53 (2) 16:55 (2)	06:36 16:49	07:09 16:30
8	07:24 16:47	07:03 17:23	06:24 17:57	15:16 (2) 19:30	06:32 20:02	05:49 20:29	05:27 20:33	05:34 20:08	06:00 19:21	06:31 18:31	15:52 (2) 16:54 (2)	06:37 16:48	07:10 16:30
9	07:24 16:48	07:02 17:25	06:22 17:58	15:17 (2) 19:31	06:31 20:03	05:48 20:29	05:26 20:33	05:34 20:07	06:01 19:20	06:32 18:29	15:51 (2) 16:54 (2)	06:38 16:46	07:11 16:30
10	07:23 16:49	07:01 17:26	06:20 17:59	15:17 (2) 19:32	06:29 20:04	05:47 20:30	05:26 20:33	05:35 20:05	06:02 19:18	06:33 18:28	15:51 (2) 16:54 (2)	06:39 16:45	07:12 16:30
11	07:23 16:50	07:00 17:27	06:19 18:00	15:17 (2) 19:33	06:27 20:05	05:46 20:30	05:26 20:32	05:36 20:04	06:03 19:16	06:34 18:26	15:51 (2) 16:53 (2)	06:40 16:44	07:13 16:30
12	07:23 16:51	06:58 17:28	15:45 (2) 18:01	06:17 19:34	06:26 20:06	05:45 20:31	05:26 20:32	05:36 20:03	06:04 19:15	06:35 18:24	15:50 (2) 16:52 (2)	06:42 16:43	07:14 16:30
13	07:23 16:52	06:57 17:29	15:38 (2) 18:02	06:15 19:35	06:24 20:07	05:44 20:31	05:26 20:31	05:37 20:01	06:05 19:13	06:36 18:23	15:50 (2) 16:52 (2)	06:43 16:43	07:14 16:30
14	07:22 16:53	06:56 17:31	15:35 (2) 18:03	06:14 19:36	06:23 20:08	05:43 20:32	05:26 20:31	05:38 20:00	06:06 19:11	06:37 18:21	15:50 (2) 16:51 (2)	06:44 16:42	07:15 16:31
15	07:22 16:54	06:54 17:32	15:33 (2) 18:04	06:12 19:37	06:21 20:09	05:42 20:32	05:26 20:30	06:07 19:59	06:38 19:09	06:38 18:20	15:50 (2) 16:50 (2)	06:45 16:41	07:16 16:31
16	07:22 16:55	06:53 17:33	15:31 (2) 18:05	06:10 19:39	06:20 20:10	05:41 20:33	05:26 20:30	06:08 19:57	06:39 19:08	06:39 18:18	15:51 (2) 16:50 (2)	06:46 16:40	07:17 16:31
17	07:21 16:56	06:52 17:34	15:28 (2) 18:07	06:09 19:40	06:18 20:11	05:40 20:33	05:26 20:29	06:09 19:56	06:40 19:06	06:40 18:17	15:51 (2) 16:49 (2)	06:47 16:39	07:17 16:31
18	07:21 16:58	06:50 17:36	15:27 (2) 18:08	06:07 19:41	06:16 20:12	05:39 20:33	05:26 20:28	06:10 19:54	06:41 19:04	06:41 18:15	15:52 (2) 16:48 (2)	06:49 16:38	07:18 16:32
19	07:20 16:59	06:49 17:37	15:25 (2) 18:09	06:05 19:42	06:15 20:13	05:38 20:34	05:26 20:28	06:11 19:53	06:42 19:03	06:42 18:14	15:52 (2) 16:47 (2)	06:50 16:38	07:19 16:32
20	07:20 17:00	06:48 17:38	15:24 (2) 18:10	06:04 19:43	06:13 20:14	05:37 20:34	05:26 20:27	06:12 19:51	06:43 19:01	06:43 18:22	15:52 (2) 16:45 (2)	06:51 16:37	07:19 16:33
21	07:19 17:01	06:46 17:39	15:22 (2) 18:11	06:02 19:44	06:12 20:15	05:36 20:34	05:26 20:26	06:13 19:50	06:44 18:59	06:44 18:11	15:53 (2) 16:44 (2)	06:52 16:36	07:20 16:33
22	07:18 17:02	06:45 17:40	15:22 (2) 18:12	06:00 19:45	06:11 20:16	05:35 20:34	05:26 20:25	06:14 19:48	06:45 18:58	06:45 18:09	15:55 (2) 16:44 (2)	06:53 16:36	07:20 16:33
23	07:18 17:03	06:43 17:42	15:21 (2) 18:13	05:59 19:46	06:09 20:16	05:35 20:35	05:27 20:25	06:15 19:47	06:46 18:56	06:46 18:08	15:56 (2) 16:42 (2)	06:54 16:35	07:21 16:34
24	07:17 17:05	06:42 17:43	15:20 (2) 18:14	05:57 19:47	06:08 20:17	05:34 20:35	05:27 20:24	06:16 19:45	06:47 18:54	06:47 18:06	15:57 (2) 16:40 (2)	06:56 16:34	07:21 16:34
25	07:16 17:06	06:41 17:44	15:20 (2) 18:15	05:55 19:48	06:06 20:18	05:33 20:35	05:27 20:23	06:17 19:44	06:48 18:52	06:48 17:05	15:58 (2) 16:48 (2)	06:57 16:34	07:22 16:35
26	07:16 17:07	06:39 17:45	15:18 (2) 18:16	05:54 19:49	06:05 20:19	05:33 20:35	05:28 20:22	06:18 19:42	06:49 18:51	06:49 17:04	15:59 (2) 16:49 (2)	06:58 16:33	07:22 16:36
27	07:15 17:08	06:38 17:46	15:18 (2) 18:17	05:52 19:50	06:03 20:20	05:32 20:35	05:28 20:21	06:19 19:41	06:50 18:49	06:50 17:02	15:59 (2) 16:49 (2)	06:59 16:33	07:22 16:36
28	07:14 17:10	06:36 17:47	15:17 (2) 18:18	05:50 19:51	06:02 20:21	05:31 20:35	05:28 20:20	06:20 19:39	06:51 18:47	06:51 17:01	15:59 (2) 16:49 (2)	07:00 16:32	07:23 16:37
29	07:13 17:11	06:35 17:47	15:16 (2) 18:19	05:49 19:52	06:01 20:22	05:30 20:35	05:29 20:19	06:21 19:38	06:52 18:46	06:52 16:59	15:59 (2) 16:49 (2)	07:01 16:32	07:23 16:38
30	07:12 17:12	06:34 17:48	15:15 (2) 18:20	05:48 19:53	06:00 20:23	05:29 20:35	05:28 20:18	06:22 19:36	06:53 18:44	06:53 16:54 (2)	15:59 (2) 16:49 (2)	07:02 16:32	07:23 16:38
31	07:11 17:13	06:33 17:49	15:14 (2) 18:21	05:47 19:54	05:59 20:24	05:28 20:35	05:27 20:17	06:23 19:34	06:54 18:45	06:54 16:55 (2)	15:59 (2) 16:49 (2)	07:03 16:33	07:23 16:39
Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	479	345	298	288
Totale, caso peggiore		763	1229							1536			

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: D - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio			Febbraio			Marzo			Aprile			Maggio			Giugno		
1	07:24		13:31 (4)	07:10		14:00 (4)	06:34		06:44		07:23 (5)	05:58		05:29				
	16:40	93	15:41 (3)	17:15	41	14:41 (4)	17:49		19:23	2	07:25 (5)	19:54		20:24				
2	07:24		13:32 (4)	07:09		14:03 (4)	06:33		06:42		07:25 (5)	05:57		05:29				
	16:41	92	15:41 (3)	17:16	36	14:39 (4)	17:50		19:24	2	07:27 (5)	19:55		20:25				
3	07:24		13:32 (4)	07:08		14:05 (4)	06:31		06:40		07:26 (5)	05:55		05:28				
	16:42	91	15:41 (3)	17:17	32	14:37 (4)	17:51		19:25	2	07:28 (5)	19:56		20:25				
4	07:24		13:33 (4)	07:07		14:09 (4)	06:30		06:39		07:27 (5)	05:54		05:28				
	16:43	89	15:41 (3)	17:18	26	14:35 (4)	17:52		19:26	2	07:29 (5)	19:58		20:26				
5	07:24		13:33 (4)	07:06		14:14 (4)	06:28		06:37		07:29 (5)	05:53		05:28				
	16:44	89	15:41 (3)	17:20	17	14:31 (4)	17:53		19:27	2	07:31 (5)	19:59		20:27				
6	07:24		13:34 (4)	07:05			06:27		06:35		07:30 (5)	05:52		05:27				
	16:45	87	15:41 (3)	17:21			17:54		19:28	1	07:31 (5)	20:00		20:27				
7	07:24		13:35 (4)	07:04			06:25		06:34		07:31 (5)	05:50		05:27				
	16:46	85	15:41 (3)	17:22			17:55		19:29	1	07:32 (5)	20:01		20:28				
8	07:24		13:36 (4)	07:03			06:23		06:32			05:49		05:27				
	16:47	82	15:40 (3)	17:23			17:57		19:30			20:02		20:29				
9	07:24		13:35 (4)	07:02			06:22		06:31			05:48		05:26				
	16:48	79	15:38 (3)	17:25			17:58		19:31			20:03		20:29				
10	07:23		13:36 (4)	07:01			06:20		06:29			05:47		05:26				
	16:49	72	14:48 (4)	17:26			17:59		19:32			20:04		20:30				
11	07:23		13:37 (4)	06:59			06:19		06:27			05:46		05:26				
	16:50	71	14:48 (4)	17:27			18:00		19:33			20:05		20:30				
12	07:23		13:37 (4)	06:58			06:58		06:26			05:45		05:26				
	16:51	71	14:48 (4)	17:28			18:01		19:34			20:06		20:31				
13	07:23		13:38 (4)	06:57			06:15		06:24			05:44		05:26				
	16:52	70	14:48 (4)	17:29			18:02		19:35			20:07		20:31				
14	07:22		13:39 (4)	06:56			06:14		06:23			05:43		05:26				
	16:53	70	14:49 (4)	17:31			18:03		19:36			20:08		20:32				
15	07:22		13:39 (4)	06:54			06:12		06:21			05:42		05:26				
	16:54	69	14:48 (4)	17:32			18:04		19:37			20:09		20:32				
16	07:22		13:41 (4)	06:53			06:10		06:20			05:41		05:26				
	16:55	68	14:49 (4)	17:33			18:05		19:38			20:10		20:33				
17	07:21		13:41 (4)	06:52			06:09		06:18			05:40		05:26				
	16:56	68	14:49 (4)	17:34			18:07		19:40			20:11		20:33				
18	07:21		13:42 (4)	06:50			06:07		06:16			05:39		05:26				
	16:58	67	14:49 (4)	17:36			18:08		19:41			20:12		20:33				
19	07:20		13:43 (4)	06:49			06:05		06:15			05:38		05:26				
	16:59	66	14:49 (4)	17:37			18:09		19:42			20:13		20:34				
20	07:20		13:43 (4)	06:48			06:04		06:13			05:37		05:26				
	17:00	65	14:48 (4)	17:38			18:10		19:43			20:14		20:34				
21	07:19		13:45 (4)	06:46			06:02		06:12			05:36		05:26				
	17:01	64	14:49 (4)	17:39			18:11		19:44			20:15		20:34				
22	07:18		13:46 (4)	06:45			06:00		06:10			05:35		05:26				
	17:02	62	14:48 (4)	17:40			18:12		19:45			20:15		20:34				
23	07:18		13:46 (4)	06:43			05:59		06:09			05:35		05:27				
	17:03	62	14:48 (4)	17:42			18:13		19:46			20:16		20:35				
24	07:17		13:48 (4)	06:42			05:57		06:08			05:34		05:27				
	17:05	60	14:48 (4)	17:43			18:14		19:47			20:17		20:35				
25	07:16		13:49 (4)	06:40			05:55		06:06			05:33		05:27				
	17:06	59	14:48 (4)	17:44			18:15		19:48			20:18		20:35				
26	07:15		13:50 (4)	06:39			05:54		06:05			05:33		05:28				
	17:07	57	14:47 (4)	17:45			18:16		19:49			20:19		20:35				
27	07:15		13:52 (4)	06:37			05:52		06:03			05:32		05:28				
	17:08	54	14:46 (4)	17:46			18:17		19:50			20:20		20:35				
28	07:14		13:53 (4)	06:36			05:50		06:02			05:31		05:28				
	17:10	52	14:45 (4)	17:47			18:18		19:51			20:21		20:35				
29	07:13		13:54 (4)				06:49		06:01			05:31		05:29				
	17:11	50	14:44 (4)				19:19		19:52			20:22		20:35				
30	07:12		13:56 (4)				06:47		07:19 (5)			05:30		05:29				
	17:12	47	14:43 (4)				19:20	2	07:21 (5)			20:22		20:35				
31	07:11		13:58 (4)				06:45		07:22 (5)			05:30						
	17:13	44	14:42 (4)				19:22	1	07:23 (5)			20:23						
Ore potenziali eliofanìa	297			297			369		399			448		452				
Totale, caso peggiore	2155			152			3		12									

Legenda della tabella:

Giorno del mese	Alba (hh:mm)	Inizio ombreggiamento (hh:mm)	(WTG che provoca l'inizio dell'ombreggiamento)
	Tramonto (hh:mm)Minuti d'ombra	Fine ombreggiamento (hh:mm)	(WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: D - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre	
1	05:30 20:35	05:53 20:16	06:24 19:33	06:54 18:42	06:28 16:56	07:03 16:31	13:19 (4) 14:30 (4)
2	05:30 20:35	05:54 20:15	06:25 19:31	06:55 18:41	06:30 16:54	07:04 16:31	13:19 (4) 14:31 (4)
3	05:31 20:35	05:55 20:14	06:26 19:30	06:56 18:39	06:31 16:53	07:05 16:31	13:19 (4) 15:22 (3)
4	05:31 20:34	05:56 20:13	06:27 19:28	06:57 18:37	06:32 16:52	07:06 16:31	13:20 (4) 15:24 (3)
5	05:32 20:34	05:57 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:07 16:30	13:20 (4) 15:26 (3)
6	05:32 20:34	05:58 20:10	06:29 19:25	07:26 (5) 07:27 (5)	06:59 18:34	06:34 16:50	13:43 (4) 14:02 (4)
7	05:33 20:34	05:59 20:09	06:30 19:23	07:24 (5) 07:26 (5)	07:00 18:32	06:35 16:49	13:39 (4) 14:06 (4)
8	05:34 20:33	06:00 20:08	06:31 19:21	07:22 (5) 07:24 (5)	07:01 18:31	06:37 16:48	13:36 (4) 14:08 (4)
9	05:34 20:33	06:01 20:06	06:32 19:20	07:20 (5) 07:23 (5)	07:03 18:29	06:38 16:46	13:33 (4) 14:10 (4)
10	05:35 20:33	06:02 20:05	06:33 19:18	07:18 (5) 07:21 (5)	07:04 18:27	06:39 16:45	13:31 (4) 14:12 (4)
11	05:36 20:32	06:03 20:04	06:34 19:16	07:16 (5) 07:18 (5)	07:05 18:26	06:40 16:44	13:30 (4) 14:14 (4)
12	05:36 20:32	06:04 20:03	06:35 19:15	07:13 (5) 07:15 (5)	07:06 18:24	06:41 16:43	13:28 (4) 14:15 (4)
13	05:37 20:31	06:05 20:01	06:36 19:13	07:11 (5) 07:12 (5)	07:07 18:23	06:43 16:43	13:26 (4) 14:16 (4)
14	05:38 20:31	06:06 20:00	06:37 19:11	07:08 18:21	06:44 16:42	13:25 (4) 14:17 (4)	07:15 16:31
15	05:39 20:30	06:07 19:59	06:38 19:09	07:09 18:20	06:45 16:41	13:24 (4) 14:19 (4)	07:16 16:31
16	05:39 20:29	06:08 19:57	06:39 19:08	07:10 18:18	06:46 16:40	13:23 (4) 14:20 (4)	07:17 16:31
17	05:40 20:29	06:09 19:56	06:40 19:06	07:11 18:17	06:47 16:39	13:22 (4) 14:21 (4)	07:17 16:31
18	05:41 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:49 16:38	13:22 (4) 14:22 (4)	07:18 16:32
19	05:42 20:27	06:11 19:53	06:42 19:03	07:13 18:14	06:50 16:38	13:21 (4) 14:23 (4)	07:19 16:32
20	05:43 20:27	06:12 19:51	06:43 19:01	07:15 18:12	06:51 16:37	13:21 (4) 14:23 (4)	07:19 16:33
21	05:43 20:26	06:13 19:50	06:44 18:59	07:16 18:11	06:52 16:36	13:20 (4) 14:24 (4)	07:20 16:33
22	05:44 20:25	06:14 19:48	06:45 18:58	07:17 18:09	06:53 16:36	13:19 (4) 14:24 (4)	07:20 16:33
23	05:45 20:24	06:15 19:47	06:46 18:56	07:18 18:08	06:54 16:35	13:20 (4) 14:26 (4)	07:21 16:34
24	05:46 20:24	06:16 19:45	06:47 18:54	07:19 18:06	06:56 16:34	13:19 (4) 14:26 (4)	07:21 16:35
25	05:47 20:23	06:17 19:44	06:48 18:52	07:20 17:05	06:57 16:34	13:19 (4) 14:27 (4)	07:22 16:35
26	05:48 20:22	06:18 19:42	06:49 18:51	06:21 17:03	06:58 16:33	13:19 (4) 14:27 (4)	07:22 16:36
27	05:49 20:21	06:19 19:41	06:50 18:49	06:23 17:02	06:59 16:33	13:19 (4) 14:27 (4)	07:22 16:36
28	05:50 20:20	06:20 19:39	06:51 18:47	06:24 17:01	07:00 16:32	13:18 (4) 14:28 (4)	07:23 16:37
29	05:51 20:19	06:21 19:38	06:52 18:46	06:25 16:59	07:01 16:32	13:19 (4) 14:29 (4)	07:23 16:38
30	05:52 20:18	06:22 19:36	06:53 18:44	06:26 16:58	07:02 16:32	13:19 (4) 14:30 (4)	07:23 16:38
31	05:53 20:17	06:23 19:34		06:27 16:57		07:23 16:39	13:31 (4) 15:41 (3)
Ore potenziali eliofanìa	459	428	375	345	298	288	2847
Totale, caso peggiore			16		1381		

