

Comune di BISACCIA
(Provincia di Avellino)

PROGETTO PER LA REALIZZAZIONE DI UN IMPIANTO EOLICO
IN LOCALITA' CALAGGIO, MARENA, SERRO LA CROCE

Tav 25

SHADOW FLICKER

COMMITTENTE
ECOPOWER S.R.L.
Via Cardito n. 5
83012 – Cervinara (AV)
ECOPOWER SURL
Via Cardito, 5
83012 - CERVINARA (AV)
P. IVA 02573260649

Saverio Vitagliano

PROGETTISTA
Ing. Saverio Vitagliano



DATA
Ottobre 2022

SPAZIO PER I VISTI

SHADOW - Risultato principale

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

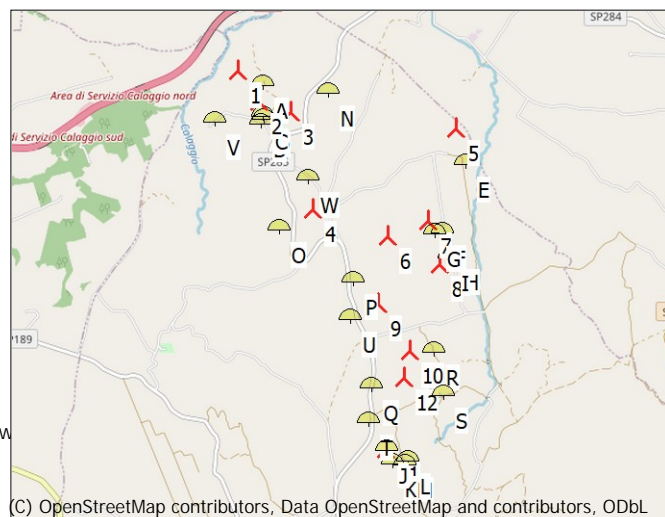
Per evitare di considerare l' ombreggiamento da WTG in realtà non direttamente visibili, prima del calcolo dell' ombra viene eseguito un calcolo ZVI. Quest' ultimo si basa sulle seguenti assunzioni.

Curve altimetriche usate: Height Contours: CONTOURLINE_ONLINEDATA_0.w
 Ostacoli usati:
 Risoluzione del grigliato: 1,0 m

Tutte le coordinate sono in
 Geo [deg,min,sec]-WGS84

WTG

WTG	Longitude	Latitude	Z	Dati/Descrizione	Tipo di WTG			Dati di ombra				
					Valida	Produttore	Tipo generatore	Potenza nominale [kW]	Diametro rotore [m]	Altezza mozzo [m]	Distanza di calcolo [m]	giri/min
1	15°20'22,30" E	41°04'16,04" N	500,0	VESTAS V150-6....	Si	VESTAS	V150-6.0-6.000	6.000	150,0	105,0	1.902	0,0
2	15°20'34,23" E	41°04'02,91" N	552,8	VESTAS V105-3....	Si	VESTAS	V105-3.45-3.450	3.450	105,0	72,5	1.770	13,8
3	15°20'52,67" E	41°03'57,92" N	580,0	VESTAS V105-3....	Si	VESTAS	V105-3.45-3.450	3.450	105,0	72,5	1.770	13,8
4	15°21'05,09" E	41°03'16,63" N	721,9	VESTAS V105-3....	Si	VESTAS	V105-3.45-3.450	3.450	105,0	72,5	1.770	13,8
5	15°22'25,74" E	41°03'51,24" N	528,9	VESTAS V105-3....	Si	VESTAS	V105-3.45-3.450	3.450	105,0	72,5	1.770	13,8
6	15°21'47,65" E	41°03'05,70" N	660,4	VESTAS V105-3....	Si	VESTAS	V105-3.45-3.450	3.450	105,0	72,5	1.770	13,8
7	15°22'10,09" E	41°03'11,89" N	570,0	VESTAS V105-3....	Si	VESTAS	V105-3.45-3.450	3.450	105,0	72,5	1.770	13,8
8	15°22'16,72" E	41°02'53,45" N	554,3	VESTAS V126-3....	Si	VESTAS	V126-3.3 GridStreame-3.300	3.300	126,0	117,0	1.720	12,8
9	15°21'42,01" E	41°02'36,79" N	714,3	VESTAS V126-3....	Si	VESTAS	V126-3.3 GridStreame-3.300	3.300	126,0	117,0	1.720	12,8
10	15°21'59,93" E	41°02'16,44" N	650,5	VESTAS V105-3....	Si	VESTAS	V105-3.45-3.450	3.450	105,0	72,5	1.770	13,8
11	15°21'46,34" E	41°01'34,48" N	754,7	VESTAS V105-3....	Si	VESTAS	V105-3.45-3.450	3.450	105,0	72,5	1.770	13,8
12	15°21'56,74" E	41°02'04,77" N	692,8	VESTAS V105-3....	Si	VESTAS	V105-3.45-3.450	3.450	105,0	72,5	1.770	13,8



Recettore d'ombra-I mmissione dati

n.	Longitude	Latitude	Z	Ampiezza [m]	Height s.l.t.[m]	Altezza [m]	Inclinazione della finestra [°]	Modo orientazione	Altezza osservatore [m]
A	15°20'36,53" E	41°04'09,53" N	548,3	1,0	1,0	1,0	90,0	Monodirezionale	2,0
B	15°20'35,34" E	41°03'53,19" N	596,0	1,0	1,0	1,0	90,0	Monodirezionale	2,0
C	15°20'36,21" E	41°03'56,18" N	587,0	1,0	1,0	1,0	90,0	Monodirezionale	2,0
D	15°20'37,25" E	41°03'54,80" N	594,6	1,0	1,0	1,0	90,0	Monodirezionale	2,0
E	15°22'31,17" E	41°03'35,97" N	526,6	1,0	1,0	1,0	90,0	Monodirezionale	2,0
F	15°22'18,23" E	41°03'06,38" N	532,8	1,0	1,0	1,0	90,0	Monodirezionale	2,0
G	15°22'14,23" E	41°03'05,91" N	547,6	1,0	1,0	1,0	90,0	Monodirezionale	2,0
H	15°22'24,42" E	41°02'56,12" N	530,1	1,0	1,0	1,0	90,0	Monodirezionale	2,0
I	15°22'21,75" E	41°02'55,83" N	534,3	1,0	1,0	1,0	90,0	Monodirezionale	2,0
J	15°21'46,56" E	41°01'33,67" N	750,0	1,0	1,0	1,0	90,0	Monodirezionale	2,0
K	15°21'49,98" E	41°01'28,26" N	734,7	1,0	1,0	1,0	90,0	Monodirezionale	2,0
L	15°21'58,68" E	41°01'28,95" N	686,1	1,0	1,0	1,0	90,0	Monodirezionale	2,0
M	15°21'57,57" E	41°01'27,77" N	692,6	1,0	1,0	1,0	90,0	Monodirezionale	2,0
N	15°21'13,28" E	41°04'06,21" N	581,2	1,0	1,0	1,0	90,0	Monodirezionale	2,0
O	15°20'45,36" E	41°03'07,84" N	680,0	1,0	1,0	1,0	90,0	Monodirezionale	2,0
P	15°21'27,37" E	41°02'45,34" N	731,2	1,0	1,0	1,0	90,0	Monodirezionale	2,0
Q	15°21'38,31" E	41°02'00,27" N	765,2	1,0	1,0	1,0	90,0	Monodirezionale	2,0
R	15°22'13,17" E	41°02'15,59" N	610,3	1,0	1,0	1,0	90,0	Monodirezionale	2,0
S	15°22'18,67" E	41°01'57,04" N	628,5	1,0	1,0	1,0	90,0	Monodirezionale	2,0
T	15°21'36,33" E	41°01'45,75" N	792,0	1,0	1,0	1,0	90,0	Monodirezionale	2,0
U	15°21'25,69" E	41°02'29,57" N	730,8	1,0	1,0	1,0	90,0	Monodirezionale	2,0
V	15°20'09,09" E	41°03'53,90" N	526,4	1,0	1,0	1,0	90,0	Monodirezionale	2,0
W	15°21'02,24" E	41°03'29,21" N	694,0	1,0	1,0	1,0	90,0	Monodirezionale	2,0

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687
Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Risultato principale

Risultati dei calcoli

Recettore d'ombra

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]
A	205:39	92	2:45
B	0:00	0	0:00
C	0:00	0	0:00
D	0:00	0	0:00
E	9:55	40	0:18
F	57:55	104	1:09
G	41:58	93	0:58
H	242:30	204	1:53
I	384:42	260	2:22
J	0:00	0	0:00
K	0:00	0	0:00
L	0:00	0	0:00
M	0:00	0	0:00
N	45:51	104	0:46
O	16:31	58	0:20
P	122:49	128	1:09
Q	0:00	0	0:00
R	70:45	146	0:48
S	24:19	66	0:25
T	0:00	0	0:00
U	0:00	0	0:00
V	10:10	46	0:15
W	0:00	0	0:00

Ombreggiamento totale sui recettori d'ombra causato da ciascuna WTG

n.	Nome	Caso peggiore [ore/anno]
1	VESTAS V150-6.0 6000 150.0 !O! hub: 105,0 m (TOT: 180,0 m) (1)	0:00
2	VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (3)	148:57
3	VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (4)	102:33
4	VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (5)	10:10
5	VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (6)	0:00
6	VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (7)	26:10
7	VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (8)	0:00
8	VESTAS V126-3.3 GridStreame 3300 126.0 !O! hub: 117,0 m (TOT: 180,0 m) (9)	482:30
9	VESTAS V126-3.3 GridStreame 3300 126.0 !O! hub: 117,0 m (TOT: 180,0 m) (10)	174:12
10	VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (11)	20:02
11	VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (12)	24:19
12	VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (13)	50:43