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: E - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno		
1	07:24 16:40	07:10 17:15	07:30 (3) 08:02 (3)	06:35 17:49	06:58 (3) 08:02 (3)	06:44 19:23	05:58 19:54	05:29 20:24
2	07:24 16:41	07:09 17:16	07:29 (3) 08:03 (3)	06:33 17:50	06:59 (3) 08:01 (3)	06:42 19:24	05:57 19:56	05:29 20:25
3	07:24 16:42	07:08 17:17	07:28 (3) 08:04 (3)	06:31 17:51	07:00 (3) 08:00 (3)	06:40 19:25	05:55 19:57	05:28 20:25
4	07:24 16:43	07:07 17:18	07:27 (3) 08:05 (3)	06:30 17:52	07:01 (3) 07:59 (3)	06:39 19:26	05:54 19:58	05:28 20:26
5	07:24 16:44	07:06 17:20	07:26 (3) 08:05 (3)	06:28 17:53	07:02 (3) 07:57 (3)	06:37 19:27	05:53 19:59	05:28 20:27
6	07:24 16:45	07:05 17:21	07:25 (3) 08:06 (3)	06:27 17:54	07:04 (3) 07:56 (3)	06:36 19:28	05:52 20:00	05:27 20:27
7	07:24 16:46	07:04 17:22	07:24 (3) 08:07 (3)	06:25 17:56	07:05 (3) 07:53 (3)	06:34 19:29	05:51 20:01	05:27 20:28
8	07:24 16:47	07:03 17:23	07:23 (3) 08:08 (3)	06:24 17:57	07:06 (3) 07:51 (3)	06:32 19:30	05:49 20:02	05:27 20:29
9	07:24 16:48	07:02 17:25	07:22 (3) 08:08 (3)	06:22 17:58	07:08 (3) 07:49 (3)	06:31 19:31	05:48 20:03	05:27 20:29
10	07:23 16:49	07:01 17:26	07:20 (3) 08:08 (3)	06:20 17:59	07:10 (3) 07:46 (3)	06:29 19:32	05:47 20:04	05:26 20:30
11	07:23 16:50	06:59 17:27	07:19 (3) 08:09 (3)	06:19 18:00	07:13 (3) 07:42 (3)	06:27 19:33	05:46 20:05	05:26 20:30
12	07:23 16:51	06:58 17:28	07:18 (3) 08:09 (3)	06:17 18:01	07:17 (3) 07:38 (3)	06:26 19:34	05:45 20:06	05:26 20:31
13	07:23 16:52	06:57 17:30	07:16 (3) 08:09 (3)	06:15 18:02	07:25 (3) 07:29 (3)	06:24 19:35	05:44 20:07	05:26 20:31
14	07:22 16:53	06:56 17:31	07:15 (3) 08:09 (3)	06:14 18:03		06:23 19:36	05:43 20:08	05:26 20:32
15	07:22 16:54	06:54 17:32	07:14 (3) 08:09 (3)	06:12 18:04		06:21 19:38	05:42 20:09	05:26 20:32
16	07:22 16:55	06:53 17:33	07:13 (3) 08:10 (3)	06:10 18:05		06:20 19:39	05:41 20:10	05:26 20:33
17	07:21 16:56	06:52 17:34	07:11 (3) 08:09 (3)	06:09 18:07		06:18 19:40	05:40 20:11	05:26 20:33
18	07:21 16:58	06:50 17:36	07:10 (3) 08:09 (3)	06:07 18:08		06:17 19:41	05:39 20:12	05:26 20:33
19	07:20 16:59	07:41 (3) 07:43 (3)	06:49 17:37	07:08 (3) 08:08 (3)	06:05 18:09	06:15 19:42	05:38 20:13	05:26 20:34
20	07:20 17:00	07:40 (3) 07:45 (3)	06:48 17:38	07:07 (3) 08:09 (3)	06:04 18:10	06:14 19:43	05:37 20:14	05:26 20:34
21	07:19 17:01	07:40 (3) 07:47 (3)	06:46 17:39	07:05 (3) 08:08 (3)	06:02 18:11	06:12 19:44	05:36 20:15	05:26 20:34
22	07:18 17:02	07:39 (3) 07:49 (3)	06:45 17:40	07:04 (3) 08:08 (3)	06:00 18:12	06:11 19:45	05:36 20:15	05:27 20:34
23	07:18 17:04	07:38 (3) 07:50 (3)	06:43 17:42	07:03 (3) 08:08 (3)	05:59 18:13	06:09 19:46	05:35 20:16	05:27 20:35
24	07:17 17:05	07:38 (3) 07:53 (3)	06:42 17:43	07:01 (3) 08:07 (3)	05:57 18:14	06:08 19:47	05:34 20:17	05:27 20:35
25	07:16 17:06	07:37 (3) 07:54 (3)	06:41 17:44	07:00 (3) 08:06 (3)	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:35
26	07:16 17:07	07:36 (3) 07:55 (3)	06:39 17:45	06:58 (3) 08:05 (3)	05:54 18:16	06:05 19:49	05:33 20:19	05:28 20:35
27	07:15 17:08	07:35 (3) 07:56 (3)	06:38 17:46	06:58 (3) 08:05 (3)	05:52 18:17	06:03 19:50	05:32 20:20	05:28 20:35
28	07:14 17:10	07:34 (3) 07:58 (3)	06:36 17:47	06:58 (3) 08:03 (3)	05:50 18:18	06:02 19:51	05:31 20:21	05:28 20:35
29	07:13 17:11	07:33 (3) 07:59 (3)		06:49 19:19		06:01 19:52	05:31 20:22	05:29 20:35
30	07:12 17:12	07:32 (3) 08:00 (3)		06:47 19:21		05:59 19:53	05:30 20:22	05:29 20:35
31	07:11 17:13	07:31 (3) 08:01 (3)		06:45 19:22		05:30 20:23	05:30 20:23	
Ore potenziali eliofanìa	297		297	369		399	448	452
Totale, caso peggiore	216		1484	575				

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento)
Tramonto (hh:mm)Minuti d'ombra Fine ombreggiamento (hh:mm) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: E - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre		Novembre		Dicembre
1	05:30 20:35	05:54 20:16	06:24 19:33	06:54 18:42		07:58 (3) 16:56	06:28 48	06:50 (3) 07:38 (3)
2	05:30 20:35	05:55 20:15	06:25 19:31	06:55 18:41	16	07:53 (3) 16:55	06:30 46	06:51 (3) 07:37 (3)
3	05:31 20:35	05:56 20:14	06:26 19:30	06:56 18:39	26	07:49 (3) 16:53	06:31 44	06:52 (3) 07:36 (3)
4	05:31 20:34	05:56 20:13	06:27 19:28	06:57 18:37	33	07:46 (3) 16:52	06:32 43	06:54 (3) 07:37 (3)
5	05:32 20:34	05:57 20:11	06:28 19:26	06:58 18:36	38	07:43 (3) 16:51	06:33 41	06:55 (3) 07:36 (3)
6	05:32 20:34	05:58 20:10	06:29 19:25	06:59 18:34	43	07:42 (3) 16:50	06:34 39	06:56 (3) 07:35 (3)
7	05:33 20:34	05:59 20:09	06:30 19:23	07:01 18:32	47	07:40 (3) 16:49	06:36 37	06:58 (3) 07:35 (3)
8	05:34 20:33	06:00 20:08	06:31 19:21	07:02 18:31	50	07:38 (3) 16:48	06:37 35	06:59 (3) 07:34 (3)
9	05:34 20:33	06:01 20:07	06:32 19:20	07:03 18:29	54	07:37 (3) 16:47	06:38 34	07:00 (3) 07:34 (3)
10	05:35 20:33	06:02 20:05	06:33 19:18	07:04 18:28	56	07:35 (3) 16:46	06:39 32	07:01 (3) 07:33 (3)
11	05:36 20:32	06:03 20:04	06:34 19:16	07:05 18:26	59	07:34 (3) 16:45	06:40 30	07:03 (3) 07:33 (3)
12	05:36 20:32	06:04 20:03	06:35 19:15	07:06 18:24	60	07:32 (3) 16:44	06:42 28	07:04 (3) 07:32 (3)
13	05:37 20:31	06:05 20:01	06:36 19:13	07:07 18:23	63	07:31 (3) 16:43	06:43 26	07:05 (3) 07:31 (3)
14	05:38 20:31	06:06 20:00	06:37 19:11	07:08 18:21	65	07:30 (3) 16:42	06:44 23	07:07 (3) 07:30 (3)
15	05:39 20:30	06:07 19:59	06:38 19:10	07:09 18:20	66	07:29 (3) 16:41	06:45 21	07:08 (3) 07:29 (3)
16	05:39 20:30	06:08 19:57	06:39 19:08	07:10 18:18	68	07:31 (3) 16:40	06:46 19	07:09 (3) 07:28 (3)
17	05:40 20:29	06:09 19:56	06:40 19:06	07:11 18:17	67	07:32 (3) 16:39	06:47 17	07:10 (3) 07:27 (3)
18	05:41 20:28	06:10 19:54	06:41 19:04	07:12 18:15	66	07:33 (3) 16:38	06:49 15	07:12 (3) 07:27 (3)
19	05:42 20:28	06:11 19:53	06:42 19:03	07:13 18:14	65	07:34 (3) 16:38	06:50 12	07:13 (3) 07:25 (3)
20	05:43 20:27	06:12 19:51	06:43 19:01	07:15 18:12	64	07:35 (3) 16:37	06:51 10	07:14 (3) 07:24 (3)
21	05:44 20:26	06:13 19:50	06:44 18:59	07:16 18:11	63	07:36 (3) 16:36	06:52 7	07:15 (3) 07:22 (3)
22	05:44 20:25	06:14 19:48	06:45 18:58	07:17 18:09	62	07:38 (3) 16:36	06:53 5	07:16 (3) 07:21 (3)
23	05:45 20:24	06:15 19:47	06:46 18:56	07:18 18:08	61	07:39 (3) 16:35	06:54 2	07:18 (3) 07:20 (3)
24	05:46 20:24	06:16 19:45	06:47 18:54	07:19 18:06	60	07:40 (3) 16:34	06:56 59	07:21 (3) 16:35
25	05:47 20:23	06:17 19:44	06:48 18:52	07:20 17:05	59	06:41 (3) 16:34	06:57 58	07:22 (3) 16:35
26	05:48 20:22	06:18 19:42	06:49 18:51	07:21 17:04	58	06:43 (3) 16:33	06:58 56	07:22 (3) 16:36
27	05:49 20:21	06:19 19:41	06:50 18:49	07:23 17:02	57	06:44 (3) 16:33	06:59 55	07:22 (3) 16:36
28	05:50 20:20	06:20 19:39	06:51 18:47	07:24 17:01	56	06:45 (3) 16:32	07:00 54	07:23 (3) 16:37
29	05:51 20:19	06:21 19:38	06:52 18:46	07:25 17:00	55	06:46 (3) 16:32	07:01 52	07:23 (3) 16:38
30	05:52 20:18	06:22 19:36	06:53 18:44	07:26 16:58	54	06:47 (3) 16:32	07:02 51	07:23 (3) 16:39
31	05:53 20:17	06:23 19:34	06:54 18:43	07:27 16:57	53	06:49 (3) 16:32	07:03 49	07:23 (3) 16:39
Ore potenziali eliofanìa	459	428	375	345		298		288
Totale, caso peggiore					1686		614	

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: F - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:40	07:10 17:14	06:34 17:48	06:44 19:23	05:58 19:54	05:29 20:24	05:29 20:35	05:53 20:16	06:24 19:33	06:54 18:42	06:28 16:56	07:03 16:31
2	07:24 16:41	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:29 20:25	05:30 20:35	05:54 20:15	06:25 19:31	06:55 18:41	06:29 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:51	06:40 19:25	05:55 19:56	05:28 20:25	05:30 20:35	05:55 20:14	06:26 19:29	06:56 18:39	06:31 16:53	07:05 16:31
4	07:24 16:43	07:07 17:18	06:30 17:52	06:39 19:26	05:54 19:57	05:28 20:26	05:31 20:34	05:56 20:12	06:27 19:28	06:57 18:37	06:32 16:52	07:06 16:30
5	07:24 16:44	07:06 17:19	06:28 17:53	06:37 19:27	05:53 19:59	05:27 20:27	05:32 20:34	05:57 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:07 16:30
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8	07:24 16:47	07:03 17:23	06:23 17:56	06:32 19:30	05:49 20:02	05:26 20:29	05:33 20:33	06:00 20:08	06:31 19:21	07:01 18:31	06:37 16:47	07:10 16:30
9	07:24 16:48	07:02 17:24	06:22 17:58	06:31 19:31	05:48 20:03	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:20	07:02 18:29	06:38 16:46	07:11 16:30
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31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:17	06:23 19:34		06:27 16:57		07:23 16:39
Ore potenziali eliofanìa	297	297	369	399	448	452	459	428	375	345	298	288
Totale, caso peggiore												

Legenda della tabella:

Giorno del mese	Alba (hh:mm) Tramonto (hh:mm)	Minuti d'ombra	Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm)	(WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)
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SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: G - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:40	07:10 17:14	06:34 17:48	06:44 19:22	05:58 19:54	05:29 20:24	05:29 20:35	05:53 20:16	06:24 19:33	06:54 18:42	06:28 16:55	07:03 16:31
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Ore potenziali eliofanìa	297	297	369	399	448	452	459	428	375	345	298	288
Totale, caso peggiore												

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra
 Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm)
 (WTG che provoca l'inizio dell'ombreggiamento)
 (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: H - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre	
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:58 19:54	05:29 20:24	05:29 20:35	05:53 20:16	06:24 19:33		06:54 18:42	06:28 16:55	07:03 16:31
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6	07:24 16:45	07:05 17:21	06:26 17:54	06:35 19:28	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24		06:59 18:34	06:34 16:50	07:08 16:30
7	07:24 16:46	07:04 17:22	06:25 17:55	06:34 19:29	05:50 20:00	05:27 20:28	05:33 20:33	05:59 20:09	06:30 19:23		07:00 18:32	06:35 16:48	07:09 16:30
8	07:24 16:46	07:03 17:23	06:23 17:56	06:32 19:30	05:49 20:02	05:26 20:28	05:33 20:33	06:00 20:08	06:31 19:21	07:21 (10) 07:22 (10)	07:01 18:31	06:36 16:47	07:10 16:30
9	07:23 16:47	07:02 17:24	06:22 17:57	06:30 19:31	05:48 20:03	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:19		07:02 18:29	06:38 16:46	07:11 16:30
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:47 20:04	05:26 20:30	05:35 20:32	06:02 20:05	06:33 19:18		07:03 18:27	06:39 16:45	07:12 16:30
11	07:23 16:50	06:59 17:27	06:18 18:00	06:27 19:33	05:46 20:05	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16		07:04 18:26	06:40 16:44	07:12 16:30
12	07:23 16:51	06:58 17:28	06:17 18:01	06:26 19:34	05:45 20:06	05:26 20:31	05:36 20:31	06:04 20:02	06:35 19:14		07:06 18:24	06:41 16:43	07:13 16:30
13	07:22 16:52	06:57 17:29	06:15 18:02	06:24 19:35	05:44 20:07	05:26 20:31	05:37 20:31	06:05 20:01	06:36 19:13		07:07 18:23	06:42 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:43 20:08	05:26 20:32	05:38 20:30	06:06 20:00	06:37 19:11		07:08 18:21	06:44 16:41	07:15 16:30
15	07:22 16:54	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:09	05:26 20:32	05:38 20:30	06:07 19:58	06:38 19:09		07:09 18:19	06:45 16:41	07:16 16:31
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:41 20:10	05:26 20:32	05:39 20:29	06:08 19:57	06:39 19:08		07:10 18:18	06:46 16:40	07:16 16:31
17	07:21 16:56	06:52 17:34	06:09 18:06	06:18 19:39	05:40 20:11	05:26 20:33	05:40 20:29	06:09 19:56	06:40 19:06		07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:39 20:12	05:26 20:33	05:41 20:28	06:10 19:54	06:41 19:04		07:12 18:15	06:48 16:38	07:18 16:32
19	07:20 16:58	06:49 17:37	06:05 18:08	06:15 19:41	05:38 20:12	05:26 20:33	05:42 20:27	06:11 19:53	06:42 19:02		07:13 18:13	06:50 16:37	07:18 16:32
20	07:19 17:00	06:47 17:38	06:04 18:10	06:13 19:43	05:37 20:13	05:26 20:34	05:42 20:27	06:12 19:51	06:43 19:01		07:14 18:12	06:51 16:37	07:19 16:32
21	07:19 17:01	06:46 17:39	06:02 18:11	06:12 19:44	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:50	06:44 18:59		07:15 18:10	06:52 16:36	07:19 16:33
22	07:18 17:02	06:45 17:40	06:00 18:12	06:10 19:45	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57		07:17 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:59 18:13	06:09 19:46	05:35 20:16	05:26 20:34	05:45 20:24	06:15 19:47	06:46 18:56		07:18 18:07	06:54 16:35	07:20 16:34
24	07:17 17:04	06:42 17:43	05:57 18:14	06:07 19:47	05:34 20:17	05:27 20:34	05:46 20:23	06:16 19:45	06:47 18:54		07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:06	06:40 17:44	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:35	05:47 20:23	06:17 19:44	06:48 18:52		06:20 17:05	06:56 16:34	07:21 16:35
26	07:15 17:07	06:39 17:45	05:54 18:16	06:05 19:49	05:32 20:19	05:27 20:35	05:48 20:22	06:18 19:42	06:49 18:51		06:21 17:03	06:58 16:33	07:22 16:36
27	07:15 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:32 20:20	05:28 20:35	05:49 20:21	06:19 19:41	06:50 18:49		06:22 17:02	06:59 16:33	07:22 16:36
28	07:14 17:09	06:36 17:47	05:50 18:18	06:02 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 18:47		06:23 17:01	07:00 16:32	07:22 16:37
29	07:13 17:11		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 18:45		06:25 16:59	07:01 16:32	07:23 16:38
30	07:12 17:12		06:47 19:20	05:59 19:53	05:30 20:22	05:29 20:35	05:51 20:18	06:22 19:36	06:53 18:44		06:26 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:17	06:23 19:34			06:27 16:57		07:23 16:39
Ore potenziali eliofania	297	297	369	399	448	452	459	428	375		345	298	288
Totale, caso peggiore									1				

Legenda della tabella:

Giorno del mese	Alba (hh:mm)	Inizio ombreggiamento (hh:mm)	(WTG che provoca l'inizio dell'ombreggiamento)
	Tramonto (hh:mm)Minuti d'ombra	Fine ombreggiamento (hh:mm)	(WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: I - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:58 19:54	05:29 20:24	05:29 20:35	05:53 20:16	06:24 19:33	06:54 18:42	06:28 16:55	07:03 16:31
2	07:24 16:41	07:09 17:16	06:33 17:50	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:15	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:51	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:39	06:30 16:53	07:05 16:31
4	07:24 16:43	07:07 17:18	06:30 17:52	06:39 19:26	05:54 19:57	05:28 20:26	05:31 20:34	05:56 20:12	06:27 19:28	06:57 18:37	06:32 16:52	07:06 16:30
5	07:24 16:44	07:06 17:19	06:28 17:53	06:37 19:27	05:53 19:58	05:27 20:26	05:32 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:51	07:07 16:30
6	07:24 16:45	07:05 17:21	06:26 17:54	06:35 19:28	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:08 16:30
7	07:24 16:46	07:04 17:22	06:25 17:55	06:34 19:29	05:50 20:00	05:27 20:28	05:33 20:33	05:59 20:09	06:30 19:23	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:47	07:03 17:23	06:23 17:56	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:48	07:02 17:24	06:22 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:19	07:02 18:29	06:38 16:46	07:11 16:30
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:47 20:04	05:26 20:30	05:35 20:32	06:02 20:05	06:33 19:18	07:03 18:27	06:39 16:45	07:12 16:30
11	07:23 16:50	06:59 17:27	06:18 18:00	06:27 19:33	05:46 20:05	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16	07:04 18:26	06:40 16:44	07:12 16:30
12	07:23 16:51	06:58 17:28	06:17 18:01	06:26 19:34	05:45 20:06	05:26 20:31	05:36 20:31	06:04 20:02	06:35 19:14	07:06 18:24	06:41 16:43	07:13 16:30
13	07:22 16:52	06:57 17:29	06:15 18:02	06:24 19:35	05:44 20:07	05:26 20:31	05:37 20:31	06:05 20:01	06:36 19:13	07:07 18:22	06:42 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:43 20:08	05:26 20:32	05:38 20:30	06:06 20:00	06:37 19:11	07:08 18:21	06:44 16:41	07:15 16:30
15	07:22 16:54	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:09	05:26 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:09 18:19	06:45 16:41	07:16 16:31
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:41 20:10	05:26 20:32	05:39 20:29	06:08 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:16 16:31
17	07:21 16:56	06:52 17:34	06:09 18:06	06:18 19:39	05:40 20:10	05:26 20:33	05:40 20:29	06:09 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:39 20:11	05:26 20:33	05:41 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:48 16:38	07:18 16:32
19	07:20 16:59	06:49 17:37	06:05 18:08	06:15 19:41	05:38 20:12	05:26 20:33	05:42 20:27	06:11 19:53	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 17:00	06:47 17:38	06:04 18:10	06:13 19:42	05:37 20:13	05:26 20:34	05:42 20:27	06:12 19:51	06:43 19:01	07:14 18:12	06:51 16:37	07:19 16:32
21	07:19 17:01	06:46 17:39	06:02 18:11	06:12 19:44	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:50	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:33
22	07:18 17:02	06:45 17:40	06:00 18:12	06:10 19:45	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:17 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:59 18:13	06:09 19:46	05:35 20:16	05:27 20:34	05:45 20:24	06:15 19:47	06:46 18:56	07:18 18:07	06:54 16:35	07:20 16:34
24	07:17 17:04	06:42 17:43	05:57 18:14	06:07 19:47	05:34 20:17	05:27 20:34	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:06	06:40 17:44	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:35	05:47 20:22	06:17 19:44	06:48 18:52	07:20 17:05	06:56 16:34	07:21 16:35
26	07:15 17:07	06:39 17:45	05:53 18:16	06:05 19:49	05:32 20:19	05:27 20:35	05:48 20:22	06:18 19:42	06:49 18:50	07:21 17:03	06:58 16:33	07:22 16:36
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:32 20:20	05:28 20:35	05:49 20:21	06:19 19:41	06:50 18:49	06:22 17:02	06:59 16:33	07:22 16:36
28	07:14 17:09	06:36 17:47	05:50 18:18	06:02 19:51	05:31 20:20	05:28 20:35	05:50 20:20	06:20 19:39	06:51 18:47	06:23 17:01	07:00 16:32	07:22 16:37
29	07:13 17:11		06:48 19:19	06:00 19:52	05:31 20:21	05:29 20:35	05:50 20:19	06:21 19:37	06:52 18:45	06:25 16:59	07:01 16:32	07:23 16:38
30	07:12 17:12		06:47 19:20	05:59 19:53	05:30 20:22	05:29 20:35	05:51 20:18	06:22 19:36	06:53 18:44	06:26 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:17	06:23 19:34		06:27 16:57		07:23 16:39
Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	345	298	288
Totale, caso peggiore												

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: J - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio		Febbraio		Marzo		Aprile		Maggio		Giugno	
1	07:23		09:11 (9)	07:10		06:34		16:52 (8)	06:43		05:58	05:29
	16:40	65	10:16 (9)	17:14		17:48		17:18 (8)	19:22		19:54	20:24
2	07:24		09:12 (9)	07:09		06:33		16:54 (8)	06:42		05:56	05:28
	16:41	64	10:16 (9)	17:16		17:49	23	17:17 (8)	19:23		19:55	20:24
3	07:24		09:12 (9)	07:08		06:31		16:55 (8)	06:40		05:55	05:28
	16:42	64	10:16 (9)	17:17		17:51	20	17:15 (8)	19:24		19:56	20:25
4	07:24		09:13 (9)	07:07		06:30		16:57 (8)	06:39		05:54	05:28
	16:43	63	10:16 (9)	17:18		17:52	15	17:12 (8)	19:26		19:57	20:26
5	07:24		09:14 (9)	07:06		06:28		17:01 (8)	06:37		05:53	05:27
	16:44	62	10:16 (9)	17:19		17:53	8	17:09 (8)	19:27		19:58	20:26
6	07:24		09:15 (9)	07:05		06:26			06:35		05:51	05:27
	16:45	61	10:16 (9)	17:21		17:54			19:28		19:59	20:27
7	07:24		09:16 (9)	07:04		06:25			06:34		05:50	05:27
	16:46	60	10:16 (9)	17:22		17:55			19:29		20:00	20:28
8	07:23		09:16 (9)	07:03		06:23			06:32		05:49	05:26
	16:46	60	10:16 (9)	17:23		17:56			19:30		20:01	20:28
9	07:23		09:17 (9)	07:02		06:22			06:30		05:48	05:26
	16:47	58	10:15 (9)	17:24		17:57			19:31		20:02	20:29
10	07:23		09:18 (9)	07:00		06:20			06:29		05:47	05:26
	16:49	57	10:15 (9)	17:26		17:59			19:32		20:04	20:30
11	07:23		09:20 (9)	06:59		06:18			06:27		05:46	05:26
	16:50	55	10:15 (9)	17:27		18:00			19:33		20:05	20:30
12	07:23		09:20 (9)	06:58		06:17			06:26		05:45	05:26
	16:51	54	10:14 (9)	17:28		18:01			19:34		20:06	20:31
13	07:22		09:22 (9)	06:57	17:00 (8)	06:15			06:24		05:44	05:26
	16:52	52	10:14 (9)	17:29	6	17:06 (8)	18:02		19:35		20:07	20:31
14	07:22		09:22 (9)	06:55	16:58 (8)	06:13			06:22		05:43	05:26
	16:53	51	10:13 (9)	17:30	10	17:08 (8)	18:03		19:36		20:08	20:32
15	07:22		09:24 (9)	06:54	16:56 (8)	06:12			06:21		05:42	05:26
	16:54	49	10:13 (9)	17:32	14	17:10 (8)	18:04		19:37		20:09	20:32
16	07:21		09:25 (9)	06:53	16:54 (8)	06:10			06:19		05:41	05:26
	16:55	46	10:11 (9)	17:33	16	17:10 (8)	18:05		19:38		20:10	20:32
17	07:21		09:27 (9)	06:52	16:54 (8)	06:09			06:18		05:40	05:26
	16:56	44	10:11 (9)	17:34	18	17:12 (8)	18:06		19:39		20:10	20:33
18	07:20		09:28 (9)	06:50	16:52 (8)	06:07			06:16		05:39	05:26
	16:57	41	10:09 (9)	17:35	21	17:13 (8)	18:07		19:40		20:11	20:33
19	07:20		09:31 (9)	06:49	16:52 (8)	06:05			06:15		05:38	05:26
	16:58	37	10:08 (9)	17:37	22	17:14 (8)	18:08		19:41		20:12	20:33
20	07:19		09:32 (9)	06:47	16:52 (8)	06:04			06:13		05:37	05:26
	17:00	34	10:06 (9)	17:38	24	17:16 (8)	18:10		19:42		20:13	20:34
21	07:19		09:34 (9)	06:46	16:51 (8)	06:02			06:12		05:36	05:26
	17:01	29	10:03 (9)	17:39	26	17:17 (8)	18:11		19:44		20:14	20:34
22	07:18		09:38 (9)	06:45	16:51 (8)	06:00			06:10		05:35	05:26
	17:02	23	10:01 (9)	17:40	28	17:19 (8)	18:12		19:45		20:15	20:34
23	07:17		09:42 (9)	06:43	16:50 (8)	05:58			06:09		05:34	05:26
	17:03	15	09:57 (9)	17:41	29	17:19 (8)	18:13		19:46		20:16	20:34
24	07:17			06:42	16:51 (8)	05:57			06:07		05:34	05:27
	17:04			17:42	30	17:21 (8)	18:14		19:47		20:17	20:34
25	07:16			06:40	16:50 (8)	05:55			06:06		05:33	05:27
	17:06			17:44	31	17:21 (8)	18:15		19:48		20:18	20:35
26	07:15			06:39	16:51 (8)	05:53			06:05		05:32	05:27
	17:07			17:45	30	17:21 (8)	18:16		19:49		20:19	20:35
27	07:14			06:37	16:51 (8)	05:52			06:03		05:32	05:28
	17:08			17:46	29	17:20 (8)	18:17		19:50		20:20	20:35
28	07:14			06:36	16:52 (8)	05:50			06:02		05:31	05:28
	17:09			17:47	28	17:20 (8)	18:18		19:51		20:20	20:35
29	07:13					06:48			06:00		05:30	05:28
	17:11					19:19			19:52		20:21	20:35
30	07:12					06:47			05:59		05:30	05:29
	17:12					19:20			19:53		20:22	20:35
31	07:11					06:45					05:29	
	17:13					19:21					20:23	
Ore potenziali eliofanìa	297			297		369			399		448	452
Totale, caso peggiore	1144			362		92						