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

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 16:41 163	08:15 (3) 14:01 (2) 17:15	07:11 13:47 (2) 17:49	08:42 (3) 12:55 (2) 17:49	06:35 06:43 19:55	06:44 06:56 20:25	05:58 05:57 20:35	05:30 05:29 20:16	05:30 05:55 20:35	05:54 05:56 20:15	06:25 06:27 19:33	06:55 06:31 18:43	06:29 06:30 16:56	07:04 16:32 156	08:01 (3) 13:44 (2)
2	07:24 16:42 161	08:16 (3) 14:01 (2) 17:16	07:10 13:45 (2) 17:50	08:42 (3) 12:55 (2) 17:50	06:33 06:41 19:56	06:43 06:56 20:25	05:57 05:56 20:35	05:30 05:29 20:16	05:30 05:55 20:35	05:54 05:56 20:15	06:25 06:27 19:32	06:55 06:31 18:41	06:29 06:30 16:55	07:05 16:31 157	08:02 (3) 13:46 (2)
3	07:25 16:42 161	08:16 (3) 14:01 (2) 17:17	07:09 13:41 (2) 17:51	08:42 (3) 12:55 (2) 17:51	06:32 06:39 19:57	06:41 06:56 20:26	05:56 05:55 20:35	05:29 05:28 20:14	05:31 05:57 20:35	05:56 06:28 19:30	06:27 06:58 18:39	06:31 06:33 16:54	06:29 06:30 16:56	07:06 16:31 157	08:03 (3) 13:46 (2)
4	07:25 16:43 162	08:16 (3) 14:02 (2) 17:19	07:08 13:37 (2) 17:53	08:42 (3) 12:55 (2) 17:53	06:30 06:39 19:58	06:39 06:56 20:27	05:55 05:56 20:35	05:28 05:28 20:13	05:32 05:57 20:35	06:28 06:58 19:28	06:28 06:59 18:38	06:33 06:34 16:52	06:28 06:29 16:59	07:07 16:31 158	08:03 (3) 13:47 (2)
5	07:25 16:44 160	08:17 (3) 14:02 (2) 17:20	07:07 13:29 (2) 17:54	08:42 (3) 12:55 (2) 17:54	06:29 06:36 19:59	06:38 06:56 20:27	05:53 05:56 20:35	05:28 05:28 20:12	05:32 05:59 20:35	06:28 06:30 20:11	06:29 07:00 19:25	06:34 06:35 16:50	06:29 06:30 16:50	07:08 16:31 159	08:03 (3) 13:48 (2)
6	07:25 16:45 159	08:18 (3) 14:02 (2) 17:21	07:06 13:29 (2) 17:55	08:42 (3) 12:55 (2) 17:55	06:27 06:36 19:58	06:36 06:54 20:00	05:53 05:56 20:28	05:28 05:28 20:35	05:33 05:59 20:35	06:29 06:30 20:11	06:30 07:00 19:25	06:35 06:36 16:50	06:29 06:30 16:50	07:09 16:31 160	08:04 (3) 13:48 (2)
7	07:24 16:46 159	08:17 (3) 14:01 (2) 17:22	07:05 13:29 (2) 17:56	08:42 (3) 12:55 (2) 17:56	06:26 06:34 19:59	06:34 06:51 20:29	05:51 05:57 20:34	05:27 05:27 20:10	05:33 06:00 20:34	06:00 06:31 20:10	06:31 07:01 19:24	06:36 06:36 16:50	06:29 06:30 16:50	07:10 16:31 161	08:04 (3) 13:49 (2)
8	07:24 16:47 158	08:18 (3) 14:02 (2) 17:24	07:04 13:29 (2) 17:57	08:42 (3) 12:55 (2) 17:57	06:24 06:33 19:59	06:33 06:50 20:01	05:50 05:57 20:34	05:27 05:27 20:10	06:01 06:32 20:34	06:01 06:32 20:08	06:32 07:02 19:22	06:37 06:37 16:50	06:29 06:30 16:50	07:11 16:31 161	08:04 (3) 13:49 (2)
9	07:24 16:48 158	08:18 (3) 14:02 (2) 17:25	07:02 13:29 (2) 17:58	08:42 (3) 12:55 (2) 17:58	06:22 06:31 19:59	06:31 06:49 20:03	05:49 05:57 20:30	05:27 05:27 20:34	06:02 06:33 20:34	06:02 06:33 20:07	06:33 07:03 19:20	06:38 06:38 16:50	06:29 06:30 16:50	07:12 16:31 161	08:04 (3) 13:49 (2)
10	07:24 16:49 157	08:19 (3) 14:03 (2) 17:26	07:01 13:29 (2) 17:59	08:42 (3) 12:55 (2) 17:59	06:21 06:29 19:59	06:29 06:47 20:04	05:47 05:57 20:30	05:27 05:27 20:33	06:03 06:34 20:34	06:03 06:34 20:06	06:34 07:04 19:18	06:40 06:40 16:50	06:29 06:30 16:50	07:13 16:31 161	08:05 (3) 13:50 (2)
11	07:24 16:50 156	08:19 (3) 14:02 (2) 17:27	07:00 13:29 (2) 18:00	08:42 (3) 12:55 (2) 18:00	06:19 06:28 19:59	06:28 06:46 20:05	05:46 05:56 20:31	05:26 05:26 20:33	06:04 06:35 20:33	06:04 06:35 20:05	06:35 07:05 19:17	06:41 06:41 16:50	06:29 06:30 16:50	07:14 16:31 163	08:05 (3) 13:51 (2)
12	07:24 16:51 153	08:20 (3) 14:02 (2) 17:29	06:59 13:29 (2) 18:02	08:42 (3) 12:55 (2) 18:02	06:18 06:26 19:59	06:26 06:44 20:06	05:45 05:56 20:32	05:26 05:26 20:32	06:05 06:36 20:32	06:05 06:36 20:03	06:36 07:06 19:15	06:42 06:42 16:50	06:29 06:30 16:50	07:15 16:31 162	08:06 (3) 13:52 (2)
13	07:23 16:52 153	08:21 (3) 14:03 (2) 17:30	06:58 13:29 (2) 18:03	08:42 (3) 12:55 (2) 18:03	06:16 06:25 19:59	06:25 06:43 20:07	05:44 05:57 20:32	05:26 05:26 20:32	06:06 06:37 20:32	06:06 06:37 20:02	06:37 07:07 19:13	06:43 06:43 16:50	06:29 06:30 16:50	07:16 16:31 162	08:07 (3) 13:52 (2)
14	07:23 16:53 152	08:21 (3) 14:02 (2) 17:31	06:56 13:29 (2) 18:04	08:42 (3) 12:55 (2) 18:04	06:14 06:23 19:59	06:23 06:41 20:08	05:43 05:56 20:32	05:26 05:26 20:32	06:07 06:38 20:31	06:07 06:38 20:01	06:38 07:08 19:12	06:44 06:44 16:50	06:29 06:30 16:50	07:17 16:31 163	08:07 (3) 13:52 (2)
15	07:23 16:55 149	08:22 (3) 14:02 (2) 17:32	06:55 13:29 (2) 18:05	08:42 (3) 12:55 (2) 18:05	06:13 06:22 19:59	06:22 06:40 20:09	05:42 05:57 20:33	05:26 05:26 20:31	06:08 06:39 20:31	06:08 06:39 19:59	06:39 07:10 19:10	06:46 06:46 16:50	06:29 06:30 16:50	07:18 16:31 163	08:07 (3) 13:53 (2)
16	07:22 16:56 149	08:22 (3) 14:02 (2) 17:34	06:54 13:29 (2) 18:06	08:42 (3) 12:55 (2) 18:06	06:11 06:20 19:59	06:20 06:39 20:10	05:41 05:57 20:33	05:26 05:26 20:30	06:09 06:40 19:58	06:09 06:40 19:08	06:40 07:11 18:19	06:47 06:47 16:50	06:29 06:30 16:50	07:19 16:31 163	08:08 (3) 13:54 (2)
17	07:22 16:57 146	08:23 (3) 14:02 (2) 17:35	06:52 13:29 (2) 18:07	08:42 (3) 12:55 (2) 18:07	06:09 06:18 19:40	06:18 06:37 20:11	05:40 05:57 20:34	05:26 05:26 20:30	06:10 06:41 19:56	06:10 06:41 19:07	06:41 07:12 18:17	06:48 06:48 16:50	06:29 06:30 16:50	07:20 16:31 163	08:08 (3) 13:54 (2)
18	07:21 16:58 144	08:23 (3) 14:01 (2) 17:36	06:51 13:29 (2) 18:08	08:42 (3) 12:55 (2) 18:08	06:08 06:17 19:41	06:17 06:36 20:12	05:39 05:56 20:34	05:26 05:26 20:29	06:11 06:42 19:55	06:11 06:42 19:05	06:42 07:13 18:15	06:49 06:49 16:50	06:29 06:30 16:50	07:21 16:31 163	08:09 (3) 13:55 (2)
19	07:21 16:59 141	08:24 (3) 14:01 (2) 17:37	06:50 13:29 (2) 18:09	08:42 (3) 12:55 (2) 18:09	06:06 06:15 19:42	06:15 06:34 20:13	05:38 05:56 20:34	05:26 05:26 20:28	06:12 06:43 19:53	06:12 06:43 19:03	06:43 07:14 18:14	06:50 06:50 16:50	06:29 06:30 16:50	07:22 16:31 165	08:09 (3) 13:56 (2)
20	07:20 17:00 139	08:25 (3) 14:01 (2) 17:38	06:48 13:29 (2) 18:10	08:42 (3) 12:55 (2) 18:10	06:04 06:14 19:43	06:14 06:33 20:14	05:38 05:57 20:35	05:26 05:27 20:27	06:43 06:53 19:52	06:43 06:54 19:01	06:54 07:15 18:12	06:52 06:53 16:50	06:29 06:30 16:50	07:23 16:31 164	08:09 (3) 13:56 (2)
21	07:20 17:01 136	08:25 (3) 14:00 (2) 17:40	06:47 13:29 (2) 18:11	08:42 (3) 12:55 (2) 18:11	06:03 06:12 19:44	06:12 06:31 20:15	05:37 05:57 20:35	05:27 05:27 20:27	06:44 06:54 19:51	06:45 06:55 19:00	06:55 07:16 18:11	06:45 06:45 16:50	06:29 06:30 16:50	07:24 16:31 163	08:10 (3) 13:56 (2)
22	07:19 17:03 133	08:27 (3) 14:00 (2) 17:41	06:45 13:29 (2) 18:12	08:42 (3) 12:55 (2) 18:12	06:01 06:11 19:45	06:11 06:30 20:16	05:36 05:57 20:35	05:27 05:27 20:26	06:15 06:46 19:49	06:15 06:46 18:58	06:46 07:17 18:10	06:46 06:46 16:50	06:29 06:30 16:50	07:25 16:31 163	08:10 (3) 13:56 (2)
23	07:18 17:04 130	08:27 (3) 13:59 (2) 17:42	06:44 13:29 (2) 18:14	08:42 (3) 12:55 (2) 18:14	05:59 06:09 19:47	06:09 06:28 20:17	05:35 05:57 20:35	05:27 05:27 20:25	06:16 06:47 19:48	06:16 06:47 18:56	06:47 07:18 18:08	06:47 06:47 16:50	06:29 06:30 16:50	07:26 16:31 164	08:11 (3) 13:58 (2)
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25	07:17 17:06 122	08:29 (3) 13:57 (2) 17:44	06:41 13:29 (2) 18:16	08:42 (3) 12:55 (2) 18:16	05:56 06:07 19:49	06:07 06:26 20:19	05:34 05:57 20:35	05:28 05:28 20:23	06:48 06:48 19:44	06:49 06:49 18:53	06:49 07:05 17:05	06:49 06:49 16:50	06:29 06:30 16:50	07:28 16:31 164	08:12 (3) 13:58 (2)
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27	07:15 17:09 112	08:32 (3) 13:56 (2) 17:47	06:39 13:29 (2) 18:18	08:42 (3) 12:55 (2) 18:18	05:53 06:04 19:51	06:04 06:23 20:21	05:28 05:57 20:36	05:28 05:28 20:22	06:20 06:51 19:41	06:20 06:51 18:50	06:51 07:03 17:03	06:51 06:51 16:50	06:29 06:30 16:50	07:30 16:31 163	08:13 (3) 13:59 (2)
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31	07:12 17:14 81	08:39 (3) 13:49 (2) 17:52	06:31 13:29 (2) 18:22	08:42 (3) 12:55 (2) 18:22	06:46 06:26 19:46	06:31 06:50 20:24	05:30 05:57 20:36	05:29 05:29 20:18	06:24 06:55 19:35	06:24 06:55 18:44	06:55 07:03 16:57	06:55 06:55 16:50	06:29 06:30 16:50	07:34 16:31 161	08:15 (3) 14:00 (2)
Ore potenziali eliofania	297	297	369	399	448	452	459	428	375	345	298	288			
Totale, caso peggiore	4331	204									2789			5015	

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: B - Shadow Receptor: 1,0 x 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 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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:25	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
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3	07:25 16:42	07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it

Redatto il:

17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: C - Shadow Receptor: 1,0 x 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 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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:25	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
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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

Recettore d'ombra: D - Shadow Receptor: 1,0 x 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 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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:25	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
2	07:24 16:42	07:10 17:16	06:33 17:50	06:43 19:24	05:57 19:56	05:29 20:25	05:30 20:35	05:55 20:15	06:26 19:32	06:56 18:41	06:30 16:55	07:05 16:31
3	07:25 16:42	07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 16:31
4	07:25 16:43	07:08 17:19	06:30 17:53	06:39 19:26	05:55 19:58	05:28 20:27	05:32 20:35	05:57 20:13	06:28 19:28	06:58 18:38	06:33 16:52	07:07 16:31
5	07:25 16:44	07:07 17:20	06:29 17:54	06:38 19:27	05:53 19:59	05:28 20:27	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:36	06:34 16:51	07:08 16:31
6	07:25 16:45	07:06 17:21	06:27 17:55	06:36 19:28	05:52 20:00	05:28 20:28	05:33 20:35	05:59 20:11	06:30 19:25	07:00 18:34	06:35 16:50	07:09 16:31
7	07:24 16:46	07:05 17:22	06:26 17:56	06:34 19:30	05:51 20:01	05:27 20:29	05:33 20:34	06:00 20:10	06:31 19:23	07:01 18:33	06:36 16:49	07:10 16:31
8	07:24 16:47	07:04 17:24	06:24 17:57	06:33 19:31	05:50 20:02	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 16:48	07:11 16:31
9	07:24 16:48	07:02 17:25	06:22 17:58	06:31 19:32	05:49 20:03	05:27 20:30	05:35 20:34	06:02 20:07	06:33 19:20	07:03 18:30	06:38 16:47	07:12 16:31
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13	07:23 16:52	06:58 17:30	06:16 18:03	06:25 19:36	05:44 20:07	05:26 20:32	05:37 20:32	06:06 20:02	06:37 19:13	07:07 18:23	06:43 16:43	07:15 16:31
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15	07:23 16:55	06:55 17:32	06:13 18:05	06:22 19:38	05:42 20:09	05:26 20:33	05:39 20:31	06:08 19:59	06:39 19:10	07:10 18:20	06:46 16:41	07:16 16:31
16	07:22 16:56	06:54 17:34	06:11 18:06	06:20 19:39	05:41 20:10	05:26 20:33	05:40 20:30	06:09 19:58	06:40 19:08	07:11 18:19	06:47 16:40	07:17 16:32
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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

Recettore d'ombra: E - Shadow Receptor: 1,0 x 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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre		
1	07:24 16:41	15:25 (6) 15:41 (6)	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:29 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32	
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3	07:24 16:42	15:26 (6) 15:42 (6)	07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 16:31	15:16 (6) 15:23 (6)
4	07:24 16:43	15:27 (6) 15:42 (6)	07:08 17:19	06:30 17:52	06:39 19:26	05:54 19:58	05:28 20:27	05:31 20:35	05:57 20:13	06:28 19:28	06:58 18:38	06:32 16:52	07:07 16:31	15:15 (6) 15:24 (6)
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13	07:23 16:52	15:39 (6) 17:00	06:57 17:30	06:16 18:03	06:25 19:36	05:44 20:07	05:26 20:32	05:37 20:32	06:06 20:02	06:36 19:13	07:07 18:23	06:43 16:43	07:15 16:31	15:15 (6) 15:32 (6)
14	07:23 16:53	15:39 (6) 17:00	06:56 17:31	06:14 18:04	06:23 19:37	05:43 20:08	05:26 20:32	05:38 20:31	06:07 20:00	06:37 19:12	07:08 18:22	06:44 16:42	07:16 16:31	15:15 (6) 15:33 (6)
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16	07:22 16:55	15:39 (6) 17:00	06:54 17:33	06:11 18:06	06:20 19:39	05:41 20:10	05:26 20:33	05:40 20:30	06:09 19:58	06:39 19:08	07:11 18:18	06:47 16:40	07:17 16:31	15:17 (6) 15:34 (6)
17	07:22 16:57	15:39 (6) 17:00	06:52 17:35	06:09 18:07	06:18 19:40	05:40 20:11	05:26 20:33	05:40 20:29	06:10 19:56	06:40 19:06	07:12 18:17	06:48 16:39	07:18 16:32	15:16 (6) 15:34 (6)
18	07:21 16:58	15:39 (6) 17:00	06:51 17:36	06:07 18:08	06:17 19:41	05:39 20:12	05:26 20:34	05:41 20:29	06:11 19:55	06:41 19:05	07:13 18:15	06:49 16:39	07:18 16:32	15:17 (6) 15:35 (6)
19	07:21 16:59	15:39 (6) 17:00	06:49 17:37	06:06 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:28	06:12 19:53	06:42 19:03	07:14 18:14	06:50 16:38	07:19 16:32	15:17 (6) 15:35 (6)
20	07:20 17:00	15:39 (6) 17:00	06:48 17:38	06:04 18:10	06:14 19:43	05:37 20:14	05:26 20:34	05:43 20:27	06:13 19:52	06:43 19:01	07:15 18:12	06:51 16:37	07:20 16:33	15:18 (6) 15:36 (6)
21	07:19 17:01	15:39 (6) 17:00	06:47 17:40	06:02 18:11	06:12 19:44	05:37 20:15	05:27 20:35	05:44 20:27	06:14 19:50	06:44 19:00	07:16 18:11	06:53 16:36	07:20 16:33	15:19 (6) 15:37 (6)
22	07:19 17:03	15:39 (6) 17:00	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35	05:45 20:26	06:15 19:49	06:45 18:58	07:17 18:09	06:54 16:36	07:21 16:34	15:19 (6) 15:37 (6)
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24	07:17 17:05	15:39 (6) 17:00	06:42 17:43	05:57 18:14	06:08 19:47	05:34 20:18	05:27 20:35	05:46 20:24	06:17 19:46	06:47 18:55	07:20 18:07	06:56 16:35	07:22 16:35	15:20 (6) 15:38 (6)
25	07:17 17:06	15:39 (6) 17:00	06:41 17:44	05:56 18:16	06:06 19:49	05:34 20:19	05:28 20:35	05:47 20:23	06:18 19:44	06:48 18:53	07:21 17:05	06:57 16:34	07:22 16:35	15:20 (6) 15:38 (6)
26	07:16 17:07	15:39 (6) 17:00	06:39 17:45	05:54 18:17	06:05 19:50	05:33 20:20	05:28 20:35	05:48 20:22	06:19 19:43	06:49 18:51	07:22 17:04	06:58 16:34	07:22 16:36	15:21 (6) 15:39 (6)
27	07:15 17:09	15:39 (6) 17:00	06:38 17:47	05:52 18:18	06:04 19:51	05:32 20:20	05:28 20:35	05:49 20:21	06:20 19:41	06:50 18:49	07:23 17:02	06:59 16:33	07:23 16:37	15:22 (6) 15:39 (6)
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29	07:14 17:11	15:39 (6) 17:00	06:35 17:49	05:50 18:20	06:01 19:53	05:31 20:22	05:29 20:35	05:51 20:19	06:22 19:38	06:53 18:46	07:25 17:00	06:51 16:32	07:23 16:38	15:22 (6) 15:40 (6)
30	07:13 17:12	15:39 (6) 17:00	06:34 17:50	05:49 18:21	06:00 19:54	05:30 20:23	05:29 20:35	05:52 20:18	06:23 19:36	06:54 18:44	07:26 16:59	06:50 16:32	07:24 16:39	15:23 (6) 15:40 (6)
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Ore potenziali eliofania	297	297	369	399	448	452	459	428	375	345	298	288	472	
Totale, caso peggiore	123													

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: F - Shadow Receptor: 1,0 x 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 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	07:24 16:41	12:05 (8) 15:17 (9)	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55
2	07:24 16:41	12:07 (8) 15:17 (9)	07:10 17:16	06:33 17:50	06:42 19:24	05:57 19:56
3	07:24 16:42	12:08 (8) 15:17 (9)	07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57
4	07:24 16:43	12:10 (8) 15:18 (9)	07:08 17:19	06:30 17:52	06:39 19:26	05:54 19:58
5	07:24 16:44	12:12 (8) 15:18 (9)	07:07 17:20	06:29 17:54	06:37 19:27	05:53 19:59
6	07:24 16:45	12:13 (8) 15:18 (9)	07:06 17:21	06:27 17:55	06:36 19:28	05:52 20:00
7	07:24 16:46	12:16 (8) 15:19 (9)	07:05 17:22	06:25 17:56	06:34 19:29	05:51 20:01
8	07:24 16:47	12:21 (8) 15:19 (9)	07:03 17:24	06:24 17:57	06:33 19:30	05:50 20:02
9	07:24 16:48	14:56 (9) 15:20 (9)	07:02 17:25	06:22 17:58	06:31 19:32	05:48 20:03
10	07:24 16:49	14:57 (9) 15:20 (9)	07:01 17:26	06:21 17:59	06:29 19:33	05:47 20:04
11	07:24 16:50	14:56 (9) 15:20 (9)	07:00 17:27	06:19 18:00	06:28 19:34	05:46 20:05
12	07:23 16:51	14:57 (9) 15:20 (9)	06:59 17:29	06:17 18:01	06:26 19:35	05:45 20:06
13	07:23 16:52	14:59 (9) 15:21 (9)	06:57 17:30	06:16 18:03	06:25 19:36	05:44 20:07
14	07:23 16:53	14:59 (9) 15:20 (9)	06:56 17:31	06:14 18:04	06:23 19:37	05:43 20:08
15	07:22 16:54	15:00 (9) 15:20 (9)	06:55 17:32	06:12 18:05	06:21 19:38	05:42 20:09
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17	07:22 16:57	15:02 (9) 15:20 (9)	06:52 17:35	06:09 18:07	06:18 19:40	05:40 20:11
18	07:21 16:58	15:03 (9) 15:19 (9)	06:51 17:36	06:07 18:08	06:17 19:41	05:39 20:12
19	07:21 16:59	15:05 (9) 15:18 (9)	06:49 17:37	06:06 18:09	06:15 19:42	05:38 20:13
20	07:20 17:00	15:07 (9) 15:17 (9)	06:48 17:38	06:04 18:10	06:14 19:43	05:37 20:14
21	07:19 17:01	15:11 (9) 15:13 (9)	06:47 17:40	06:02 18:11	06:12 19:44	05:37 20:15
22	07:19 17:03		06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16
23	07:18 17:04		06:44 17:42	05:59 18:13	06:09 19:46	05:35 20:17
24	07:17 17:05		06:42 17:43	05:57 18:14	06:08 19:47	05:34 20:18
25	07:17 17:06		06:41 17:44	05:56 18:16	06:07 19:49	05:34 20:19
26	07:16 17:07		06:39 17:45	05:54 18:17	06:05 19:50	05:33 20:19
27	07:15 17:09		06:38 17:47	05:52 18:18	06:04 19:51	05:32 20:20
28	07:14 17:10		06:36 17:48	05:51 18:19	06:02 19:52	05:32 20:21
29	07:14 17:11			06:49 19:20	06:01 19:53	05:31 20:22
30	07:13 17:12			06:47 19:21	06:00 19:54	05:30 20:23
31	07:12 17:14			06:46 19:22		05:30 20:24
Ore potenziali eliofania	297		297	399		448
Totale, caso peggiore	653		369	415		452