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento)
Tramonto (hh:mm)Minuti d'ombra Fine ombreggiamento (hh:mm) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: Shadow P Recettore d'ombra: J - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	05:29 20:35	05:53 20:16	06:24 19:33	06:54 18:42	06:28 16:55	07:03 16:31 55 09:02 (9) 09:57 (9)
2	05:30 20:34	05:54 20:15	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31 56 09:02 (9) 09:58 (9)
3	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:39	06:30 16:53	07:05 16:31 58 09:01 (9) 09:59 (9)
4	05:31 20:34	05:56 20:12	06:27 19:28	06:57 18:37	06:32 16:52	07:06 16:30 60 09:01 (9) 10:01 (9)
5	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:51	07:07 16:30 60 09:01 (9) 10:01 (9)
6	05:32 20:34	05:58 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:08 16:30 61 09:01 (9) 10:02 (9)
7	05:33 20:33	05:59 20:09	06:30 19:23	07:00 18:32	06:35 16:48	07:09 16:30 62 09:01 (9) 10:03 (9)
8	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30 63 09:01 (9) 10:04 (9)
9	05:34 20:33	06:01 20:06	06:32 19:19	07:02 18:29	17:33 (8) 17:46 (8) 13 16:46	06:38 16:30 64 09:00 (9) 10:04 (9)
10	05:35 20:32	06:02 20:05	06:33 19:18	07:03 18:27	17:31 (8) 17:49 (8) 18 16:45	06:39 16:30 64 09:01 (9) 10:05 (9)
11	05:35 20:32	06:03 20:04	06:34 19:16	07:04 18:26	17:29 (8) 17:50 (8) 21 16:44	06:40 16:30 65 09:01 (9) 10:06 (9)
12	05:36 20:31	06:04 20:02	06:35 19:14	07:06 18:24	17:27 (8) 17:51 (8) 24 16:43	06:41 16:30 66 09:01 (9) 10:07 (9)
13	05:37 20:31	06:05 20:01	06:36 19:13	07:07 18:22	17:25 (8) 17:52 (8) 27 16:42	06:42 16:30 66 09:02 (9) 10:08 (9)
14	05:38 20:30	06:06 20:00	06:37 19:11	07:08 18:21	17:24 (8) 17:52 (8) 28 16:41	06:44 16:30 67 09:01 (9) 10:08 (9)
15	05:38 20:30	06:07 19:58	06:38 19:09	07:09 18:19	17:23 (8) 17:53 (8) 30 16:41	06:45 16:31 67 09:02 (9) 10:09 (9)
16	05:39 20:29	06:08 19:57	06:39 19:08	07:10 18:18	17:22 (8) 17:53 (8) 31 16:40	06:46 16:31 67 09:03 (9) 10:10 (9)
17	05:40 20:29	06:09 19:55	06:40 19:06	07:11 18:16	17:22 (8) 17:53 (8) 31 16:39	06:47 16:31 68 09:03 (9) 10:11 (9)
18	05:41 20:28	06:10 19:54	06:41 19:04	07:12 18:15	17:22 (8) 17:52 (8) 30 16:38	06:48 16:32 68 09:03 (9) 10:11 (9)
19	05:42 20:27	06:11 19:53	06:42 19:02	07:13 18:13	17:22 (8) 17:50 (8) 28 16:37	06:50 09:17 (9) 15 09:32 (9) 16:32 68 10:12 (9)
20	05:42 20:27	06:12 19:51	06:43 19:01	07:14 18:12	17:21 (8) 17:49 (8) 28 16:37	06:51 09:13 (9) 23 09:36 (9) 16:32 68 10:12 (9)
21	05:43 20:26	06:13 19:50	06:44 18:59	07:15 18:10	17:21 (8) 17:47 (8) 26 16:36	06:52 09:10 (9) 29 09:39 (9) 16:33 68 10:13 (9)
22	05:44 20:25	06:14 19:48	06:45 18:57	07:17 18:09	17:21 (8) 17:45 (8) 24 16:35	06:53 09:08 (9) 34 09:42 (9) 16:33 68 10:13 (9)
23	05:45 20:24	06:15 19:47	06:46 18:56	07:18 18:07	17:23 (8) 17:45 (8) 22 16:35	06:54 09:07 (9) 37 09:44 (9) 16:34 68 10:14 (9)
24	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	17:23 (8) 17:43 (8) 20 16:34	06:55 09:06 (9) 41 09:47 (9) 16:34 68 10:14 (9)
25	05:47 20:22	06:17 19:44	06:48 18:52	07:20 17:05	16:24 (8) 16:41 (8) 17 16:34	06:56 09:05 (9) 44 09:49 (9) 16:35 68 10:14 (9)
26	05:48 20:22	06:18 19:42	06:49 18:50	07:21 17:03	16:24 (8) 16:40 (8) 16 16:33	06:58 09:04 (9) 46 09:50 (9) 16:35 68 10:15 (9)
27	05:49 20:21	06:19 19:41	06:50 18:49	07:22 17:02	16:26 (8) 16:38 (8) 12 16:33	06:59 09:03 (9) 49 09:52 (9) 16:36 67 10:15 (9)
28	05:49 20:20	06:20 19:39	06:51 18:47	07:23 17:01	16:28 (8) 16:37 (8) 9 16:32	07:00 09:02 (9) 51 09:53 (9) 16:37 67 10:15 (9)
29	05:50 20:19	06:21 19:37	06:52 18:45	07:25 16:59	16:31 (8) 16:36 (8) 5 16:32	07:01 09:02 (9) 52 09:54 (9) 16:38 67 10:15 (9)
30	05:51 20:18	06:22 19:36	06:53 18:44	07:26 16:58	16:32 (8) 16:31 54 09:55 (9) 16:38	07:02 09:01 (9) 54 09:55 (9) 16:38 66 10:16 (9)
31	05:52 20:17	06:23 19:34	06:54 16:57	07:27	16:31 54 09:55 (9) 16:38	07:23 16:39 66 10:16 (9)
Ore potenziali eliofanìa	459	428	375	345	298	288
Totale, caso peggiore				460	475	2014

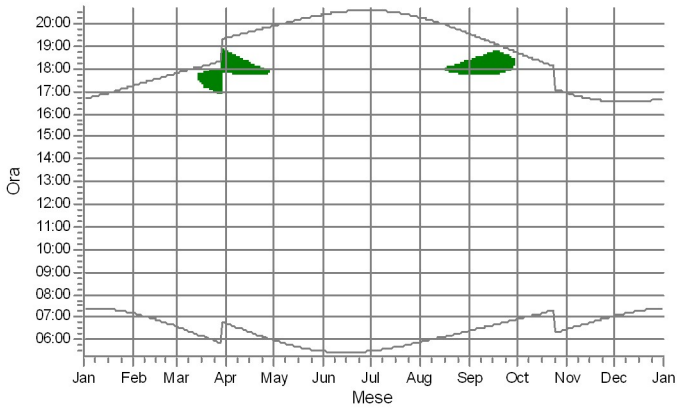
Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

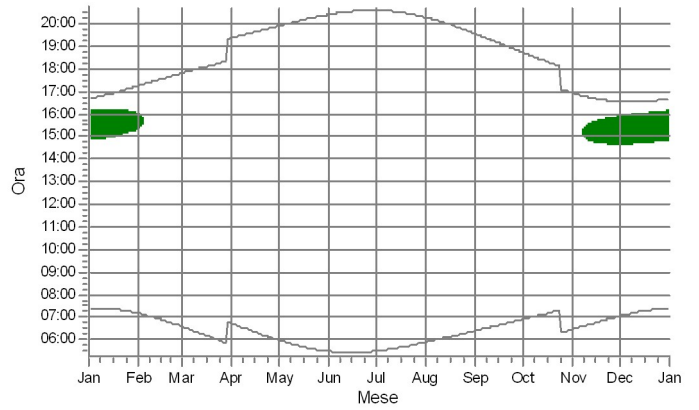
SHADOW - Calendario, grafico

Calcolo: Shadow P

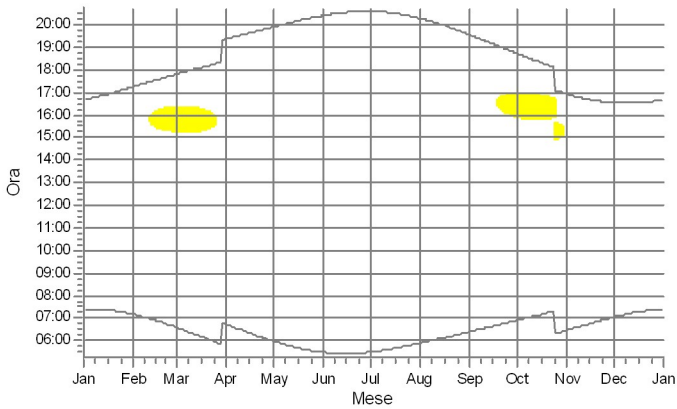
A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)



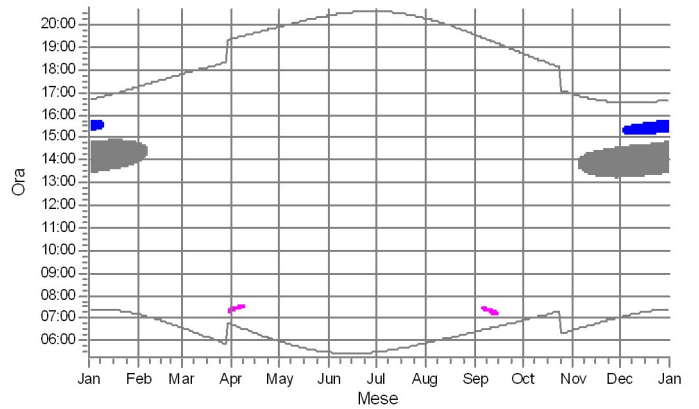
B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)



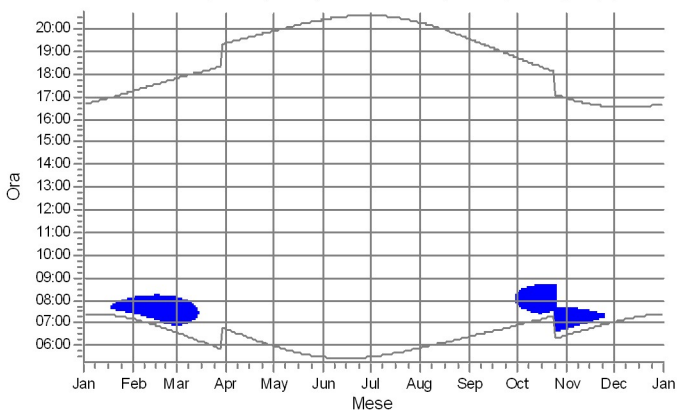
C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)



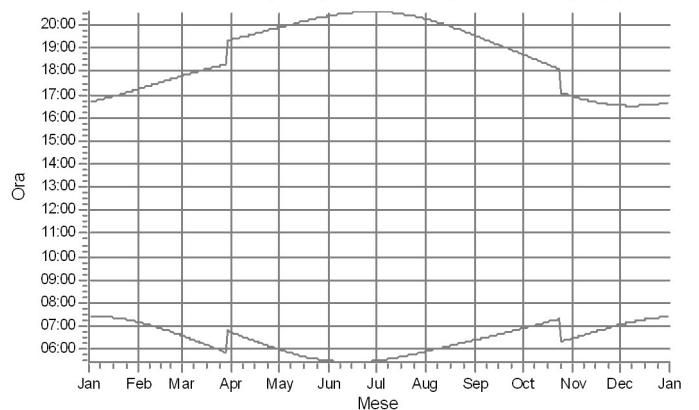
D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)



E: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)



F: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)



WTG

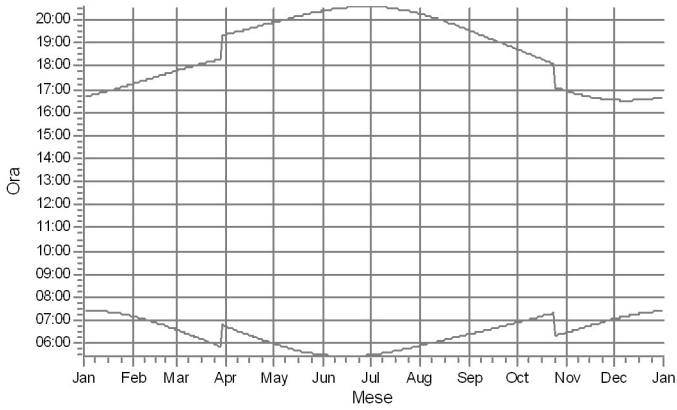
- 1: GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (1)
- 2: GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (2)
- 3: GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (3)

- 4: GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (4)
- 5: GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (5)

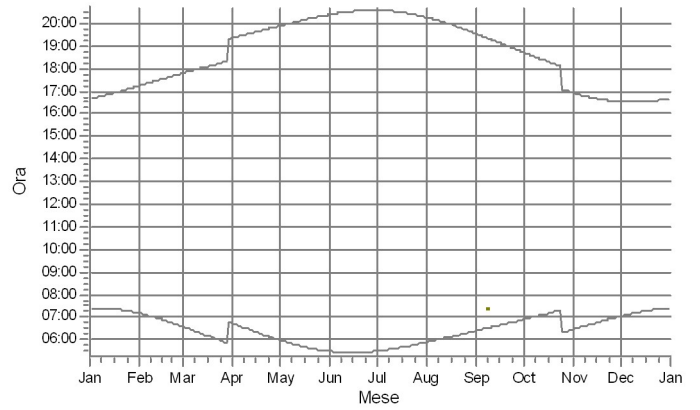
SHADOW - Calendario, grafico

Calcolo: Shadow P

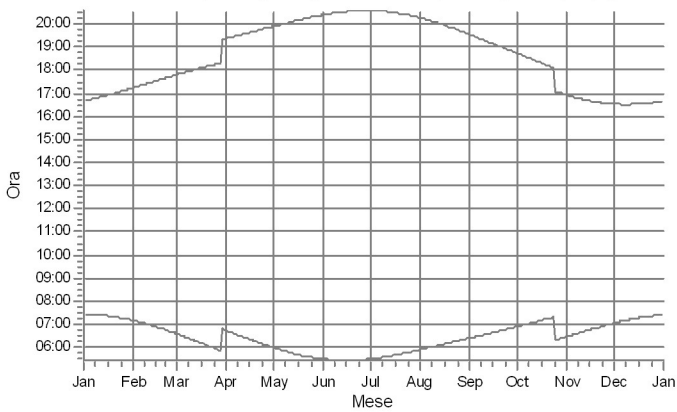
G: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)



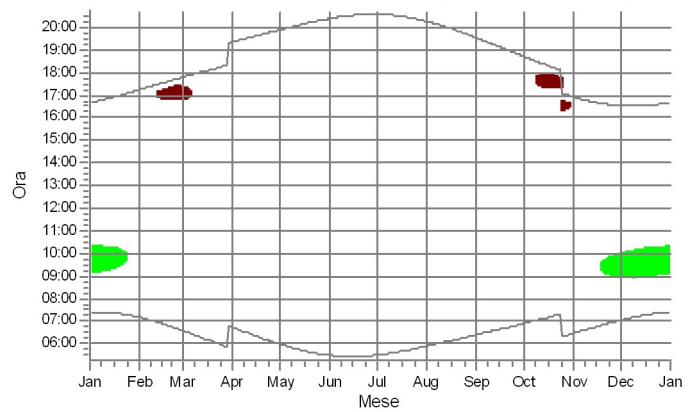
H: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)



I: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)



J: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)



WTG

- 8: GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (10)
- 9: GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (12)

- 10: GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (13)