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: F - Shadow Receptor: 1,0 x 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

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre		
1	05:30 20:35	05:54 20:16	06:25 19:33	17:50 (6) 18:19 (6)	06:55 18:43	06:29 16:56	07:04 16:32	23 15:02 (9)
2	05:30 20:35	05:55 20:15	06:26 19:32	17:50 (6) 18:21 (6)	06:56 18:41	06:30 16:55	07:05 16:31	23 15:02 (9)
3	05:31 20:35	05:56 20:14	06:27 19:30	17:50 (6) 18:21 (6)	06:57 18:39	06:31 16:54	07:06 16:31	23 15:03 (9)
4	05:31 20:35	05:57 20:13	06:28 19:28	17:51 (6) 18:20 (6)	06:58 18:38	06:32 16:52	07:07 16:31	36 15:03 (9)
5	05:32 20:35	05:58 20:12	06:29 19:27	17:51 (6) 18:19 (6)	06:59 18:36	06:34 16:51	07:08 16:31	44 15:04 (9)
6	05:33 20:34	05:59 20:11	06:30 19:25	17:52 (6) 18:18 (6)	07:00 18:34	06:35 16:50	07:09 16:31	48 15:04 (9)
7	05:33 20:34	06:00 20:09	06:31 19:23	17:53 (6) 18:16 (6)	07:01 18:33	06:36 16:49	07:10 16:31	53 15:05 (9)
8	05:34 20:34	06:01 20:08	06:32 19:22	17:54 (6) 18:14 (6)	07:02 18:31	06:37 16:48	07:11 16:30	56 15:05 (9)
9	05:34 20:33	06:02 20:07	06:33 19:20	17:56 (6) 18:12 (6)	07:03 18:29	06:38 16:47	07:11 16:30	59 15:06 (9)
10	05:35 20:33	06:03 20:06	06:34 19:18	18:00 (6) 18:07 (6)	07:04 18:28	06:40 16:46	07:12 16:30	59 15:06 (9)
11	05:36 20:33	06:04 20:04	06:35 19:17		07:05 18:26	06:41 16:45	07:13 16:31	62 15:07 (9)
12	05:37 20:32	06:05 20:03	06:36 19:15		07:06 18:25	06:42 16:44	07:14 16:31	63 15:07 (9)
13	05:37 20:32	06:06 20:02	06:37 19:13		07:07 18:23	06:43 16:43	07:15 16:31	64 15:07 (9)
14	05:38 20:31	06:07 20:00	06:37 19:12		07:08 18:22	06:44 16:42	07:16 16:31	66 15:07 (9)
15	05:39 20:31	06:08 19:59	06:38 19:10		07:09 18:20	06:46 16:41	07:16 16:31	66 15:08 (9)
16	05:40 20:30	06:09 19:58	06:39 19:08		07:11 18:18	06:47 16:40	07:17 16:31	67 15:09 (9)
17	05:40 20:29	06:10 19:56	06:40 19:06		07:12 18:17	06:48 16:39	07:18 16:32	67 15:09 (9)
18	05:41 20:29	06:11 19:55	06:41 19:05		07:13 18:15	06:49 16:39	07:18 16:32	67 15:09 (9)
19	05:42 20:28	06:12 19:53	06:42 19:03		07:14 18:14	06:50 16:38	07:19 16:32	68 15:09 (9)
20	05:43 20:27	06:13 19:52	06:43 19:01		07:15 18:12	06:51 16:37	07:20 16:33	68 15:10 (9)
21	05:44 20:27	06:14 19:50	18:01 (6) 06:44 18:05 (6)	19:00	07:16 18:11	06:53 16:37	14:47 (9) 07:20 14:49 (9)	69 15:11 (9)
22	05:45 20:26	06:15 19:49	17:59 (6) 18:06 (6)	06:45 18:58	07:17 18:09	06:54 16:36	14:43 (9) 07:21 14:53 (9)	69 15:11 (9)
23	05:45 20:25	06:16 19:47	17:58 (6) 18:07 (6)	06:46 18:56	07:18 18:08	06:55 16:35	14:41 (9) 07:21 14:54 (9)	68 15:11 (9)
24	05:46 20:24	06:17 19:46	17:57 (6) 18:09 (6)	06:47 18:55	07:20 18:07	06:56 16:35	14:40 (9) 07:22 14:56 (9)	68 15:12 (9)
25	05:47 20:23	06:18 19:44	17:55 (6) 18:10 (6)	06:48 18:53	06:21 17:05	06:57 16:34	14:40 (9) 07:22 14:58 (9)	67 15:12 (9)
26	05:48 20:22	06:19 19:43	17:54 (6) 18:12 (6)	06:49 18:51	06:22 17:04	06:58 16:34	14:40 (9) 07:22 14:59 (9)	68 15:14 (9)
27	05:49 20:21	06:20 19:41	17:54 (6) 18:13 (6)	06:51 18:49	06:23 17:02	06:59 16:33	14:39 (9) 07:23 14:59 (9)	67 15:14 (9)
28	05:50 20:20	06:21 19:40	17:53 (6) 18:15 (6)	06:52 18:48	06:24 17:01	07:00 16:33	14:39 (9) 07:23 15:00 (9)	67 15:14 (9)
29	05:51 20:19	06:22 19:38	17:52 (6) 18:16 (6)	06:53 18:46	06:25 17:00	07:02 16:32	14:39 (9) 07:23 15:01 (9)	66 15:14 (9)
30	05:52 20:18	06:23 19:36	17:52 (6) 18:18 (6)	06:54 18:44	06:26 16:59	07:03 16:32	14:39 (9) 07:24 15:01 (9)	66 15:15 (9)
31	05:53 20:17	06:24 19:35	17:51 (6) 18:18 (6)		06:28 16:57		07:24 16:40	63 15:16 (9)
Ore potenziali eliofanìa	459	428	375	345	298	288		
Totale, caso peggiore		183	240	345	163	288	1821	

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
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3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: G - 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 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	07:24		11:13 (8)	07:11	06:35	06:44				05:58	05:29	
	16:41	41	15:06 (9)	17:15	17:49	19:23				19:55	20:24	
2	07:24		11:16 (8)	07:10	06:33	06:42				05:57	05:29	
	16:41	35	15:06 (9)	17:16	17:50	19:24				19:56	20:25	
3	07:24		14:43 (9)	07:09	06:32	06:41				05:56	05:29	
	16:42	24	15:07 (9)	17:17	17:51	19:25				19:57	20:26	
4	07:24		14:44 (9)	07:08	06:30	06:39				05:54	05:28	
	16:43	23	15:07 (9)	17:19	17:52	19:26				19:58	20:27	
5	07:24		14:45 (9)	07:07	06:29	06:37		18:02 (6)	05:53	05:28		
	16:44	22	15:07 (9)	17:20	17:54	19:27	15	18:17 (6)	19:59	20:27		
6	07:24		14:45 (9)	07:06	06:27	06:36			17:58 (6)	05:52	05:27	
	16:45	21	15:06 (9)	17:21	17:55	19:28	21	18:19 (6)	20:00	20:28		
7	07:24		14:46 (9)	07:05	06:25	06:34			17:57 (6)	05:51	05:27	
	16:46	21	15:07 (9)	17:22	17:56	19:29	24	18:21 (6)	20:01	20:29		
8	07:24		14:47 (9)	07:03	06:24	06:33			17:54 (6)	05:50	05:27	
	16:47	20	15:07 (9)	17:24	17:57	19:30	28	18:22 (6)	20:02	20:29		
9	07:24		14:48 (9)	07:02	06:22	06:31			17:52 (6)	05:48	05:27	
	16:48	19	15:07 (9)	17:25	17:58	19:32	31	18:23 (6)	20:03	20:30		
10	07:24		14:49 (9)	07:01	06:21	06:29			17:52 (6)	05:47	05:27	
	16:49	18	15:07 (9)	17:26	17:59	19:33	31	18:23 (6)	20:04	20:30		
11	07:24		14:50 (9)	07:00	06:19	06:28			17:50 (6)	05:46	05:26	
	16:50	16	15:06 (9)	17:27	18:00	19:34	30	18:20 (6)	20:05	20:31		
12	07:23		14:51 (9)	06:59	06:17	06:26			17:50 (6)	05:45	05:26	
	16:51	15	15:06 (9)	17:29	18:01	19:35	29	18:19 (6)	20:06	20:31		
13	07:23		14:53 (9)	06:57	06:16	06:25			17:49 (6)	05:44	05:26	
	16:52	12	15:05 (9)	17:30	18:03	19:36	28	18:17 (6)	20:07	20:32		
14	07:23		14:55 (9)	06:56	06:14	06:23			17:49 (6)	05:43	05:26	
	16:53	8	15:03 (9)	17:31	18:04	19:37	26	18:15 (6)	20:08	20:32		
15	07:22			06:55	06:12	06:21			17:48 (6)	05:42	05:26	
	16:54			17:32	18:05	19:38	25	18:13 (6)	20:09	20:33		
16	07:22			06:54	06:11	06:20			17:48 (6)	05:41	05:26	
	16:56			17:33	18:06	19:39	23	18:11 (6)	20:10	20:33		
17	07:22			06:52	06:09	06:18			17:47 (6)	05:40	05:26	
	16:57			17:35	18:07	19:40	22	18:09 (6)	20:11	20:33		
18	07:21			06:51	06:07	06:17			17:48 (6)	05:39	05:26	
	16:58			17:36	18:08	19:41	19	18:07 (6)	20:12	20:34		
19	07:21			06:49	06:06	06:15			17:47 (6)	05:38	05:26	
	16:59			17:37	18:09	19:42	18	18:05 (6)	20:13	20:34		
20	07:20			06:48	06:04	06:14			17:48 (6)	05:37	05:26	
	17:00			17:38	18:10	19:43	15	18:03 (6)	20:14	20:34		
21	07:19			06:47	06:02	06:12			17:48 (6)	05:37	05:27	
	17:01			17:40	18:11	19:44	13	18:01 (6)	20:15	20:35		
22	07:19			06:45	06:01	06:11			17:49 (6)	05:36	05:27	
	17:03			17:41	18:12	19:45	10	17:59 (6)	20:16	20:35		
23	07:18			06:44	05:59	06:09			17:49 (6)	05:35	05:27	
	17:04			17:42	18:13	19:46	8	17:57 (6)	20:17	20:35		
24	07:17			06:42	05:57	06:08			17:50 (6)	05:34	05:27	
	17:05			17:43	18:14	19:47	6	17:56 (6)	20:18	20:35		
25	07:17			06:41	05:56	06:07			17:50 (6)	05:34	05:28	
	17:06			17:44	18:16	19:49	3	17:53 (6)	20:19	20:35		
26	07:16			06:39	05:54	06:05			17:51 (6)	05:33	05:28	
	17:07			17:45	18:17	19:50	1	17:52 (6)	20:19	20:35		
27	07:15			06:38	05:52	06:04				05:32	05:28	
	17:09			17:47	18:18	19:51				20:20	20:35	
28	07:14			06:36	05:51	06:02				05:32	05:29	
	17:10			17:48	18:19	19:52				20:21	20:35	
29	07:14				06:49	06:01				05:31	05:29	
	17:11				19:20	19:53				20:22	20:35	
30	07:13				06:47	06:00				05:30	05:29	
	17:12				19:21	19:54				20:23	20:35	
31	07:12				06:46					05:30		
	17:14				19:22					20:24		
Ore potenziali eliofanìa	297		297		369		399		448		452	
Totale, caso peggiore	295						426					