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 1 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (1)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno
1	07:24 14:54-16:05/71 16:40	07:10 15:26-15:55/29 17:15	06:35 17:49	06:44 17:54-18:41/47 19:23	05:58 19:55	05:29 20:24
2	07:24 14:55-16:05/70 16:41	07:09 15:30-15:52/22 17:16	06:33 17:50	06:42 17:54-18:40/46 19:24	05:57 19:56	05:29 20:25
3	07:24 14:55-16:06/71 16:42	07:08 15:35-15:48/13 17:17	06:31 17:51	06:40 17:53-18:37/44 19:25	05:55 19:57	05:28 20:25
4	07:24 14:56-16:06/70 16:43	07:07 17:18	06:30 17:52	06:39 17:51-18:35/44 19:26	05:54 19:58	05:28 20:26
5	07:24 14:56-16:06/70 16:44	07:06 17:20	06:28 17:53	06:37 17:51-18:33/42 19:27	05:53 19:59	05:28 20:27
6	07:24 14:57-16:07/70 16:45	07:05 17:21	06:27 17:54	06:36 17:50-18:31/41 19:28	05:52 20:00	05:27 20:28
7	07:24 14:58-16:07/69 16:46	07:04 17:22	06:25 17:56	06:34 17:50-18:28/38 19:29	05:51 20:01	05:27 20:28
8	07:24 14:59-16:08/69 16:47	07:03 17:23	06:24 17:57	06:32 17:50-18:27/37 19:30	05:49 20:02	05:27 20:29
9	07:24 14:59-16:07/68 16:48	07:02 17:25	06:22 17:58	06:31 17:49-18:24/35 19:31	05:48 20:03	05:26 20:29
10	07:24 14:59-16:08/69 16:49	07:01 17:26	06:20 17:59	06:29 17:49-18:23/34 19:32	05:47 20:04	05:26 20:30
11	07:23 15:00-16:08/68 16:50	07:00 17:27	06:19 18:00	06:27 17:48-18:20/32 19:33	05:46 20:05	05:26 20:30
12	07:23 15:02-16:08/66 16:51	06:58 17:28	06:17 18:01	06:26 17:48-18:18/30 19:34	05:45 20:06	05:26 20:31
13	07:23 15:02-16:08/66 16:52	06:57 17:30	06:15 18:02	06:24 17:48-18:17/29 19:35	05:44 20:07	05:26 20:31
14	07:22 15:03-16:08/65 16:53	06:56 17:31	06:14 18:03	06:23 17:48-18:14/26 19:36	05:43 20:08	05:26 20:32
15	07:22 15:03-16:08/65 16:54	06:55 17:32	06:12 17:34-17:44/10 18:04	06:21 17:48-18:13/25 19:38	05:42 20:09	05:26 20:32
16	07:22 15:04-16:08/64 16:55	06:53 17:33	06:11 17:27-17:44/17 18:06	06:20 17:48-18:10/22 19:39	05:41 20:10	05:26 20:33
17	07:21 15:05-16:08/63 16:56	06:52 17:34	06:09 17:22-17:45/23 18:07	06:18 17:48-18:09/21 19:40	05:40 20:11	05:26 20:33
18	07:21 15:06-16:08/62 16:58	06:51 17:36	06:07 17:19-17:47/28 18:08	06:17 17:48-18:06/18 19:41	05:39 20:12	05:26 20:33
19	07:20 15:07-16:08/61 16:59	06:49 17:37	06:06 17:15-17:48/33 18:09	06:15 17:48-18:05/17 19:42	05:38 20:13	05:26 20:34
20	07:20 15:08-16:08/60 17:00	06:48 17:38	06:04 17:12-17:48/36 18:10	06:14 17:48-18:02/14 19:43	05:37 20:14	05:26 20:34
21	07:19 15:09-16:07/58 17:01	06:46 17:39	06:02 17:11-17:50/39 18:11	06:12 17:49-18:01/12 19:44	05:36 20:15	05:26 20:34
22	07:18 15:10-16:06/56 17:02	06:45 17:40	06:01 17:08-17:51/43 18:12	06:11 17:49-17:58/9 19:45	05:36 20:16	05:27 20:34
23	07:18 15:11-16:06/55 17:04	06:43 17:42	05:59 17:06-17:52/46 18:13	06:09 17:49-17:57/8 19:46	05:35 20:16	05:27 20:35
24	07:17 15:13-16:06/53 17:05	06:42 17:43	05:57 17:05-17:53/48 18:14	06:08 17:50-17:55/5 19:47	05:34 20:17	05:27 20:35
25	07:16 15:14-16:05/51 17:06	06:41 17:44	05:55 17:03-17:54/51 18:15	06:06 17:50-17:53/3 19:48	05:33 20:18	05:27 20:35
26	07:16 15:15-16:04/49 17:07	06:39 17:45	05:54 17:01-17:54/53 18:16	06:05 17:51-17:52/1 19:49	05:33 20:19	05:28 20:35
27	07:15 15:16-16:03/47 17:08	06:38 17:46	05:52 17:00-17:52/52 18:17	06:03 19:50	05:32 20:20	05:28 20:35
28	07:14 15:18-16:02/44 17:10	06:36 17:48	05:50 16:59-17:50/51 18:18	06:02 19:51	05:31 20:21	05:28 20:35
29	07:13 15:19-16:01/42 17:11		06:49 17:57-18:47/50 19:19	06:01 19:52	05:31 20:22	05:29 20:35
30	07:12 15:21-15:59/38 17:12		06:47 17:57-18:46/49 19:21	05:59 19:53	05:30 20:22	05:29 20:35
31	07:11 15:24-15:57/33 17:13		06:45 17:55-18:43/48 19:22		05:30 20:23	
Ore potenziali eliofanìa	297	297	369	399	448	452
Somma minuti d'ombra	1863	64	677	680	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 1 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (1)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	05:30 20:35	05:54 20:16	06:24 17:47-18:19/32 19:33	06:54 18:42	06:28 16:56	07:03 14:43-15:50/67 16:31
2	05:30 20:35	05:55 20:15	06:25 17:47-18:21/34 19:31	06:55 18:41	06:30 16:55	07:04 14:43-15:51/68 16:31
3	05:31 20:35	05:56 20:14	06:26 17:47-18:22/35 19:30	06:56 18:39	06:31 16:53	07:05 14:43-15:51/68 16:31
4	05:31 20:34	05:56 20:13	06:27 17:47-18:24/37 19:28	06:57 18:37	06:32 16:52	07:06 14:43-15:52/69 16:31
5	05:32 20:34	05:57 20:11	06:28 17:47-18:25/38 19:26	06:58 18:36	06:33 16:51	07:07 14:43-15:52/69 16:30
6	05:32 20:34	05:58 20:10	06:29 17:47-18:27/40 19:25	06:59 18:34	06:34 16:50	07:08 14:43-15:53/70 16:30
7	05:33 20:34	05:59 20:09	06:30 17:46-18:28/42 19:23	07:01 18:32	06:36 16:49	07:09 14:43-15:53/70 16:30
8	05:34 20:33	06:00 20:08	06:31 17:47-18:30/43 19:21	07:02 18:31	06:37 15:05-15:19/14 16:48	07:10 14:44-15:54/70 16:30
9	05:34 20:33	06:01 20:07	06:32 17:47-18:31/44 19:20	07:03 18:29	06:38 15:00-15:23/23 16:47	07:11 14:44-15:55/71 16:30
10	05:35 20:33	06:02 20:05	06:33 17:47-18:32/45 19:18	07:04 18:28	06:39 14:57-15:26/29 16:46	07:12 14:45-15:55/70 16:30
11	05:36 20:32	06:03 20:04	06:34 17:47-18:34/47 19:16	07:05 18:26	06:40 14:55-15:29/34 16:45	07:13 14:44-15:55/71 16:30
12	05:36 20:32	06:04 20:03	06:35 17:47-18:35/48 19:15	07:06 18:24	06:42 14:53-15:31/38 16:44	07:14 14:45-15:56/71 16:30
13	05:37 20:31	06:05 20:01	06:36 17:48-18:37/49 19:13	07:07 18:23	06:43 14:51-15:33/42 16:43	07:14 14:45-15:56/71 16:31
14	05:38 20:31	06:06 20:00	06:37 17:47-18:37/50 19:11	07:08 18:21	06:44 14:51-15:35/44 16:42	07:15 14:46-15:57/71 16:31
15	05:39 20:30	06:07 19:59	06:38 17:48-18:39/51 19:10	07:09 18:20	06:45 14:49-15:36/47 16:41	07:16 14:47-15:58/71 16:31
16	05:39 20:30	06:08 19:57	06:39 17:48-18:40/52 19:08	07:10 18:18	06:46 14:48-15:37/49 16:40	07:17 14:46-15:58/72 16:31
17	05:40 20:29	06:09 17:58-17:59/1 19:56	06:40 17:49-18:42/53 19:06	07:11 18:17	06:48 14:47-15:38/51 16:39	07:17 14:47-15:59/72 16:31
18	05:41 20:28	06:10 17:57-18:00/3 19:54	06:41 17:50-18:42/52 19:04	07:12 18:15	06:49 14:47-15:40/53 16:38	07:18 14:47-15:59/72 16:32
19	05:42 20:28	06:11 17:56-18:02/6 19:53	06:42 17:51-18:40/49 19:03	07:14 18:14	06:50 14:46-15:41/55 16:38	07:19 14:48-15:59/71 16:32
20	05:43 20:27	06:12 17:55-18:03/8 19:52	06:43 17:52-18:38/46 19:01	07:15 18:12	06:51 14:45-15:41/56 16:37	07:19 14:49-16:00/71 16:33
21	05:43 20:26	06:13 17:54-18:04/10 19:50	06:44 17:53-18:37/44 18:59	07:16 18:11	06:52 14:44-15:42/58 16:36	07:20 14:49-16:00/71 16:33
22	05:44 20:25	06:14 17:54-18:06/12 19:49	06:45 17:55-18:35/40 18:58	07:17 18:09	06:53 14:44-15:44/60 16:36	07:20 14:50-16:01/71 16:34
23	05:45 20:25	06:15 17:53-18:07/14 19:47	06:46 17:56-18:33/37 18:56	07:18 18:08	06:55 14:44-15:45/61 16:35	07:21 14:50-16:01/71 16:34
24	05:46 20:24	06:16 17:51-18:08/17 19:46	06:47 17:58-18:32/34 18:54	07:19 18:06	06:56 14:43-15:45/62 16:34	07:21 14:50-16:01/71 16:35
25	05:47 20:23	06:17 17:51-18:09/18 19:44	06:48 18:00-18:30/30 18:53	06:20 17:05	06:57 14:43-15:46/63 16:34	07:22 14:51-16:02/71 16:35
26	05:48 20:22	06:18 17:50-18:11/21 19:42	06:49 18:03-18:28/25 18:51	06:21 17:04	06:58 14:42-15:46/64 16:33	07:22 14:51-16:03/72 16:36
27	05:49 20:21	06:19 17:49-18:12/23 19:41	06:50 18:06-18:26/20 18:49	06:23 17:02	06:59 14:42-15:47/65 16:33	07:22 14:51-16:03/72 16:36
28	05:50 20:20	06:20 17:49-18:14/25 19:39	06:51 18:12-18:25/13 18:47	06:24 17:01	07:00 14:43-15:48/65 16:32	07:23 14:52-16:04/72 16:37
29	05:51 20:19	06:21 17:49-18:15/26 19:38	06:52 18:46	06:25 17:00	07:01 14:43-15:49/66 16:32	07:23 14:53-16:04/71 16:38
30	05:52 20:18	06:22 17:48-18:17/29 19:36	06:53 18:44	06:26 16:58	07:02 14:43-15:50/67 16:32	07:23 14:53-16:04/71 16:39
31	05:53 20:17	06:23 17:48-18:18/30 19:35		06:27 16:57		07:24 14:53-16:05/72 16:39
Ore potenziali eliofanía	459	428	375	345	298	288
Somma minuti d'ombra	0	243	1130	0	1166	2190