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
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Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: G - 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

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre		
1	05:30 20:35	05:54 20:16	06:25 19:33	17:49 (6) 18:19 (6)	06:55 18:43	06:29 16:56	07:04 16:32	14:32 (9) 14:48 (9)
2	05:30 20:35	05:55 20:15	06:26 19:32	17:50 (6) 18:21 (6)	06:56 18:41	06:30 16:55	07:05 16:31	14:31 (9) 14:49 (9)
3	05:31 20:35	05:56 20:14	06:27 19:30	17:50 (6) 18:21 (6)	06:57 18:39	06:31 16:54	07:06 16:31	14:31 (9) 14:50 (9)
4	05:31 20:35	05:57 20:13	06:28 19:28	17:51 (6) 18:19 (6)	06:58 18:38	06:32 16:52	07:07 16:31	14:31 (9) 14:51 (9)
5	05:32 20:35	05:58 20:12	06:29 19:27	17:53 (6) 18:17 (6)	06:59 18:36	06:34 16:51	07:08 16:31	14:31 (9) 14:52 (9)
6	05:33 20:34	05:59 20:11	06:30 19:25	17:54 (6) 18:15 (6)	07:00 18:34	06:35 16:50	07:09 16:31	14:31 (9) 14:52 (9)
7	05:33 20:34	06:00 20:09	06:31 19:23	17:57 (6) 18:12 (6)	07:01 18:33	06:36 16:49	07:10 16:31	14:31 (9) 14:53 (9)
8	05:34 20:34	06:01 20:08	06:32 19:22	18:02 (6) 18:06 (6)	07:02 18:31	06:37 16:48	07:11 16:30	14:31 (9) 14:54 (9)
9	05:35 20:33	06:02 20:07	06:33 19:20	07:03	18:29	06:38 16:47	07:11 16:30	14:31 (9) 14:55 (9)
10	05:35 20:33	06:03 20:06	06:34 19:18	07:04	18:28	06:40 16:46	07:12 16:30	11:05 (8) 14:55 (9)
11	05:36 20:33	06:04 20:04	06:35 19:17	07:05	18:26	06:41 16:45	07:13 16:31	11:03 (8) 14:56 (9)
12	05:37 20:32	06:05 20:03	06:36 19:15	07:06	18:25	06:42 16:44	07:14 16:31	11:02 (8) 14:57 (9)
13	05:37 20:32	06:06 20:02	06:37 19:13	07:07	18:23	06:43 16:43	07:15 16:31	11:00 (8) 14:57 (9)
14	05:38 20:31	06:07 20:00	06:38 19:12	07:08	18:22	06:44 16:42	07:16 16:31	11:00 (8) 14:57 (9)
15	05:39 20:31	06:08 19:59	06:38 19:10	07:09	18:20	06:46 16:41	07:16 16:31	11:00 (8) 14:58 (9)
16	05:40 20:30	06:09 19:58	06:39 19:08	07:11	18:18	06:47 16:40	07:17 16:31	11:00 (8) 14:59 (9)
17	05:40 20:29	06:10 19:56	17:58 (6) 06:40 19:06	07:12	18:17	06:48 16:39	07:18 16:32	10:59 (8) 14:59 (9)
18	05:41 20:29	06:11 19:55	17:57 (6) 06:41 19:05	07:13	18:15	06:49 16:39	07:18 16:32	10:59 (8) 15:00 (9)
19	05:42 20:28	06:12 19:53	17:55 (6) 06:42 19:03	07:14	18:14	06:50 16:38	07:19 16:32	10:59 (8) 15:00 (9)
20	05:43 20:27	06:13 19:52	17:54 (6) 06:43 19:01	07:15	18:12	06:51 16:37	07:20 16:33	11:00 (8) 15:01 (9)
21	05:44 20:27	06:14 19:50	17:53 (6) 06:44 19:00	07:16	18:11	06:53 16:37	07:20 16:33	11:00 (8) 15:02 (9)
22	05:45 20:26	06:15 19:49	17:53 (6) 06:45 18:58	07:17	18:09	06:54 16:36	07:21 16:34	11:00 (8) 15:02 (9)
23	05:45 20:25	06:16 19:47	17:52 (6) 06:46 18:56	07:18	18:08	06:55 16:35	07:21 16:34	11:00 (8) 15:02 (9)
24	05:46 20:24	06:17 19:46	17:51 (6) 06:47 18:55	07:20	18:07	06:56 16:35	07:22 16:35	11:02 (8) 15:03 (9)
25	05:47 20:23	06:18 19:44	17:51 (6) 06:48 18:53	07:21	18:06	06:57 16:34	07:22 16:35	11:02 (8) 15:03 (9)
26	05:48 20:22	06:19 19:43	17:50 (6) 06:49 18:51	07:22	18:05	06:58 16:34	07:22 16:36	11:04 (8) 15:04 (9)
27	05:49 20:21	06:20 19:41	17:50 (6) 06:51 18:49	07:23	18:04	06:59 16:33	07:23 16:37	11:04 (8) 15:04 (9)
28	05:50 20:20	06:21 19:40	17:50 (6) 06:52 18:48	07:24	18:03	07:00 16:33	07:23 16:37	11:05 (8) 15:04 (9)
29	05:51 20:19	06:22 19:38	17:50 (6) 06:53 18:46	07:25	18:02	07:01 16:32	07:23 16:38	11:06 (8) 15:04 (9)
30	05:52 20:18	06:23 19:36	17:50 (6) 06:54 18:44	07:26	18:01	07:02 16:32	07:24 16:39	11:07 (8) 15:05 (9)
31	05:53 20:17	06:24 19:35	17:49 (6) 06:55 18:42	07:27	18:00	07:03 16:31	07:24 16:40	11:10 (8) 15:06 (9)
Ore potenziali eliofania	459	428	375	345	298	288		
Totale, caso peggiore		250	184	345	33	1330		

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687



Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584

SHADOW - Calendario

Recettore d'ombra: H - Shadow Receptor: 1,0 x 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 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	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	15:20 (8) 05:58	15:41 (8) 05:29
2	07:24 16:41	07:10 17:16	06:33 17:50	15:17 (8) 15:27 (8)	06:42 19:24	15:41 (8) 16:59 (8)
3	07:24 16:42	07:09 17:17	06:32 17:51	15:07 (8) 15:37 (8)	06:41 19:25	15:43 (8) 16:58 (8)
4	07:24 16:43	07:08 17:19	06:30 17:52	15:01 (8) 15:42 (8)	06:39 19:26	15:44 (8) 16:57 (8)
5	07:24 16:44	07:07 17:20	06:29 17:54	14:58 (8) 15:47 (8)	06:37 19:27	15:45 (8) 16:57 (8)
6	07:24 16:45	07:06 17:21	06:27 17:55	14:54 (8) 15:49 (8)	06:36 19:28	15:47 (8) 16:56 (8)
7	07:24 16:46	07:05 17:22	06:25 17:56	14:50 (8) 15:52 (8)	06:34 19:29	15:47 (8) 16:54 (8)
8	07:24 16:47	07:03 17:24	15:59 (9) 16:09 (9)	06:24 17:57	14:48 (8) 15:55 (8)	15:49 (8) 16:53 (8)
9	07:24 16:48	07:02 17:25	15:57 (9) 16:11 (9)	06:22 17:58	14:45 (8) 15:56 (8)	15:50 (8) 16:53 (8)
10	07:24 16:49	07:01 17:26	15:56 (9) 16:13 (9)	06:21 17:59	14:42 (8) 15:58 (8)	15:51 (8) 16:52 (8)
11	07:24 16:50	07:00 17:27	15:54 (9) 16:14 (9)	06:19 18:00	14:41 (8) 16:00 (8)	15:53 (8) 16:51 (8)
12	07:23 16:51	06:59 17:29	15:53 (9) 16:15 (9)	06:17 18:01	14:38 (8) 16:01 (8)	15:54 (8) 16:50 (8)
13	07:23 16:52	06:57 17:30	15:53 (9) 16:16 (9)	06:16 18:03	14:36 (8) 16:02 (8)	15:56 (8) 16:49 (8)
14	07:23 16:53	06:56 17:31	15:53 (9) 16:17 (9)	06:14 18:04	14:35 (8) 16:04 (8)	15:57 (8) 16:47 (8)
15	07:22 16:54	06:55 17:32	15:52 (9) 16:16 (9)	06:12 18:05	14:33 (8) 16:05 (8)	15:58 (8) 16:46 (8)
16	07:22 16:56	06:54 17:33	15:52 (9) 16:17 (9)	06:11 18:06	14:31 (8) 16:06 (8)	16:00 (8) 16:45 (8)
17	07:22 16:57	06:52 17:35	15:53 (9) 16:17 (9)	06:09 18:07	14:30 (8) 16:07 (8)	16:01 (8) 16:43 (8)
18	07:21 16:58	06:51 17:36	15:52 (9) 16:16 (9)	06:07 18:08	14:29 (8) 16:08 (8)	16:04 (8) 16:43 (8)
19	07:21 16:59	06:49 17:37	15:53 (9) 16:16 (9)	06:06 18:09	14:27 (8) 16:08 (8)	16:05 (8) 16:41 (8)
20	07:20 17:00	06:48 17:38	15:53 (9) 16:15 (9)	06:04 18:10	14:27 (8) 16:09 (8)	16:07 (8) 16:40 (8)
21	07:19 17:01	06:47 17:40	15:54 (9) 16:15 (9)	06:02 18:11	14:25 (8) 16:10 (8)	16:09 (8) 16:38 (8)
22	07:19 17:03	06:45 17:41	15:55 (9) 16:13 (9)	06:01 18:12	14:24 (8) 16:10 (8)	16:12 (8) 16:37 (8)
23	07:18 17:04	06:44 17:42	15:57 (9) 16:12 (9)	05:59 18:13	14:24 (8) 16:11 (8)	16:14 (8) 16:34 (8)
24	07:17 17:05	06:42 17:43	15:59 (9) 16:09 (9)	05:57 18:14	14:23 (8) 16:11 (8)	16:17 (8) 16:31 (8)
25	07:17 17:06	06:41 17:44	05:56 18:16	06:07 19:48	14:22 (8) 16:11 (8)	16:23 (8) 16:27 (8)
26	07:16 17:07	06:39 17:45	05:54 18:17	06:05 19:50	14:22 (8) 16:12 (8)	15:35 (8) 17:03 (8)
27	07:15 17:09	06:38 17:47	05:52 18:18	06:04 19:51	14:21 (8) 16:12 (8)	15:36 (8) 17:03 (8)
28	07:14 17:10	06:36 17:48	05:51 18:19	06:02 19:52	14:20 (8) 16:12 (8)	15:37 (8) 17:02 (8)
29	07:14 17:11		06:49 19:20	06:01 19:53	15:38 (8) 17:01 (8)	05:31 20:22
30	07:13 17:12		06:47 19:21	06:00 19:54	15:39 (8) 17:01 (8)	05:30 20:23
31	07:12 17:14		06:46 19:22	15:20 (8) 17:13 (8)		05:30 20:24
Ore potenziali eliofania	297	297	369	399	448	452
Totale, caso peggiore		336	2590	3052	1253	