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 2 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (2)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:40	07:10 17:15	06:35 15:17-16:18/61 17:49	06:44 19:23	05:58 19:54	05:29 20:24	05:30 20:35	05:54 20:16	06:24 19:33	06:54 15:57-16:54/57 18:42	06:28 16:56	07:03 16:31
2	07:24 16:41	07:09 17:16	06:33 15:17-16:19/62 17:50	06:42 19:24	05:57 19:56	05:29 20:25	05:30 20:35	05:54 20:15	06:25 19:31	06:55 15:56-16:54/58 18:41	06:30 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 15:16-16:19/63 17:51	06:40 19:25	05:55 19:57	05:28 20:25	05:31 20:35	05:55 20:14	06:26 19:30	06:56 15:55-16:55/60 18:39	06:31 16:53	07:05 16:31
4	07:24 16:43	07:07 17:18	06:30 15:17-16:19/62 17:52	06:39 19:26	05:54 19:58	05:28 20:26	05:31 20:34	05:56 20:13	06:27 19:28	06:57 15:54-16:54/60 18:37	06:32 16:52	07:06 16:31
5	07:24 16:44	07:06 17:20	06:28 15:16-16:19/63 17:53	06:37 19:27	05:53 19:59	05:28 20:27	05:32 20:34	05:57 20:11	06:28 19:26	06:58 15:53-16:54/61 18:36	06:33 16:51	07:07 16:30
6	07:24 16:45	07:05 17:21	06:27 15:17-16:19/62 17:54	06:36 19:28	05:52 20:00	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:25	06:59 15:53-16:55/62 18:34	06:34 16:50	07:08 16:30
7	07:24 16:46	07:04 17:22	06:25 15:16-16:19/63 17:55	06:34 19:29	05:50 20:01	05:27 20:28	05:33 20:34	05:59 20:09	06:30 19:23	07:01 15:53-16:55/62 18:32	06:36 16:49	07:09 16:30
8	07:24 16:47	07:03 17:23	06:24 15:16-16:18/62 17:57	06:32 19:30	05:49 20:02	05:27 20:29	05:34 20:33	06:00 20:08	06:31 19:21	07:02 15:52-16:54/62 18:31	06:37 16:48	07:10 16:30
9	07:24 16:48	07:02 17:25	06:22 15:17-16:18/61 17:58	06:31 19:31	05:48 20:03	05:26 20:29	05:34 20:33	06:01 20:07	06:32 19:20	07:03 15:51-16:54/63 18:29	06:38 16:47	07:11 16:30
10	07:24 16:49	07:01 17:26	06:20 15:17-16:17/60 17:59	06:29 19:32	05:47 20:04	05:26 20:30	05:35 20:33	06:02 20:05	06:33 19:18	07:04 15:51-16:54/63 18:28	06:39 16:45	07:12 16:30
11	07:23 16:50	07:00 17:27	06:19 15:17-16:16/59 18:00	06:27 19:33	05:46 20:05	05:26 20:30	05:36 20:32	06:03 20:04	06:34 19:16	07:05 15:51-16:53/62 18:26	06:40 16:44	07:13 16:30
12	07:23 16:51	06:58 15:45-15:52/7 17:28	06:17 15:18-16:16/58 18:01	06:26 19:34	05:45 20:06	05:26 20:31	05:36 20:32	06:04 20:03	06:35 19:15	07:06 15:50-16:52/62 18:24	06:42 16:44	07:14 16:30
13	07:23 16:52	06:57 15:38-15:58/20 17:29	06:15 15:19-16:15/56 18:02	06:24 19:35	05:44 20:07	05:26 20:31	05:37 20:31	06:05 20:01	06:36 19:13	07:07 15:50-16:52/62 18:23	06:43 16:43	07:14 16:30
14	07:22 16:53	06:56 15:35-16:02/27 17:31	06:14 15:19-16:14/55 18:03	06:23 19:36	05:43 20:08	05:26 20:32	05:38 20:31	06:06 20:00	06:37 19:11	07:08 15:50-16:51/61 18:21	06:44 16:42	07:15 16:31
15	07:22 16:54	06:54 15:33-16:05/32 17:32	06:12 15:21-16:13/52 18:04	06:21 19:38	05:42 20:09	05:26 20:32	05:39 20:30	06:07 19:59	06:38 19:10	07:09 15:50-16:50/60 18:20	06:45 16:41	07:16 16:31
16	07:22 16:55	06:53 15:31-16:08/37 17:33	06:10 15:21-16:12/51 18:05	06:20 19:39	05:41 20:10	05:26 20:33	05:39 20:30	06:08 19:57	06:39 19:08	07:10 15:51-16:50/59 18:18	06:46 16:40	07:17 16:31
17	07:21 16:56	06:52 15:28-16:09/41 17:34	06:09 15:22-16:10/48 18:07	06:18 19:40	05:40 20:11	05:26 20:33	05:40 20:29	06:09 19:56	06:40 19:06	07:11 15:51-16:49/58 18:17	06:47 16:39	07:17 16:31
18	07:21 16:58	06:50 15:27-16:11/44 17:36	06:07 15:24-16:09/45 18:08	06:17 19:41	05:39 20:12	05:26 20:33	05:41 20:28	06:10 19:54	06:41 19:04	07:12 15:52-16:48/56 18:15	06:49 16:38	07:18 16:32
19	07:20 16:59	06:49 15:25-16:12/47 17:37	06:05 15:25-16:07/42 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:28	06:11 19:53	06:42 16:26-16:39/13 19:03	07:13 15:52-16:47/55 18:14	06:50 16:38	07:19 16:32
20	07:20 17:00	06:48 15:24-16:13/49 17:38	06:04 15:26-16:05/39 18:10	06:13 19:43	05:37 20:14	05:26 20:34	05:43 20:27	06:12 19:51	06:43 16:21-16:43/22 19:01	07:15 15:52-16:45/53 18:12	06:51 16:37	07:19 16:33
21	07:19 17:01	06:46 15:22-16:14/52 17:39	06:02 15:29-16:04/35 18:11	06:12 19:44	05:36 20:15	05:26 20:34	05:43 20:26	06:13 19:50	06:44 16:17-16:46/29 18:59	07:16 15:53-16:44/51 18:11	06:52 16:36	07:20 16:33
22	07:18 17:02	06:45 15:22-16:15/53 17:40	06:00 15:31-16:01/30 18:12	06:11 19:45	05:36 20:16	05:26 20:34	05:44 20:25	06:14 19:49	06:45 16:14-16:48/34 18:58	07:17 15:55-16:44/49 18:09	06:53 16:36	07:20 16:33
23	07:18 17:03	06:43 15:21-16:17/56 17:42	05:59 15:34-15:58/24 18:13	06:09 19:46	05:35 20:16	05:27 20:35	05:45 20:25	06:15 19:47	06:46 16:11-16:49/38 18:56	07:18 15:56-16:42/46 18:08	06:54 16:35	07:21 16:34
24	07:17 17:05	06:42 15:20-16:17/57 17:43	05:57 15:38-15:54/16 18:14	06:08 19:47	05:34 20:17	05:27 20:35	05:46 20:24	06:16 19:45	06:47 16:09-16:50/41 18:54	07:19 15:57-16:40/43 18:06	06:56 16:34	07:21 16:35
25	07:16 17:06	06:41 15:20-16:18/58 17:44	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:35	05:47 20:23	06:17 19:44	06:48 16:07-16:51/44 18:52	07:20 14:58-15:38/40 17:05	06:57 16:34	07:22 16:35
26	07:16 17:07	06:39 15:18-16:18/60 17:45	05:54 18:16	06:05 19:49	05:33 20:19	05:28 20:35	05:48 20:22	06:18 19:42	06:49 16:05-16:52/47 18:51	06:21 15:01-15:37/36 17:04	06:58 16:33	07:22 16:36
27	07:15 17:08	06:38 15:18-16:19/61 17:46	05:52 18:17	06:03 19:50	05:32 20:20	05:28 20:35	05:49 20:21	06:19 19:41	06:50 16:03-16:53/50 18:49	06:23 15:03-15:34/31 17:02	06:59 16:33	07:22 16:36
28	07:14 17:10	06:36 15:17-16:19/62 17:47	05:50 18:18	06:02 19:51	05:31 20:21	05:28 20:35	05:50 20:20	06:20 19:39	06:51 16:01-16:53/52 18:47	06:24 15:05-15:31/26 17:01	07:00 16:32	07:23 16:37
29	07:13 17:11	06:35 15:16-16:19/63 17:48	05:49 18:19	06:01 19:52	05:31 20:22	05:29 20:35	05:51 20:19	06:21 19:38	06:52 16:00-16:54/54 18:46	06:25 15:09-15:27/18 17:00	07:01 16:32	07:23 16:38
30	07:12 17:12	06:34 15:15-16:19/64 17:49	05:48 18:20	06:00 19:53	05:30 20:23	05:29 20:35	05:52 20:18	06:22 19:36	06:53 15:59-16:54/55 18:44	06:26 16:58	07:02 16:32	07:23 16:39
31	07:11 17:13	06:33 15:14-16:19/65 17:50	05:47 18:21	06:00 19:54	05:30 20:24	05:29 20:35	05:53 20:17	06:23 19:34	06:54 16:57-16:54/56 18:43	06:27 16:57	07:03 16:33	07:24 16:39
	Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	345	298
	Somma minuti d'ombra	0	763	1229	0	0	0	0	0	479	1536	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 3 - GAMESA 6200 170.0 I-! hub: 135,0 m (TOT: 220,0 m) (3)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno
1	07:24 15:21-15:41/20 16:40	07:10 07:30-08:02/32 17:15	06:34 06:58-08:02/64 17:49	06:44 19:23 19:54	05:58 19:54 20:24	05:29 20:24
2	07:24 15:22-15:41/19 16:41	07:09 07:29-08:03/34 17:16	06:33 06:59-08:01/62 17:50	06:42 19:24 19:55	05:57 19:55 20:25	05:29 20:25
3	07:24 15:23-15:41/18 16:42	07:08 07:28-08:04/36 17:17	06:31 07:00-08:00/60 17:51	06:40 19:25 19:57	05:55 19:57 20:25	05:28 20:25
4	07:24 15:24-15:41/17 16:43	07:07 07:27-08:05/38 17:18	06:30 07:01-07:59/58 17:52	06:39 19:26 19:58	05:54 19:58 20:26	05:28 20:26
5	07:24 15:25-15:41/16 16:44	07:06 07:26-08:05/39 17:20	06:28 07:02-07:57/55 17:53	06:37 19:27 19:59	05:53 19:59 20:27	05:28 20:27
6	07:24 15:26-15:41/15 16:45	07:05 07:25-08:06/41 17:21	06:27 07:04-07:56/52 17:54	06:36 19:28 20:00	05:52 19:59 20:27	05:27 20:27
7	07:24 15:28-15:41/13 16:46	07:04 07:24-08:07/43 17:22	06:25 07:05-07:53/48 17:55	06:34 19:29 20:01	05:51 19:59 20:28	05:27 20:28
8	07:24 15:29-15:40/11 16:47	07:03 07:23-08:08/45 17:23	06:23 07:06-07:51/45 17:57	06:32 19:30 20:02	05:49 19:59 20:28	05:27 20:29
9	07:24 15:31-15:38/7 16:48	07:02 07:22-08:08/46 17:25	06:22 07:08-07:49/41 17:58	06:31 19:31 20:03	05:48 19:59 20:29	05:26 20:29
10	07:23 16:49 16:49	07:01 07:20-08:08/48 17:26	06:20 07:10-07:46/36 17:59	06:29 19:32 20:04	05:47 19:59 20:30	05:26 20:30
11	07:23 16:50 16:50	06:59 07:19-08:09/50 17:27	06:19 07:13-07:42/29 18:00	06:27 19:33 20:05	05:46 19:59 20:30	05:26 20:30
12	07:23 16:51 16:51	06:58 07:18-08:09/51 17:28	06:17 07:17-07:38/21 18:01	06:26 19:34 20:06	05:45 19:59 20:31	05:26 20:31
13	07:23 16:52 16:52	06:57 07:16-08:09/53 17:30	06:15 07:25-07:29/4 18:02	06:24 19:35 20:07	05:44 19:59 20:31	05:26 20:31
14	07:22 16:53 16:53	06:56 07:15-08:09/54 17:31	06:14 18:03 18:03	06:23 19:36 20:08	05:43 19:59 20:32	05:26 20:32
15	07:22 16:54 16:54	06:54 07:14-08:09/55 17:32	06:12 18:04 18:04	06:21 19:37 20:09	05:42 19:59 20:32	05:26 20:32
16	07:22 16:55 16:55	06:53 07:13-08:10/57 17:33	06:10 18:05 18:05	06:20 19:39 20:10	05:41 19:59 20:33	05:26 20:33
17	07:21 16:56 16:56	06:52 07:11-08:09/58 17:34	06:09 18:07 18:07	06:18 19:40 20:11	05:40 19:59 20:33	05:26 20:33
18	07:21 16:58 16:58	06:50 07:10-08:09/59 17:36	06:07 18:08 18:08	06:17 19:41 20:12	05:39 19:59 20:33	05:26 20:33
19	07:20 16:59 16:59	06:49 07:08-08:08/60 17:37	06:05 18:09 18:09	06:15 19:42 20:13	05:38 19:59 20:34	05:26 20:34
20	07:20 17:00 17:00	06:48 07:07-08:09/62 17:38	06:04 18:10 18:10	06:14 19:43 20:14	05:37 19:59 20:34	05:26 20:34
21	07:19 17:01 17:01	06:46 07:05-08:08/63 17:39	06:02 18:11 18:11	06:12 19:44 20:15	05:36 19:59 20:34	05:26 20:34
22	07:18 17:02 17:02	06:45 07:04-08:08/64 17:40	06:00 18:12 18:12	06:11 19:45 20:15	05:36 19:59 20:34	05:27 20:34
23	07:18 17:04 17:04	06:43 07:03-08:08/65 17:42	05:59 18:13 18:13	06:09 19:46 20:16	05:35 19:59 20:35	05:27 20:35
24	07:17 17:05 17:05	06:42 07:01-08:07/66 17:43	05:57 18:14 18:14	06:08 19:47 20:17	05:34 19:59 20:35	05:27 20:35
25	07:16 17:06 17:06	06:40 07:00-08:06/66 17:44	05:55 18:15 18:15	06:06 19:48 20:18	05:33 19:59 20:35	05:27 20:35
26	07:16 17:07 17:07	06:39 06:58-08:05/67 17:45	05:54 18:16 18:16	06:05 19:49 20:19	05:33 19:59 20:35	05:28 20:35
27	07:15 17:08 17:08	06:38 06:58-08:05/67 17:46	05:52 18:17 18:17	06:03 19:50 20:20	05:32 19:59 20:35	05:28 20:35
28	07:14 17:10 17:10	06:36 06:58-08:03/65 17:47	05:50 18:18 18:18	06:02 19:51 20:21	05:31 19:59 20:35	05:28 20:35
29	07:13 17:11 17:11		06:49 19:19 19:19	06:01 19:52 20:22	05:31 19:59 20:35	05:29 20:35
30	07:12 17:12 17:12		06:47 19:20 19:20	05:59 19:53 20:22	05:30 19:59 20:35	05:29 20:35
31	07:11 17:13 17:13		06:45 19:22 19:22	05:59 20:23 20:23	05:30 19:59 20:35	05:29 20:35
Ore potenziali eliofanìa	297	297	369	399	448	452
Somma minuti d'ombra	352	1484	575	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 3 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (3)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	05:30 20:35	05:54 20:16	06:24 19:33	06:54 18:42	07:58-08:14/16 16:56	06:28 16:31
2	05:30 20:35	05:55 20:15	06:25 19:31	06:55 18:41	07:53-08:19/26 16:54	06:30 16:31
3	05:31 20:35	05:55 20:14	06:26 19:30	06:56 18:39	07:49-08:22/33 16:53	06:31 16:31
4	05:31 20:34	05:56 20:13	06:27 19:28	06:57 18:37	07:46-08:24/38 16:52	06:32 16:31
5	05:32 20:34	05:57 20:11	06:28 19:26	06:58 18:36	07:43-08:26/43 16:51	06:33 16:30
6	05:32 20:34	05:58 20:10	06:29 19:25	06:59 18:34	07:42-08:29/47 16:50	06:34 16:30
7	05:33 20:34	05:59 20:09	06:30 19:23	07:00 18:32	07:40-08:30/50 16:49	06:36 16:30
8	05:34 20:33	06:00 20:08	06:31 19:21	07:02 18:31	07:38-08:32/54 16:48	06:37 16:30
9	05:34 20:33	06:01 20:07	06:32 19:20	07:03 18:29	07:37-08:33/56 16:47	06:38 16:30
10	05:35 20:33	06:02 20:05	06:33 19:18	07:04 18:28	07:35-08:34/59 16:46	06:39 16:30
11	05:36 20:32	06:03 20:04	06:34 19:16	07:05 18:26	07:34-08:34/60 16:45	06:40 16:30
12	05:36 20:32	06:04 20:03	06:35 19:15	07:06 18:24	07:32-08:35/63 16:44	06:41 16:30
13	05:37 20:31	06:05 20:01	06:36 19:13	07:07 18:23	07:31-08:36/65 16:43	06:43 16:31
14	05:38 20:31	06:06 20:00	06:37 19:11	07:08 18:21	07:30-08:36/66 16:42	06:44 16:31
15	05:39 20:30	06:07 19:59	06:38 19:09	07:09 18:20	07:29-08:37/68 16:41	06:45 16:31
16	05:39 20:29	06:08 19:57	06:39 19:08	07:10 18:18	07:31-08:38/67 16:40	06:46 16:31
17	05:40 20:29	06:09 19:56	06:40 19:06	07:11 18:17	07:32-08:38/66 16:39	06:47 16:32
18	05:41 20:28	06:10 19:54	06:41 19:04	07:12 18:15	07:33-08:38/65 16:38	06:49 16:32
19	05:42 20:28	06:11 19:53	06:42 19:03	07:13 18:14	07:34-08:38/64 16:38	06:50 16:32
20	05:43 20:27	06:12 19:51	06:43 19:01	07:15 18:12	07:35-08:38/63 16:37	06:51 16:33
21	05:43 20:26	06:13 19:50	06:44 18:59	07:16 18:11	07:36-08:38/62 16:36	06:52 16:33
22	05:44 20:25	06:14 19:48	06:45 18:58	07:17 18:09	07:38-08:39/61 16:35	06:53 16:34
23	05:45 20:24	06:15 19:47	06:46 18:56	07:18 18:08	07:39-08:39/60 16:35	06:54 16:34
24	05:46 20:24	06:16 19:45	06:47 18:54	07:19 18:06	07:40-08:39/59 16:34	06:56 16:35
25	05:47 20:23	06:17 19:44	06:48 18:52	06:20 17:05	06:41-07:39/58 16:34	06:57 16:35
26	05:48 20:22	06:18 19:42	06:49 18:51	06:21 17:04	06:43-07:39/56 16:33	06:58 16:36
27	05:49 20:21	06:19 19:41	06:50 18:49	06:23 17:02	06:44-07:39/55 16:33	06:59 16:36
28	05:50 20:20	06:20 19:39	06:51 18:47	06:24 17:01	06:45-07:39/54 16:32	07:00 16:37
29	05:51 20:19	06:21 19:38	06:52 18:46	06:25 17:00	06:46-07:38/52 16:32	07:01 16:38
30	05:52 20:18	06:22 19:36	06:53 18:44	06:26 16:58	06:47-07:38/51 16:32	07:02 16:39
31	05:53 20:17	06:23 19:34		06:27 16:57	06:49-07:38/49	07:03 16:39
Ore potenziali eliofanía	459	428	375	345	298	288
Somma minuti d'ombra	0	0	0	1686	614	589

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 4 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (4)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 13:31-14:44/73 16:40	07:10 14:00-14:41/41 17:15	06:34 17:49	06:44 19:23	05:58 19:54	05:29 20:24	05:30 20:35	05:54 20:16	06:24 19:33	06:54 18:42	06:28 16:56	07:03 13:19-14:30/71 16:31
2	07:24 13:32-14:45/73 16:41	07:09 14:03-14:39/36 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:29 20:25	05:30 20:35	05:54 20:15	06:25 19:31	06:55 18:41	06:30 16:54	07:04 13:19-14:31/72 16:31
3	07:24 13:32-14:45/73 16:42	07:08 14:05-14:37/32 17:17	06:31 17:51	06:40 19:25	05:55 19:56	05:28 20:25	05:31 20:35	05:55 20:14	06:26 19:30	06:56 18:39	06:31 16:53	07:05 13:19-14:31/72 16:31
4	07:24 13:33-14:45/72 16:43	07:07 14:09-14:35/26 17:18	06:30 17:52	06:39 19:26	05:54 19:58	05:28 20:26	05:31 20:34	05:56 20:13	06:27 19:28	06:57 18:37	06:32 16:52	07:06 13:20-14:31/71 16:31
5	07:24 13:33-14:46/73 16:44	07:06 14:14-14:31/17 17:20	06:28 17:53	06:37 19:27	05:53 19:59	05:28 20:27	05:32 20:34	05:57 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:07 13:20-14:32/72 16:30
6	07:24 13:34-14:46/72 16:45	07:05 17:21	06:27 17:54	06:35 19:28	05:52 20:00	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:25	06:59 18:34	06:34 16:50	07:08 13:20-14:32/72 16:30
7	07:24 13:35-14:47/72 16:46	07:04 17:22	06:25 17:55	06:34 19:29	05:50 20:01	05:27 20:28	05:33 20:34	05:59 20:09	06:30 19:23	07:00 18:32	06:35 16:49	07:09 13:21-14:33/72 16:30
8	07:24 13:36-14:47/71 16:47	07:03 17:23	06:23 17:57	06:32 19:30	05:49 20:02	05:27 20:29	05:34 20:33	06:00 20:08	06:31 19:21	07:01 18:31	06:37 16:48	07:10 13:21-14:34/73 16:30
9	07:24 13:35-14:47/72 16:48	07:02 17:25	06:22 17:58	06:31 19:31	05:48 20:03	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:20	07:03 18:29	06:38 16:47	07:11 13:21-14:34/73 16:30
10	07:23 13:36-14:48/72 16:49	07:01 17:26	06:20 17:59	06:29 19:32	05:47 20:04	05:26 20:30	05:35 20:33	06:02 20:05	06:33 19:18	07:04 18:27	06:39 16:45	07:12 13:22-14:35/73 16:30
11	07:23 13:37-14:48/71 16:50	06:59 17:27	06:19 18:00	06:27 19:33	05:46 20:05	05:26 20:30	05:36 20:32	06:03 20:04	06:34 19:16	07:05 18:26	06:40 16:44	07:13 13:21-14:34/73 16:30
12	07:23 13:37-14:48/71 16:51	06:58 17:28	06:17 18:01	06:26 19:34	05:45 20:06	05:26 20:31	05:36 20:32	06:04 20:03	06:35 19:15	07:06 18:24	06:41 16:44	07:14 13:22-14:35/73 16:30
13	07:23 13:38-14:48/70 16:52	06:57 17:29	06:15 18:02	06:24 19:35	05:44 20:07	05:26 20:31	05:37 20:31	06:05 20:01	06:36 19:13	07:07 18:23	06:43 16:43	07:14 13:23-14:36/73 16:30
14	07:22 13:39-14:49/70 16:53	06:56 17:31	06:14 18:03	06:23 19:36	05:43 20:08	05:26 20:32	05:38 20:31	06:06 20:00	06:37 19:11	07:08 18:21	06:44 16:42	07:15 13:23-14:36/73 16:31
15	07:22 13:39-14:48/69 16:54	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:09	05:26 20:32	05:39 20:30	06:07 19:59	06:38 19:09	07:09 18:20	06:45 16:41	07:16 13:23-14:36/73 16:31
16	07:22 13:41-14:49/68 16:55	06:53 17:33	06:10 18:05	06:20 19:39	05:41 20:10	05:26 20:33	05:39 20:29	06:08 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:17 13:24-14:37/73 16:31
17	07:21 13:41-14:49/68 16:56	06:52 17:34	06:09 18:07	06:18 19:40	05:40 20:11	05:26 20:33	05:40 20:29	06:09 19:56	06:40 19:06	07:11 18:17	06:47 16:39	07:17 13:24-14:38/74 16:31
18	07:21 13:42-14:49/67 16:58	06:50 17:36	06:07 18:08	06:16 19:41	05:39 20:12	05:26 20:33	05:41 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:49 16:38	07:18 13:24-14:38/74 16:32
19	07:20 13:43-14:49/66 16:59	06:49 17:37	06:05 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:27	06:11 19:53	06:42 19:03	07:13 18:14	06:50 16:38	07:19 13:25-14:38/73 16:32
20	07:20 13:43-14:48/65 17:00	06:48 17:38	06:04 18:10	06:13 19:43	05:37 20:14	05:26 20:34	05:43 20:27	06:12 19:51	06:43 19:01	07:15 18:12	06:51 16:37	07:19 13:25-14:38/73 16:33
21	07:19 13:45-14:49/64 17:01	06:46 17:39	06:02 18:11	06:12 19:44	05:36 20:15	05:26 20:34	05:43 20:26	06:13 19:50	06:44 18:59	07:16 18:11	06:52 16:36	07:20 13:26-14:39/73 16:33
22	07:18 13:46-14:48/62 17:02	06:45 17:40	06:00 18:12	06:11 19:45	05:36 20:15	05:26 20:34	05:44 20:25	06:13 19:48	06:45 18:58	07:17 18:09	06:53 16:36	07:20 13:26-14:39/73 16:33
23	07:18 13:46-14:48/62 17:03	06:43 17:42	05:59 18:13	06:09 19:46	05:35 20:16	05:27 20:35	05:45 20:24	06:14 19:47	06:46 18:56	07:18 18:08	06:54 16:35	07:21 13:27-14:40/73 16:34
24	07:17 13:48-14:48/60 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:34 20:17	05:27 20:35	05:46 20:24	06:16 19:45	06:47 18:54	07:19 18:06	06:56 16:34	07:21 13:27-14:40/73 16:35
25	07:16 13:49-14:48/59 17:06	06:40 17:44	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:35	05:47 20:23	06:17 19:44	06:48 18:52	07:20 18:05	06:57 16:34	07:22 13:28-14:41/73 16:35
26	07:15 13:50-14:47/57 17:07	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:19	05:28 20:35	05:48 20:22	06:18 19:42	06:49 18:51	07:21 18:04	06:58 16:33	07:22 13:28-14:42/74 16:36
27	07:15 13:52-14:46/54 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:32 20:20	05:28 20:35	05:49 20:21	06:19 19:41	06:50 18:49	07:22 18:02	06:59 16:33	07:22 13:29-14:42/73 16:36
28	07:14 13:53-14:45/52 17:10	06:36 17:47	05:50 18:18	06:02 19:51	05:31 20:21	05:28 20:35	05:50 20:20	06:20 19:39	06:51 18:47	07:23 18:01	07:00 16:32	07:23 13:30-14:43/73 16:37
29	07:13 13:54-14:44/50 17:11	06:34 17:48	05:49 18:19	06:01 19:52	05:31 20:22	05:29 20:35	05:51 20:19	06:21 19:38	06:52 18:46	07:24 18:00	07:01 16:31	07:23 13:30-14:43/73 16:38
30	07:12 13:56-14:43/47 17:12	06:32 17:49	05:47 18:20	05:59 19:53	05:30 20:23	05:29 20:35	05:52 20:18	06:22 19:36	06:53 18:44	07:25 18:00	07:02 16:30	07:23 13:30-14:44/74 16:39
31	07:11 13:58-14:42/44 17:13	06:30 17:50	05:45 18:21	06:45 19:22	05:30 20:23	05:28 20:35	05:53 20:17	06:23 19:34	06:54 18:44	07:26 18:00	07:03 16:29	07:23 13:31-14:44/73 16:39
Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	2019	152	0	0	0	0	0	0	0	0	1381	2258