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

Recettore d'ombra: H - Shadow Receptor: 1,0 x 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 dì, 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	05:54	16:04 (8)	06:25	15:21 (8)	06:55	15:17 (8)	06:29	15:25 (9)	07:04
	20:35	20:16	57 17:01 (8)	19:33	109 17:10 (8)	18:43	84 16:41 (8)	16:56	17 15:42 (9)	16:32
2	05:30	05:55	16:03 (8)	06:26	15:20 (8)	06:56	15:18 (8)	06:30	15:27 (9)	07:05
	20:35	20:15	59 17:02 (8)	19:32	110 17:10 (8)	18:41	81 16:39 (8)	16:55	14 15:41 (9)	16:31
3	05:31	05:56	16:02 (8)	06:27	15:19 (8)	06:57	15:20 (8)	06:31	15:30 (9)	07:06
	20:35	20:14	61 17:03 (8)	19:30	110 17:09 (8)	18:39	77 16:37 (8)	16:54	8 15:38 (9)	16:31
4	05:31	05:57	16:00 (8)	06:28	15:18 (8)	06:58	15:22 (8)	06:32		07:07
	20:35	20:13	64 17:04 (8)	19:28	111 17:09 (8)	18:38	73 16:35 (8)	16:52		16:31
5	05:32	05:58	15:59 (8)	06:29	15:17 (8)	06:59	15:23 (8)	06:34		07:08
	20:35	20:12	65 17:04 (8)	19:27	112 17:09 (8)	18:36	69 16:32 (8)	16:51		16:31
6	05:33	05:59	15:57 (8)	06:30	15:16 (8)	07:00	15:25 (8)	06:35		07:09
	20:34	20:11	68 17:05 (8)	19:25	112 17:08 (8)	18:34	65 16:30 (8)	16:50		16:31
7	05:33	06:00	15:56 (8)	06:31	15:15 (8)	07:01	15:28 (8)	06:36		07:10
	20:34	20:09	70 17:06 (8)	19:23	113 17:08 (8)	18:33	58 16:26 (8)	16:49		16:31
8	05:34	06:01	15:55 (8)	06:32	15:14 (8)	07:02	15:31 (8)	06:37		07:11
	20:34	20:08	72 17:07 (8)	19:22	113 17:07 (8)	18:31	52 16:23 (8)	16:48		16:30
9	05:35	06:02	15:52 (8)	06:33	15:14 (8)	07:03	15:34 (8)	06:38		07:11
	20:33	20:07	74 17:06 (8)	19:20	113 17:07 (8)	18:29	45 16:19 (8)	16:47		16:30
10	05:35	06:03	15:51 (8)	06:34	15:13 (8)	07:04	15:38 (8)	06:40		07:12
	20:33	20:06	76 17:07 (8)	19:18	113 17:06 (8)	18:28	36 16:14 (8)	16:46		16:30
11	05:36	06:04	15:50 (8)	06:35	15:12 (8)	07:05	15:44 (8)	06:41		07:13
	20:33	20:04	78 17:08 (8)	19:17	113 17:05 (8)	18:26	24 16:08 (8)	16:45		16:31
12	05:37	06:05	15:48 (8)	06:36	15:12 (8)	07:06		06:42		07:14
	20:32	20:03	80 17:08 (8)	19:15	113 17:05 (8)	18:25		16:44		16:31
13	05:37	06:06	15:47 (8)	06:37	15:11 (8)	07:07		06:43		07:15
	20:32	20:02	82 17:09 (8)	19:13	113 17:04 (8)	18:23		16:43		16:31
14	05:38	06:07	15:45 (8)	06:37	15:11 (8)	07:08		06:44		07:16
	20:31	20:00	84 17:09 (8)	19:12	112 17:03 (8)	18:22		16:42		16:31
15	05:39	06:08	15:44 (8)	06:38	15:11 (8)	07:09		06:45		07:16
	20:31	19:59	85 17:09 (8)	19:10	111 17:02 (8)	18:20		16:41		16:31
16	05:40	06:09	15:43 (8)	06:39	15:10 (8)	07:11		06:47		07:17
	20:30	19:58	87 17:10 (8)	19:08	112 17:02 (8)	18:18		16:40		16:31
17	05:40	06:10	15:41 (8)	06:40	15:10 (8)	07:12		06:48		07:18
	20:29	19:56	89 17:10 (8)	19:06	111 17:01 (8)	18:17		16:39		16:32
18	05:41	06:11	15:40 (8)	06:41	15:10 (8)	07:13		16:30 (9)		06:49
	20:29	19:55	90 17:10 (8)	19:05	110 17:00 (8)	18:15	11 16:41 (9)	16:39		16:32
19	05:42	16:29 (8)	06:12	15:39 (8)	06:42	15:10 (8)	07:14		16:27 (9)	06:50
	20:28	11 16:40 (8)	19:53	92 17:11 (8)	19:03	109 16:59 (8)	18:14	16 16:43 (9)	16:38	07:20
20	05:43	16:25 (8)	06:13	15:37 (8)	06:43	15:10 (8)	07:15		16:26 (9)	06:51
	20:27	17 16:42 (8)	19:52	94 17:11 (8)	19:01	108 16:58 (8)	18:12	19 16:45 (9)	16:37	16:33
21	05:44	16:22 (8)	06:14	15:36 (8)	06:44	15:10 (8)	07:16		16:25 (9)	06:53
	20:27	23 16:45 (8)	19:50	95 17:11 (8)	19:00	107 16:57 (8)	18:11	21 16:46 (9)	16:37	16:33
22	05:45	16:20 (8)	06:15	15:34 (8)	06:45	15:11 (8)	07:17		16:24 (9)	06:54
	20:26	27 16:47 (8)	19:49	97 17:11 (8)	18:58	104 16:55 (8)	18:09	22 16:46 (9)	16:36	16:34
23	05:45	16:19 (8)	06:16	15:33 (8)	06:46	15:11 (8)	07:18		16:23 (9)	06:55
	20:25	30 16:49 (8)	19:47	98 17:11 (8)	18:56	103 16:54 (8)	18:08	23 16:46 (9)	16:35	16:34
24	05:46	16:17 (8)	06:17	15:32 (8)	06:47	15:11 (8)	07:19		16:22 (9)	06:56
	20:24	34 16:51 (8)	19:46	99 17:11 (8)	18:55	102 16:53 (8)	18:07	24 16:46 (9)	16:35	16:35
25	05:47	16:15 (8)	06:18	15:30 (8)	06:48	15:12 (8)	06:21		15:22 (9)	06:57
	20:23	38 16:53 (8)	19:44	102 17:12 (8)	18:53	99 16:51 (8)	17:05	25 15:47 (9)	16:34	07:22
26	05:48	16:13 (8)	06:19	15:29 (8)	06:49	15:13 (8)	06:22		15:22 (9)	06:58
	20:22	40 16:53 (8)	19:43	103 17:12 (8)	18:51	97 16:50 (8)	17:04	25 15:47 (9)	16:34	16:36
27	05:49	16:11 (8)	06:20	15:28 (8)	06:50	15:13 (8)	06:23		15:22 (9)	06:59
	20:21	44 16:55 (8)	19:41	104 17:12 (8)	18:49	95 16:48 (8)	17:02	24 15:46 (9)	16:33	16:37
28	05:50	16:10 (8)	06:21	15:27 (8)	06:52	15:14 (8)	06:24		15:22 (9)	07:00
	20:20	46 16:56 (8)	19:40	104 17:11 (8)	18:48	93 16:47 (8)	17:01	23 15:45 (9)	16:33	16:37
29	05:51	16:08 (8)	06:22	15:25 (8)	06:53	15:15 (8)	06:25		15:23 (9)	07:02
	20:19	49 16:57 (8)	19:38	106 17:11 (8)	18:46	90 16:45 (8)	17:00	23 15:46 (9)	16:32	16:38
30	05:52	16:07 (8)	06:23	15:24 (8)	06:54	15:16 (8)	06:26		15:23 (9)	07:03
	20:18	51 16:58 (8)	19:36	107 17:11 (8)	18:44	87 16:43 (8)	16:59	22 15:45 (9)	16:32	16:39
31	05:53	16:06 (8)	06:24	15:22 (8)			06:28		15:24 (9)	07:24
	20:17	54 17:00 (8)	19:35	108 17:10 (8)			16:57	19 15:43 (9)		16:40
Ore potenziali eliofanìa	459	428		375		345		298		288
Totale, caso peggiore	464	2650		3205		961		39		

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

Recettore d'ombra: I - 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	07:24 16:41	07:11 17:15	06:35 17:49	06:44 17:23	14:21 (8) 19:55	14:43 (8) 20:29
2	07:24 16:41	07:10 17:16	06:33 17:50	06:42 19:24	14:20 (8) 19:56	14:44 (8) 20:25
3	07:24 16:42	07:09 17:17	06:32 17:51	14:28 (8) 19:25	06:41 19:57	14:45 (8) 20:26
4	07:24 16:43	07:08 17:19	06:30 17:52	14:20 (8) 19:26	06:39 19:58	14:47 (8) 20:27
5	07:24 16:44	07:07 17:20	06:29 17:54	14:15 (8) 19:27	06:37 19:59	14:48 (8) 20:28
6	07:24 16:45	07:06 17:21	15:54 (9) 17:55	14:10 (8) 19:28	06:36 19:58	14:49 (8) 20:29
7	07:24 16:46	07:05 17:22	15:52 (9) 17:56	14:05 (8) 19:29	06:34 19:59	14:50 (8) 20:30
8	07:24 16:47	07:03 17:24	15:50 (9) 17:57	14:02 (8) 19:30	06:33 20:00	14:51 (8) 20:31
9	07:24 16:48	07:02 17:25	15:49 (9) 17:58	13:59 (8) 19:31	06:31 20:01	14:52 (8) 20:32
10	07:24 16:49	07:01 17:26	15:48 (9) 17:59	13:56 (8) 19:32	06:29 20:02	14:53 (8) 20:33
11	07:24 16:50	07:00 17:27	15:47 (9) 18:00	13:55 (8) 19:33	06:28 20:03	14:54 (8) 20:34
12	07:23 16:51	06:59 17:29	15:47 (9) 18:01	13:50 (8) 19:34	06:26 20:04	14:55 (8) 20:35
13	07:23 16:52	06:57 17:30	15:47 (9) 18:02	13:48 (8) 19:35	06:25 20:05	14:56 (8) 20:36
14	07:23 16:53	06:56 17:31	15:47 (9) 18:03	13:46 (8) 19:36	06:23 20:06	14:57 (8) 20:37
15	07:22 16:54	06:55 17:32	15:46 (9) 18:04	13:44 (8) 19:37	06:21 20:07	14:58 (8) 20:38
16	07:22 16:55	06:54 17:33	15:46 (9) 18:05	13:42 (8) 19:38	06:20 20:08	14:59 (8) 20:39
17	07:22 16:56	06:52 17:34	15:47 (9) 18:06	13:41 (8) 19:39	06:19 20:09	15:00 (8) 20:40
18	07:21 16:57	06:51 17:35	15:47 (9) 18:07	13:40 (8) 19:40	06:18 20:10	15:01 (8) 20:41
19	07:21 16:58	06:49 17:36	15:48 (9) 18:08	13:38 (8) 19:41	06:17 20:11	15:02 (8) 20:42
20	07:20 17:00	06:48 17:37	15:48 (9) 18:09	13:36 (8) 19:42	06:15 20:12	15:03 (8) 20:43
21	07:19 17:01	06:47 17:38	15:50 (9) 18:10	13:35 (8) 19:43	06:14 20:13	15:04 (8) 20:44
22	07:19 17:03	06:45 17:41	16:09 (9) 18:12	13:33 (8) 19:44	06:12 20:14	15:05 (8) 20:45
23	07:18 17:04	06:44 17:42	16:07 (9) 18:13	13:32 (8) 19:45	06:11 20:15	15:06 (8) 20:46
24	07:17 17:05	06:42 17:43	16:05 (9) 18:14	13:30 (8) 19:46	06:10 20:16	15:07 (8) 20:47
25	07:17 17:06	06:41 17:44	16:05 (9) 18:15	13:29 (8) 19:47	06:08 20:17	15:08 (8) 20:48
26	07:16 17:07	06:39 17:45	16:05 (9) 18:16	13:27 (8) 19:48	06:07 20:18	15:09 (8) 20:49
27	07:15 17:09	06:38 17:47	16:05 (9) 18:17	13:26 (8) 19:49	06:06 20:19	15:10 (8) 20:50
28	07:14 17:10	06:36 17:48	16:09 (9) 18:18	13:25 (8) 19:50	06:05 20:20	15:11 (8) 20:51
29	07:14 17:11	06:34 17:49	16:09 (9) 18:19	13:24 (8) 19:51	06:04 20:21	15:12 (8) 20:52
30	07:13 17:12	06:33 17:50	16:09 (9) 18:20	13:23 (8) 19:52	06:03 20:22	15:13 (8) 20:53
31	07:12 17:14	06:32 17:51	16:09 (9) 18:21	13:22 (8) 19:53	06:02 20:23	15:14 (8) 20:54
Ore potenziali eliofanìa	297	297	369	399	448	452
Totale, caso peggiore		369	2947	4003	2826	1897

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

Recettore d'ombra: I - 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

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre						
1	05:30 20:35	15:27 (8) 16:30 (8)	05:54 20:16	15:06 (8) 16:43 (8)	06:25 19:33	14:19 (8) 16:39 (8)	06:55 18:43	14:29 (8) 16:03 (8)	06:29 16:56	22	15:17 (9) 15:39 (9)	07:04 16:32
2	05:30 20:35	15:26 (8) 16:29 (8)	05:55 20:15	15:05 (8) 16:43 (8)	06:26 19:32	14:18 (8) 16:39 (8)	06:56 18:41	14:31 (8) 16:01 (8)	06:30 16:55	20	15:19 (9) 15:39 (9)	07:05 16:31
3	05:31 20:35	15:26 (8) 16:30 (8)	05:56 20:14	15:04 (8) 16:44 (8)	06:27 19:30	14:17 (8) 16:38 (8)	06:57 18:39	14:33 (8) 15:58 (8)	06:31 16:54	17	15:20 (9) 15:37 (9)	07:06 16:31
4	05:31 20:35	15:26 (8) 16:30 (8)	05:57 20:13	15:03 (8) 16:44 (8)	06:28 19:28	14:16 (8) 16:38 (8)	06:58 18:38	14:35 (8) 15:55 (8)	06:32 16:52	13	15:22 (9) 15:35 (9)	07:07 16:31
5	05:32 20:35	15:26 (8) 16:31 (8)	05:58 20:12	15:01 (8) 16:44 (8)	06:29 19:27	14:15 (8) 16:37 (8)	06:59 18:36	14:38 (8) 15:52 (8)	06:34 16:51	8	15:24 (9) 15:32 (9)	07:08 16:31
6	05:33 20:34	15:25 (8) 16:31 (8)	05:59 20:11	15:00 (8) 16:44 (8)	06:30 19:25	14:15 (8) 16:36 (8)	07:00 18:34	14:40 (8) 15:49 (8)	06:35 16:50			07:09 16:31
7	05:33 20:34	15:25 (8) 16:32 (8)	06:00 20:09	14:59 (8) 16:45 (8)	06:31 19:23	14:14 (8) 16:36 (8)	07:01 18:33	14:44 (8) 15:46 (8)	06:36 16:49			07:10 16:31
8	05:34 20:34	15:24 (8) 16:32 (8)	06:01 20:08	14:57 (8) 16:45 (8)	06:32 19:22	14:14 (8) 16:35 (8)	07:02 18:31	14:47 (8) 15:41 (8)	06:37 16:48			07:11 16:30
9	05:35 20:33	15:24 (8) 16:33 (8)	06:02 20:07	14:55 (8) 16:44 (8)	06:33 19:20	14:14 (8) 16:34 (8)	07:03 18:29	14:51 (8) 15:37 (8)	06:38 16:47			07:11 16:30
10	05:35 20:33	15:24 (8) 16:33 (8)	06:03 20:06	14:53 (8) 16:44 (8)	06:34 19:18	14:13 (8) 16:33 (8)	07:04 18:28	14:57 (8) 15:30 (8)	06:40 16:46			07:12 16:30
11	05:36 20:33	15:23 (8) 16:33 (8)	06:04 20:04	14:52 (8) 16:44 (8)	06:35 19:17	14:13 (8) 16:32 (8)	07:05 18:26	15:08 (8) 15:20 (8)	06:41 16:45			07:13 16:31
12	05:37 20:32	15:23 (8) 16:34 (8)	06:05 20:03	14:50 (8) 16:44 (8)	06:36 19:15	14:13 (8) 16:31 (8)	07:06 18:25	14:47 (8) 16:44	06:42 16:44			07:14 16:31
13	05:37 20:32	15:23 (8) 16:35 (8)	06:06 20:02	14:49 (8) 16:44 (8)	06:37 19:13	14:13 (8) 16:30 (8)	07:07 18:23	16:43	06:43 16:43			07:15 16:31
14	05:38 20:31	15:22 (8) 16:36 (8)	06:07 20:00	14:47 (8) 16:45 (8)	06:37 19:12	14:14 (8) 16:29 (8)	07:08 18:22	16:44	06:44 16:42			07:16 16:31
15	05:39 20:31	15:21 (8) 16:35 (8)	06:08 19:59	14:45 (8) 16:45 (8)	06:38 19:10	14:14 (8) 16:28 (8)	07:09 18:20	16:45	06:45 16:41			07:16 16:31
16	05:40 20:30	15:21 (8) 16:36 (8)	06:09 19:58	14:44 (8) 16:45 (8)	06:39 19:08	14:14 (8) 16:27 (8)	07:11 18:18	16:47	06:47 16:40			07:17 16:31
17	05:40 20:29	15:20 (8) 16:37 (8)	06:10 19:56	14:42 (8) 16:45 (8)	06:40 19:06	14:15 (8) 16:26 (8)	07:12 18:17	16:48	06:48 16:39			07:18 16:32
18	05:41 20:29	15:20 (8) 16:37 (8)	06:11 19:55	14:40 (8) 16:44 (8)	06:41 19:05	14:15 (8) 16:25 (8)	07:13 18:15	16:27 (9) 16:33 (9)	06:49 16:39	6	16:27 (9) 16:33 (9)	07:18 16:32
19	05:42 20:28	15:19 (8) 16:38 (8)	06:12 19:53	14:39 (8) 16:44 (8)	06:42 19:03	14:16 (8) 16:24 (8)	07:14 18:14	16:23 (9) 16:36 (9)	06:50 16:38	13	16:23 (9) 16:36 (9)	07:19 16:32
20	05:43 20:27	15:18 (8) 16:38 (8)	06:13 19:52	14:37 (8) 16:44 (8)	06:43 19:01	14:16 (8) 16:22 (8)	07:15 18:12	16:22 (9) 16:39 (9)	06:51 16:37	17	16:22 (9) 16:39 (9)	07:20 16:33
21	05:44 20:27	15:17 (8) 16:38 (8)	06:14 19:50	14:35 (8) 16:44 (8)	06:44 19:00	14:17 (8) 16:21 (8)	07:16 18:11	16:20 (9) 16:40 (9)	06:53 16:37	20	16:20 (9) 16:40 (9)	07:20 16:33
22	05:45 20:26	15:16 (8) 16:39 (8)	06:15 19:49	14:34 (8) 16:44 (8)	06:45 18:58	14:18 (8) 16:19 (8)	07:17 18:09	16:19 (9) 16:41 (9)	06:54 16:36	22	16:19 (9) 16:41 (9)	07:21 16:34
23	05:45 20:25	15:16 (8) 16:40 (8)	06:16 19:47	14:32 (8) 16:44 (8)	06:46 18:56	14:19 (8) 16:18 (8)	07:18 18:08	16:17 (9) 16:41 (9)	06:55 16:35	24	16:17 (9) 16:41 (9)	07:21 16:34
24	05:46 20:24	15:15 (8) 16:40 (8)	06:17 19:46	14:30 (8) 16:43 (8)	06:47 18:55	14:20 (8) 16:16 (8)	07:20 18:07	16:16 (9) 16:41 (9)	06:56 16:35	25	16:16 (9) 16:41 (9)	07:22 16:35
25	05:47 20:23	15:14 (8) 16:41 (8)	06:18 19:44	14:29 (8) 16:43 (8)	06:48 18:53	14:21 (8) 16:15 (8)	06:21 17:05	15:17 (9) 15:42 (9)	06:57 16:34	25	15:17 (9) 15:42 (9)	07:22 16:35
26	05:48 20:22	15:12 (8) 16:40 (8)	06:19 19:43	14:27 (8) 16:43 (8)	06:49 18:51	14:22 (8) 16:13 (8)	06:22 17:04	15:16 (9) 15:42 (9)	06:58 16:34	26	15:16 (9) 15:42 (9)	07:22 16:36
27	05:49 20:21	15:11 (8) 16:41 (8)	06:20 19:41	14:26 (8) 16:42 (8)	06:51 18:49	14:23 (8) 16:11 (8)	06:23 17:02	15:16 (9) 15:42 (9)	06:59 16:33	26	15:16 (9) 15:42 (9)	07:23 16:37
28	05:50 20:20	15:10 (8) 16:41 (8)	06:21 19:40	14:24 (8) 16:42 (8)	06:52 18:48	14:24 (8) 16:09 (8)	06:24 17:01	15:16 (9) 15:41 (9)	07:00 16:33	25	15:16 (9) 15:41 (9)	07:23 16:37
29	05:51 20:19	15:09 (8) 16:42 (8)	06:22 19:38	14:23 (8) 16:42 (8)	06:53 18:46	14:26 (8) 16:07 (8)	06:25 17:00	15:16 (9) 15:42 (9)	07:02 16:32	26	15:16 (9) 15:42 (9)	07:23 16:38
30	05:52 20:18	15:08 (8) 16:42 (8)	06:23 19:36	14:22 (8) 16:41 (8)	06:54 18:44	14:27 (8) 16:05 (8)	06:26 16:59	15:17 (9) 15:41 (9)	07:03 16:32	24	15:17 (9) 15:41 (9)	07:24 16:39
31	05:53 20:17	15:07 (8) 16:43 (8)	06:24 19:35	14:20 (8) 16:40 (8)			06:28 16:57	15:17 (9) 15:40 (9)		23	15:17 (9) 15:40 (9)	07:24 16:40
Ore potenziali eliofanìa	459		428		375		345		298	80		288
Totale, caso peggiore	2379		3722		3858		1001		80			

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

Recettore d'ombra: J - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)

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

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: K - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (12)