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 5 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (5)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:40	07:10 17:14	06:34 17:49	06:44 19:23	07:23-07:25/2 19:54	05:58 20:24	05:29 20:35	05:30 20:16	06:24 19:33	06:54 18:42	06:28 16:56	07:03 16:31
2	07:24 16:41	07:09 17:16	06:33 17:50	06:42 19:24	07:25-07:27/2 19:55	05:57 20:25	05:29 20:35	05:30 20:15	06:25 19:31	06:55 18:41	06:30 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:51	06:40 19:25	07:26-07:28/2 19:56	05:55 20:25	05:28 20:35	05:31 20:14	06:26 19:30	06:56 18:39	06:31 16:53	07:05 16:31
4	07:24 16:43	07:07 17:18	06:30 17:52	06:39 19:26	07:27-07:29/2 19:58	05:54 20:26	05:28 20:34	05:31 20:12	06:27 19:28	06:57 18:37	06:32 16:52	07:06 16:31
5	07:24 16:44	07:06 17:19	06:28 17:53	06:37 19:27	07:29-07:31/2 19:59	05:53 20:27	05:27 20:34	05:32 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:07 16:30
6	07:24 16:45	07:05 17:21	06:27 17:54	06:35 19:28	07:30-07:31/1 20:00	05:52 20:27	05:27 20:34	05:32 20:10	06:29 19:25	07:26-07:27/1 18:34	06:59 16:50	07:08 16:30
7	07:24 16:46	07:04 17:22	06:25 17:55	06:34 19:29	07:31-07:32/1 20:01	05:50 20:28	05:27 20:34	05:33 20:09	06:30 19:23	07:24-07:26/2 18:32	07:00 16:49	07:09 16:30
8	07:24 16:47	07:03 17:23	06:23 17:57	06:32 19:30	07:32-07:33/1 20:02	05:49 20:29	05:27 20:33	05:34 20:08	06:00 19:21	07:22-07:24/2 18:31	06:31 16:48	07:10 16:30
9	07:24 16:48	07:02 17:24	06:22 17:58	06:31 19:31	07:33-07:34/1 20:03	05:48 20:29	05:26 20:33	05:34 20:06	06:01 19:20	07:20-07:23/3 18:29	07:03 16:46	07:11 16:30
10	07:23 16:49	07:01 17:26	06:20 17:59	06:29 19:32	07:34-07:35/1 20:04	05:47 20:30	05:25 20:32	05:35 20:05	06:02 19:18	07:18-07:21/3 18:27	07:04 16:45	07:12 16:30
11	07:23 16:50	06:59 17:27	06:19 18:00	06:27 19:33	07:35-07:36/1 20:05	05:46 20:30	05:26 20:32	05:36 20:04	06:03 19:16	07:16-07:18/2 18:26	07:05 16:44	07:13 16:30
12	07:23 16:51	06:58 17:28	06:17 18:01	06:26 19:34	07:36-07:37/1 20:06	05:45 20:31	05:26 20:32	05:36 20:03	06:04 19:15	07:13-07:15/2 18:24	07:06 16:43	07:13 16:30
13	07:23 16:52	06:57 17:29	06:15 18:02	06:24 19:35	07:37-07:38/1 20:07	05:44 20:31	05:26 20:31	05:37 20:01	06:05 19:13	07:11-07:12/1 18:23	07:07 16:43	07:14 16:30
14	07:22 16:53	06:56 17:31	06:14 18:03	06:23 19:36	07:38-07:39/1 20:08	05:43 20:32	05:26 20:31	05:38 20:00	06:06 19:11	07:08 18:21	06:44 16:42	07:15 16:31
15	07:22 16:54	06:54 17:32	06:12 18:04	06:21 19:37	07:39-07:40/1 20:09	05:42 20:32	05:26 20:30	05:38 19:58	06:07 19:09	07:09 18:20	06:45 16:41	07:16 16:31
16	07:21 16:55	06:53 17:33	06:10 18:05	06:20 19:38	07:40-07:41/1 20:10	05:41 20:33	05:26 20:29	05:39 19:57	06:08 19:08	07:10 18:18	06:46 16:40	07:17 16:31
17	07:21 16:56	06:52 17:34	06:09 18:06	06:18 19:40	07:41-07:42/1 20:11	05:40 20:33	05:26 20:29	06:09 19:56	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:21 16:58	06:50 17:36	06:07 18:08	06:16 19:41	07:42-07:43/1 20:12	05:39 20:33	05:26 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:49 16:38	07:18 16:32
19	07:20 16:59	06:49 17:37	06:05 18:09	06:15 19:42	07:43-07:44/1 20:13	05:38 20:34	05:26 20:27	06:11 19:53	06:42 19:03	07:13 18:13	06:50 16:38	07:18 16:32
20	07:20 17:00	06:48 17:38	06:04 18:10	06:13 19:43	07:44-07:45/1 20:14	05:37 20:34	05:26 20:27	06:12 19:51	06:43 19:01	07:15 18:12	06:51 16:37	07:19 16:33
21	07:19 17:01	06:46 17:39	06:02 18:11	06:12 19:44	07:45-07:46/1 20:15	05:36 20:34	05:26 20:26	06:13 19:50	06:44 18:59	07:16 18:11	06:52 16:36	07:20 16:33
22	07:18 17:02	06:45 17:40	06:00 18:12	06:10 19:45	07:46-07:47/1 20:16	05:35 20:34	05:26 20:25	06:14 19:48	06:45 18:57	07:17 18:09	06:53 16:35	07:23 16:33
23	07:18 17:03	06:43 17:42	05:59 18:13	06:09 19:46	07:47-07:48/1 20:17	05:35 20:34	05:27 20:24	06:15 19:47	06:46 18:56	07:18 18:08	06:54 16:35	07:21 16:34
24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	07:48-07:49/1 20:18	05:34 20:35	05:27 20:24	06:16 19:45	06:47 18:54	07:19 18:06	06:56 16:34	07:21 16:34
25	07:16 17:06	06:40 17:44	05:55 18:15	06:06 19:48	07:49-07:50/1 20:19	05:33 20:35	05:27 20:23	06:17 19:44	06:48 18:52	07:20 17:05	06:57 16:34	07:22 16:35
26	07:15 17:07	06:39 17:45	05:54 18:16	06:05 19:49	07:50-07:51/1 20:20	05:33 20:35	05:28 20:22	06:18 19:42	06:49 18:51	07:21 17:03	06:58 16:33	07:22 16:36
27	07:15 17:08	06:37 17:46	05:52 18:17	06:03 19:50	07:51-07:52/1 20:21	05:32 20:35	05:28 20:21	06:19 19:41	06:50 18:49	07:22 17:02	06:59 16:33	07:22 16:36
28	07:14 17:10	06:36 17:47	05:50 18:18	06:02 19:51	07:52-07:53/1 20:22	05:31 20:35	05:28 20:20	06:20 19:39	06:51 18:47	07:23 17:01	07:00 16:32	07:23 16:37
29	07:13 17:11		06:49 19:19	06:01 19:52	07:53-07:54/1 20:23	05:31 20:35	05:29 20:19	06:21 19:38	06:52 18:46	07:24 16:59	07:01 16:32	07:23 16:38
30	07:12 17:12		06:47 19:20	05:59 19:53	07:54-07:55/1 20:24	05:30 20:35	05:29 20:18	06:22 19:36	06:53 18:44	07:25 16:58	07:02 16:32	07:23 16:38
31	07:11 17:13		06:45 19:21	05:59 19:53	07:55-07:56/1 20:25	05:30 20:35	05:29 20:17	06:23 19:34		07:26 16:57	07:03 16:31	07:23 16:39
Ore potenziali eliofania	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	0	0	3	12	0	0	0	0	16	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 6 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (6)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:40	07:10 17:14	06:34 17:48	06:44 19:22	05:58 19:54	05:29 20:24	05:29 20:35	05:53 20:16	06:24 19:33	06:54 18:42	06:28 16:56	07:03 16:31
2	07:24 16:41	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:29 20:25	05:30 20:35	05:54 20:15	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:51	06:40 19:25	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:14	06:26 19:29	06:56 18:39	06:31 16:53	07:05 16:31
4	07:24 16:43	07:07 17:18	06:30 17:52	06:39 19:26	05:54 19:57	05:28 20:26	05:31 20:34	05:56 20:12	06:27 19:28	06:57 18:37	06:32 16:52	07:06 16:30
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Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 7 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (8)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:58 19:54	05:29 20:24	05:29 20:35	05:53 20:16	06:24 19:33	06:54 18:42	06:28 16:55	07:03 16:31
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Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 8 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (10)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il di, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:23 16:40	07:10 17:14	06:34 17:48	16:52-17:18/26 19:22	06:44 19:54	05:58 20:24	05:29 20:35	05:29 20:16	05:53 19:33	06:24 18:42	06:54 16:55	06:28 16:31
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22	07:18 17:02	06:45 17:40	16:51-17:19/28 18:12	18:12 19:45	06:10 20:15	05:35 20:34	05:26 20:25	05:44 19:48	06:14 18:57	06:45 18:09	07:17 16:35	17:21-17:45/24 16:30
23	07:17 17:03	06:43 17:41	16:50-17:19/29 18:13	18:13 19:46	06:09 20:16	05:35 20:34	05:27 20:24	05:45 19:47	06:15 18:56	06:46 18:08	07:18 16:35	17:23-17:45/22 16:30
24	07:17 17:04	06:42 17:43	16:51-17:21/30 18:14	18:14 19:47	06:07 20:17	05:34 20:34	05:27 20:23	05:46 19:45	06:16 18:54	06:47 18:06	07:19 16:34	17:23-17:43/20 16:30
25	07:16 17:06	06:40 17:44	16:50-17:21/31 18:15	18:15 19:48	05:55 20:18	05:33 20:35	05:27 20:23	05:47 19:44	06:17 18:52	06:48 17:05	06:20 16:34	16:24-16:41/17 16:30
26	07:15 17:07	06:39 17:45	16:51-17:21/30 18:16	18:16 19:49	05:54 20:19	05:32 20:35	05:27 20:22	05:48 19:42	06:18 18:51	06:49 17:03	06:21 16:33	16:24-16:40/16 16:30
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Ore potenziali eliofanìa	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	0	362	92	0	0	0	0	0	0	460	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 9 - GAMESA 6200 170.0 !-! hub: 135,0 m (TOT: 220,0 m) (12)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:23 09:11-10:16/65 16:40 16:43	07:10 17:14	06:34 17:48	06:43 19:22	05:58 19:54	05:29 20:24	05:29 20:35	05:53 20:16	06:24 19:33	06:54 18:42	06:28 16:55	07:03 09:02-09:57/55 16:31
2	07:23 09:12-10:16/64 16:41	07:09 17:16	06:33 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:15	06:25 19:31	06:55 18:40	06:29 16:54	07:04 09:02-09:58/56 16:31
3	07:24 09:12-10:16/64 16:42	07:08 17:17	06:31 17:51	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:39	06:30 16:53	07:05 09:01-09:59/58 16:31
4	07:24 09:13-10:16/63 16:43	07:07 17:18	06:30 17:52	06:39 19:26	05:54 19:57	05:28 20:26	05:31 20:34	05:56 20:12	06:27 19:28	06:57 18:37	06:32 16:52	07:06 09:01-10:01/60 16:30
5	07:24 09:14-10:16/62 16:44	07:06 17:19	06:28 17:53	06:37 19:27	05:53 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:51	07:07 09:01-10:01/60 16:30
6	07:24 09:15-10:16/61 16:45	07:05 17:21	06:26 17:54	06:35 19:28	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:08 09:01-10:02/61 16:30
7	07:24 09:16-10:16/60 16:46	07:04 17:22	06:25 17:55	06:34 19:29	05:50 20:00	05:27 20:28	05:33 20:33	05:59 20:09	06:30 19:23	07:00 18:32	06:35 16:48	07:09 09:01-10:03/62 16:30
8	07:23 09:16-10:16/60 16:46	07:03 17:23	06:23 17:56	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 09:01-10:04/63 16:30
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11	07:23 09:20-10:15/55 16:50	07:00 17:27	06:18 18:00	06:27 19:33	05:46 20:05	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16	07:04 18:26	06:40 16:44	07:12 09:01-10:06/65 16:30
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18	07:20 09:28-10:09/41 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:39 20:11	05:26 20:33	05:41 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:48 16:38	07:18 09:03-10:11/68 16:32
19	07:20 09:31-10:08/37 16:58	06:49 17:37	06:05 18:08	06:15 19:41	05:38 20:12	05:26 20:33	05:42 20:27	06:11 19:53	06:42 19:02	07:13 18:13	06:49 09:17-09:32/15 16:37	07:18 09:04-10:12/68 16:32
20	07:19 09:32-10:06/34 17:00	06:47 17:38	06:04 18:10	06:13 19:42	05:37 20:13	05:26 20:34	05:42 20:27	06:12 19:51	06:43 19:01	07:14 18:12	06:51 09:13-09:36/23 16:37	07:19 09:04-10:12/68 16:32
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23	07:17 09:42-09:57/15 17:03	06:43 17:41	05:58 18:13	06:09 19:46	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:47	06:46 18:56	07:18 18:07	06:54 09:07-09:44/37 16:35	07:20 09:06-10:14/68 16:34
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28	07:14 17:09	06:36 17:47	05:50 18:18	06:02 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 18:47	06:23 17:01	07:00 09:02-09:53/51 16:32	07:22 09:08-10:15/67 16:37
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31	07:11 17:13	06:45 19:21	05:58 19:54	05:29 20:23	05:29 20:35	05:29 20:35	05:52 20:17	06:23 19:34	06:27 16:57	06:27 16:57	07:02 09:01-09:55/54 16:31	07:23 09:10-10:16/66 16:39
Ore potenziali eliofanìa	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	1144	0	0	0	0	0	0	0	0	0	475	2014

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: Shadow P WTG: 10 - GAMESA 6200 170.0 I-! hub: 135,0 m (TOT: 220,0 m) (13)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il di, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:58 19:54	05:29 20:24	05:29 20:35	05:53 20:16	06:24 19:33	06:54 18:42	06:28 16:55	07:03 16:31
2	07:24 16:41	07:09 17:16	06:33 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:15	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:51	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:39	06:30 16:53	07:05 16:31
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5	07:24 16:44	07:06 17:19	06:28 17:53	06:37 19:27	05:53 19:58	05:27 20:27	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:51	07:07 16:30
6	07:24 16:45	07:05 17:21	06:26 17:54	06:35 19:28	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24	06:59 18:34	06:34 16:49	07:08 16:30
7	07:24 16:45	07:04 17:22	06:25 17:55	06:34 19:29	05:50 20:00	05:27 20:28	05:33 20:33	05:59 20:09	06:30 19:23	07:00 18:32	06:35 16:48	07:09 16:30
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9	07:23 16:47	07:02 17:24	06:22 17:57	06:30 19:31	05:48 20:03	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:19	07:02 18:29	06:38 16:46	07:11 16:30
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11	07:23 16:50	06:59 17:27	06:18 18:00	06:27 19:33	05:46 20:05	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16	07:04 18:26	06:40 16:44	07:12 16:30
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31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:17	06:23 19:34		07:26 16:57		07:23 16:39
Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	0	0	0	0	0	0	0	0	1	0	0	0

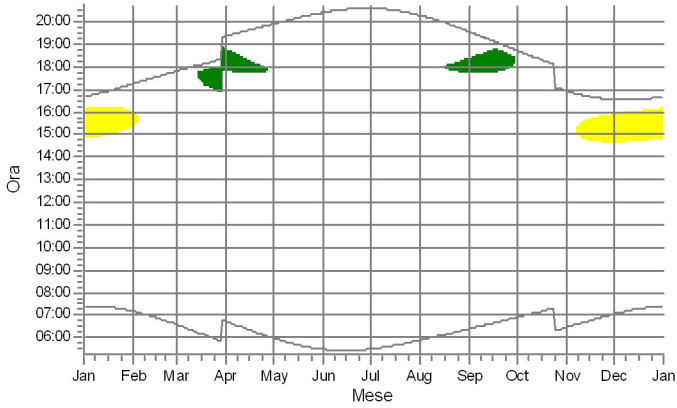
Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

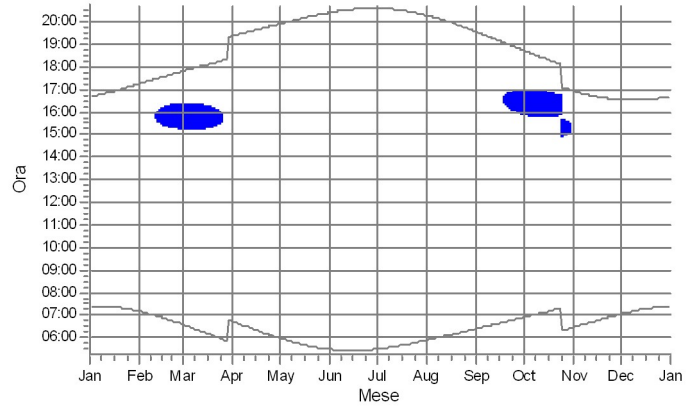
SHADOW - Calendario per WTG, grafico

Calcolo: Shadow P

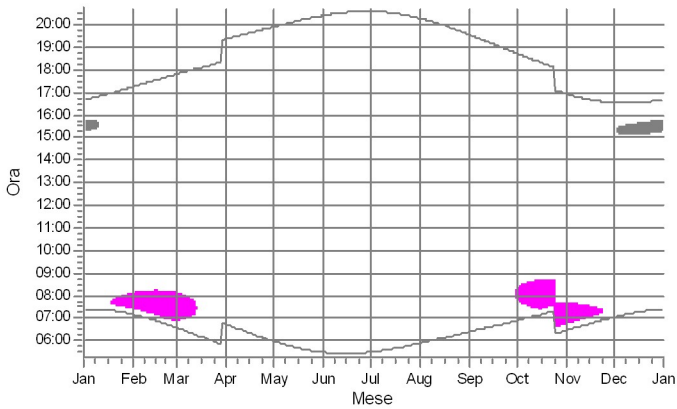
1: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (1)



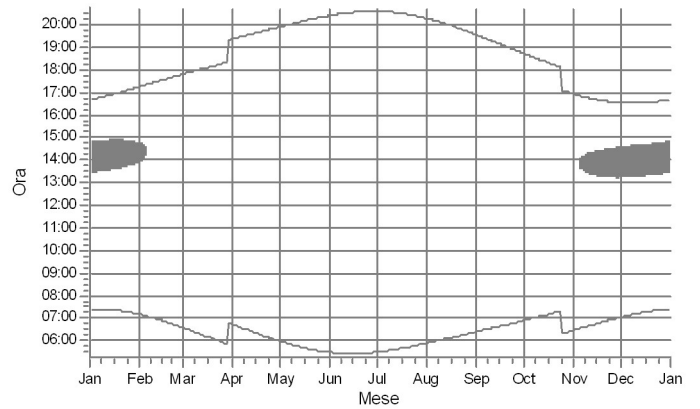
2: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (2)



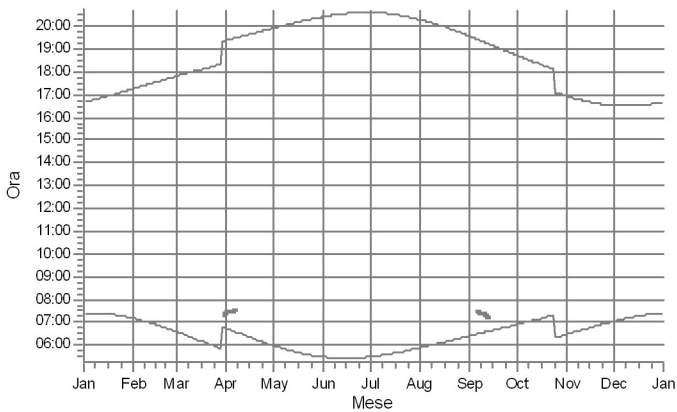
3: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (3)



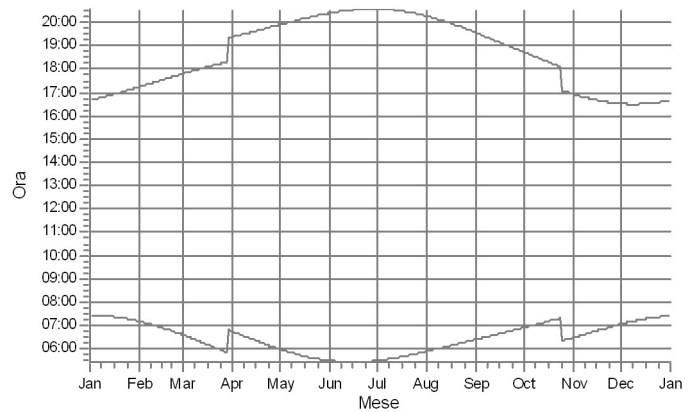
4: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (4)



5: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (5)



6: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (6)



Recettori d'ombra

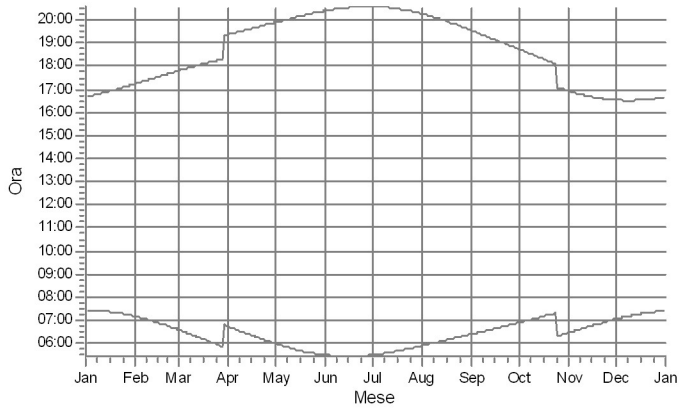
- A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)
- B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)
- C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

- D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)
- E: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)

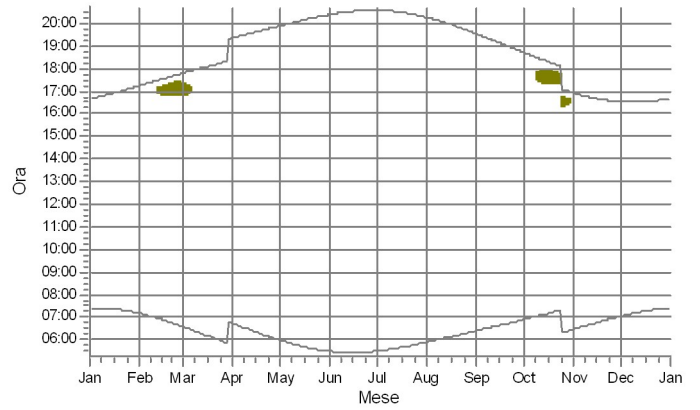
SHADOW - Calendario per WTG, grafico

Calcolo: Shadow P

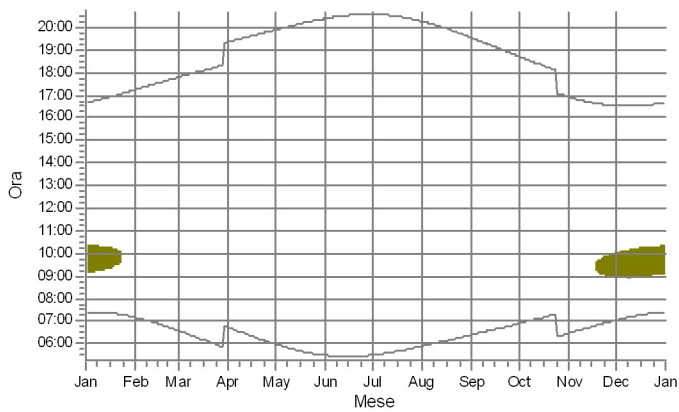
7: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (8)



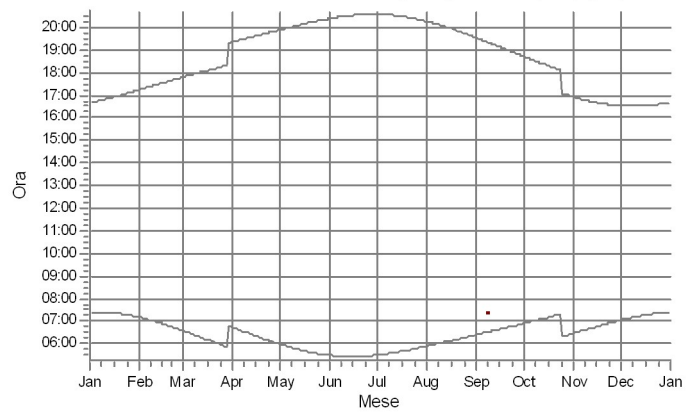
8: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (10)




9: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (12)




10: GAMESA 6200 170.0 !hub: 135,0 m (TOT: 220,0 m) (13)



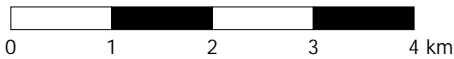
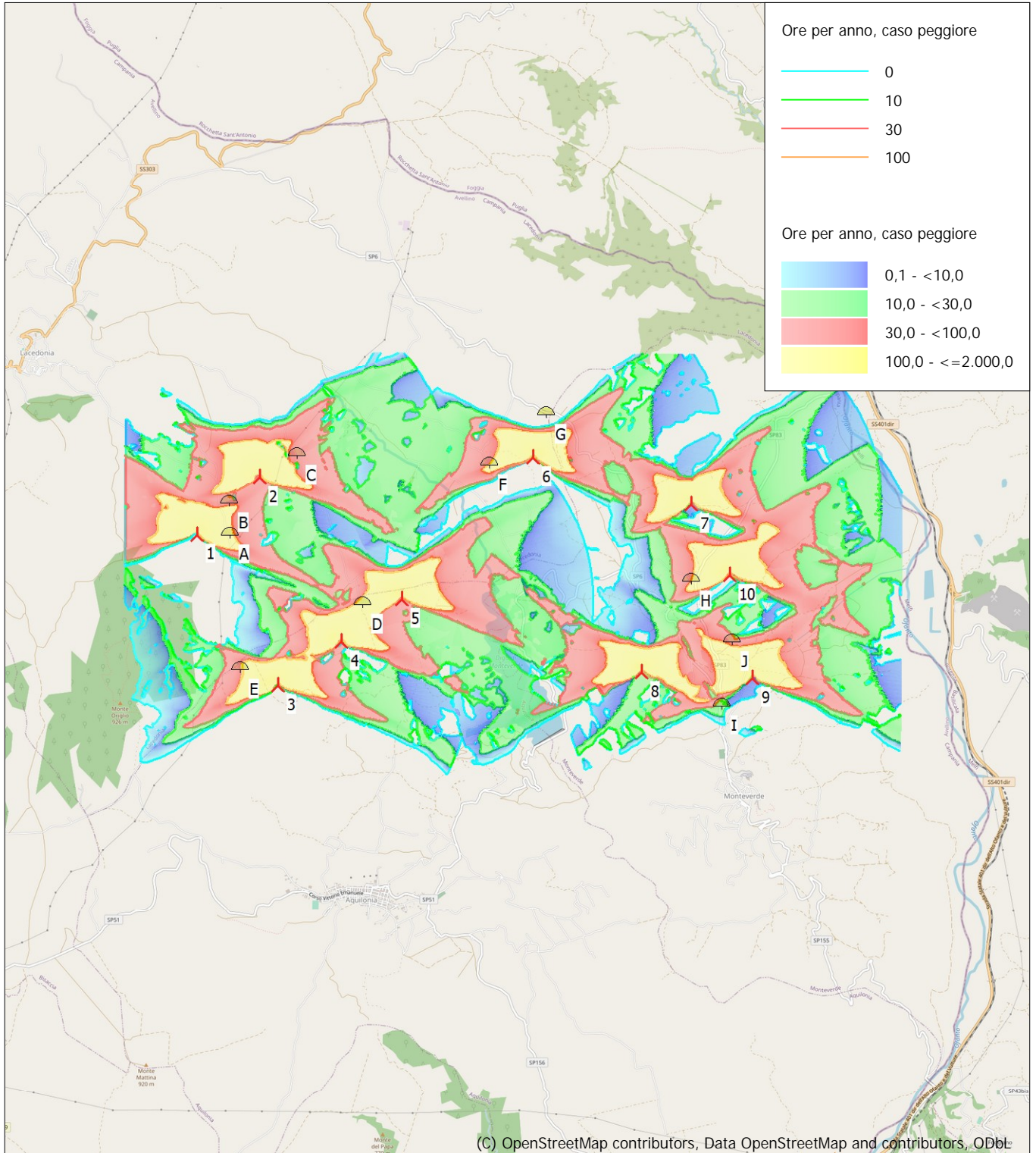
Reettori d'ombra

 H: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)

 J: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)

SHADOW - Mappa

Calcolo: Shadow P



Mappa: EMD OpenStreetMap , Scala di stampa 1:75.000, Centro mappa UTM (north)-WGS84 Zone: 33 Est: 541.870 Nord: 4.541.550

Nuova WTG

Recettore d'ombra

Fonte altimetria:: Elevation Grid Data Object: Ap_EMDGrid_0.wpg (1)

Time step: 2 minuti, Day step: 3 giorni, Map resolution: 10 m, Visibility calculation: 5 m, Altezza dell'osservatore: 1,7 m

Conclusioni

A seguito di quanto descritto nei grafici precedenti si può concludere che, pur considerando una stima cautelativa in quanto non si è tenuto conto degli effetti mitigativi dovuti al piano di rotazione delle pale non sempre ortogonale alla direttrice sole-recettore e all'eventuale presenza di ostacoli e/o vegetazione interposti tra il sole e il recettore,:

- il fenomeno dello shadow flickering si verifica esclusivamente su **6 dei 10 ricettori**, incidendo in maniera molto limitata, in quanto il valore atteso è per tutti i recettori inferiore a 150 ore l'anno, e per la maggior parte di essi inferiore a 100 ore l'anno e mai con durata superiore ai 100 minuti al giorno. Tali ricettori sono analizzati nella tabella a fondo pagina, suddivisi per tipologia. Va altresì sottolineato che:
- la velocità di rotazione della turbina Siemens-Gamesa SG170 è 10,6 rotazioni al minuto, quindi nettamente inferiore a 60 rpm, frequenza massima raccomandata al fine di ridurre al minimo i fastidi e soddisfare le condizioni di benessere;
- le turbine in progetto che causano il fenomeno dell'ombreggiamento sono molto distanti dai recettori (le distanze sono comprese tra 300 m e 1 km). In tali circostanze l'effetto dell'ombra è trascurabile poiché il rapporto tra lo spessore della pala e la distanza dal recettore è molto ridotto.

RICETTORE	CLASSE CATASTAL E	No. ORE CON OMBREGGIAMEN TO	NATURA DEL RICETTORE
A	A06	45	Abitazione
B	C02	56	Capannoni con attività diurna
C	A03	72	Abitazione
D	A04	109	Abitazione
E	A04	76	Abitazione
J	A03	76	Abitazione