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

Recettore d'ombra: L - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (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	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
2	07:24 16:42	07:10 17:16	06:33 17:50	06:42 19:24	05:57 19:56	05:29 20:25	05:31 20:35	05:55 20:15	06:26 19:32	06:56 18:41	06:30 16:55	07:05 16:31
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31	07:12 17:14		06:46 19:22		05:30 20:24		05:53 20:17	06:24 19:35		06:28 16:57		07:24 16:40
Ore potenziali eliofania	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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: M - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (14)

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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
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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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687
Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: N - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (15)

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	07:24		07:11		16:11 (3)	06:35		06:44		05:58		05:29
	16:41		17:15	40	16:51 (3)	17:49		19:23		19:55		20:24
2	07:24		07:10		16:11 (3)	06:33		06:43		05:57		05:29
	16:41		17:16	41	16:52 (3)	17:50		19:24		19:56		20:25
3	07:24		07:09		16:11 (3)	06:32		06:41		05:56		05:29
	16:42		17:17	43	16:54 (3)	17:51		19:25		19:57		20:26
4	07:25		07:08		16:11 (3)	06:30		06:39		05:54		05:28
	16:43		17:19	44	16:55 (3)	17:52		19:26		19:58		20:27
5	07:25		07:07		16:11 (3)	06:29		06:38		05:53		05:28
	16:44		17:20	46	16:57 (3)	17:54		19:27		19:59		20:27
6	07:25		07:06		16:11 (3)	06:27		06:36		05:52		05:28
	16:45		17:21	46	16:57 (3)	17:55		19:28		20:00		20:28
7	07:24		07:05		16:10 (3)	06:26		06:34		05:51		05:27
	16:46		17:22	46	16:56 (3)	17:56		19:29		20:01		20:29
8	07:24		07:04		16:11 (3)	06:24		06:33		05:50		05:27
	16:47		17:24	45	16:56 (3)	17:57	2	17:36 (2)	19:31	20:02		20:29
9	07:24		07:02		16:11 (3)	06:22		06:31		05:49		05:27
	16:48		17:25	45	16:56 (3)	17:58	4	17:37 (2)	19:32	20:03		20:30
10	07:24		07:01		16:12 (3)	06:21		06:29		05:47		05:27
	16:49		17:26	44	16:56 (3)	17:59	7	17:38 (2)	19:33	20:04		20:30
11	07:24		07:00		16:12 (3)	06:19		06:28		05:46		05:26
	16:50		17:27	44	16:56 (3)	18:00	8	17:39 (2)	19:34	20:05		20:31
12	07:24		06:59		16:12 (3)	06:17		06:26		05:45		05:26
	16:51		17:29	43	16:55 (3)	18:01	10	17:40 (2)	19:35	20:06		20:31
13	07:23		06:58		16:13 (3)	06:16		06:25		05:44		05:26
	16:52		17:30	42	16:55 (3)	18:03	11	17:42 (2)	19:36	20:07		20:32
14	07:23		06:56		16:14 (3)	06:14		06:23		05:43		05:26
	16:53		17:31	40	16:54 (3)	18:04	13	17:43 (2)	19:37	20:08		20:32
15	07:23		06:55		16:14 (3)	06:13		06:22		05:42		05:26
	16:54		17:32	39	16:53 (3)	18:05	14	17:44 (2)	19:38	20:09		20:33
16	07:22		16:24 (3)	06:54	16:16 (3)	06:11		06:20		05:41		05:26
	16:56	6	16:30 (3)	17:34	16:52 (3)	18:06	14	17:45 (2)	19:39	20:10		20:33
17	07:22		16:22 (3)	06:52	16:17 (3)	06:09		06:18		05:40		05:26
	16:57	10	16:32 (3)	17:35	16:52 (3)	18:07	15	17:46 (2)	19:40	20:11		20:34
18	07:21		16:19 (3)	06:51	16:18 (3)	06:08		06:17		05:39		05:26
	16:58	14	16:33 (3)	17:36	16:50 (3)	18:08	15	17:47 (2)	19:41	20:12		20:34
19	07:21		16:19 (3)	06:50	16:20 (3)	06:06		06:15		05:38		05:26
	16:59	15	16:34 (3)	17:37	16:48 (3)	18:09	15	17:48 (2)	19:42	20:13		20:34
20	07:20		16:17 (3)	06:48	16:21 (3)	06:04		06:14		05:37		05:26
	17:00	18	16:35 (3)	17:38	16:46 (3)	18:10	13	17:48 (2)	19:43	20:14		20:35
21	07:20		16:16 (3)	06:47	16:24 (3)	06:03		06:12		05:37		05:27
	17:01	20	16:36 (3)	17:40	16:44 (3)	18:11	4	17:43 (2)	19:44	20:15		20:35
22	07:19		16:16 (3)	06:45	16:29 (3)	06:01		06:11		05:36		05:27
	17:03	22	16:38 (3)	17:41	16:40 (3)	18:12		06:11		05:36		05:27
23	07:18		16:15 (3)	06:44		05:59		06:09		05:35		05:27
	17:04	24	16:39 (3)	17:42		18:13		19:46		20:17		20:35
24	07:18		16:14 (3)	06:42		05:58		06:08		05:34		05:27
	17:05	26	16:40 (3)	17:43		18:15		19:48		20:18		20:35
25	07:17		16:13 (3)	06:41		05:56		06:07		05:34		05:28
	17:06	28	16:41 (3)	17:44		18:16		19:49		20:19		20:35
26	07:16		16:13 (3)	06:39		05:54		06:05		05:33		05:28
	17:07	30	16:43 (3)	17:46		18:17		19:50		20:20		20:36
27	07:15		16:13 (3)	06:38		05:53		06:04		05:32		05:28
	17:09	32	16:45 (3)	17:47		18:18		19:51		20:20		20:36
28	07:14		16:12 (3)	06:36		05:51		06:02		05:32		05:29
	17:10	34	16:46 (3)	17:48		18:19		19:52		20:21		20:36
29	07:14		16:12 (3)			06:49		06:01		05:31		05:29
	17:11	35	16:47 (3)			19:20		19:53		20:22		20:36
30	07:13		16:11 (3)			06:47		06:00		05:30		05:29
	17:12	37	16:48 (3)			19:21		19:54		20:23		20:36
31	07:12		16:11 (3)			06:46				05:30		
	17:14	39	16:50 (3)			19:22				20:24		
Ore potenziali eliofanìa	297			297		369		399		448		452
Totale, caso peggiore	390			835		145						

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687
Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: N - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)

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

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre						
1	05:30	05:54	06:25	06:55	18:10 (2)	06:29	15:40 (3)	07:04				
	20:35	20:16	19:33	18:43	18:20 (2)	16:56	45	16:25 (3)	16:32			
2	05:30	05:55	06:26	06:56	18:10 (2)	06:30	15:41 (3)	07:05				
	20:35	20:15	19:32	18:41	9	18:19 (2)	16:55	45	16:26 (3)	16:31		
3	05:31	05:56	06:27	06:57	18:10 (2)	06:31	15:40 (3)	07:06				
	20:35	20:14	19:30	18:39	7	18:17 (2)	16:54	46	16:26 (3)	16:31		
4	05:31	05:57	06:28	06:58	18:10 (2)	06:32	15:40 (3)	07:07				
	20:35	20:13	19:28	18:38	5	18:15 (2)	16:52	46	16:26 (3)	16:31		
5	05:32	05:58	06:29	06:59	18:10 (2)	06:34	15:41 (3)	07:08				
	20:35	20:12	19:27	18:36	3	18:13 (2)	16:51	46	16:27 (3)	16:31		
6	05:33	05:59	06:30	07:00	18:11 (2)	06:35	15:41 (3)	07:09				
	20:35	20:11	19:25	18:34	1	18:12 (2)	16:50	45	16:26 (3)	16:31		
7	05:33	06:00	06:31	07:01	06:36	15:40 (3)	07:10					
	20:34	20:10	19:23	18:33	16:49	45	16:25 (3)	16:31				
8	05:34	06:01	06:32	07:02	06:37	15:40 (3)	07:11					
	20:34	20:08	19:22	18:31	16:48	44	16:24 (3)	16:30				
9	05:35	06:02	06:33	07:03	06:38	15:42 (3)	07:12					
	20:34	20:07	19:20	18:30	16:47	41	16:23 (3)	16:30				
10	05:35	06:03	06:34	07:04	06:40	15:42 (3)	07:12					
	20:33	20:06	19:18	18:28	16:46	40	16:22 (3)	16:30				
11	05:36	06:04	06:35	07:05	06:41	15:42 (3)	07:13					
	20:33	20:04	19:17	18:26	16:45	39	16:21 (3)	16:31				
12	05:37	06:05	06:36	07:06	06:42	15:43 (3)	07:14					
	20:32	20:03	19:15	18:25	16:44	37	16:20 (3)	16:31				
13	05:37	06:06	06:37	07:07	06:43	15:44 (3)	07:15					
	20:32	20:02	19:13	18:23	16:43	35	16:19 (3)	16:31				
14	05:38	06:07	06:38	07:08	06:44	15:44 (3)	07:16					
	20:31	20:00	19:12	18:22	16:42	34	16:18 (3)	16:31				
15	05:39	06:08	06:39	07:10	06:46	15:45 (3)	07:16					
	20:31	19:59	19:10	18:20	16:41	32	16:17 (3)	16:31				
16	05:40	06:09	06:40	07:11	06:47	15:46 (3)	07:17					
	20:30	19:58	19:08	18:18	16:40	30	16:16 (3)	16:31				
17	05:40	06:10	06:41	07:12	06:48	15:47 (3)	07:18					
	20:29	19:56	19:07	18:17	16:39	28	16:15 (3)	16:32				
18	05:41	06:11	06:42	07:13	06:49	15:48 (3)	07:19					
	20:29	19:55	19:05	18:15	16:39	26	16:14 (3)	16:32				
19	05:42	06:12	06:43	07:14	06:50	15:49 (3)	07:19					
	20:28	19:53	19:03	18:14	16:38	24	16:13 (3)	16:32				
20	05:43	06:13	06:44	07:15	16:58 (3)	06:52	15:51 (3)	07:20				
	20:27	19:52	19:01	18:12	14	17:12 (3)	16:37	22	16:13 (3)	16:33		
21	05:44	06:14	06:45	07:16	16:54 (3)	06:53	15:52 (3)	07:20				
	20:27	19:50	19:00	18:11	21	17:15 (3)	16:37	20	16:12 (3)	16:33		
22	05:45	06:15	06:46	07:17	16:51 (3)	06:54	15:53 (3)	07:21				
	20:26	19:49	18:58	18:10	26	17:17 (3)	16:36	18	16:11 (3)	16:34		
23	05:46	06:16	06:47	18:21 (2)	07:18	16:49 (3)	06:55	15:55 (3)	07:21			
	20:25	19:47	18:56	11	18:32 (2)	18:08	29	17:18 (3)	16:35	15	16:10 (3)	16:34
24	05:46	06:17	06:48	18:18 (2)	07:20	16:48 (3)	06:56	15:56 (3)	07:22			
	20:24	19:46	18:55	15	18:33 (2)	18:07	33	17:21 (3)	16:35	14	16:10 (3)	16:35
25	05:47	06:18	06:49	18:16 (2)	06:21	15:46 (3)	06:57	16:00 (3)	07:22			
	20:23	19:44	18:53	15	18:31 (2)	17:05	36	16:22 (3)	16:34	10	16:10 (3)	16:35
26	05:48	06:19	06:50	18:14 (2)	06:22	15:45 (3)	06:58	16:03 (3)	07:23			
	20:22	19:43	18:51	15	18:29 (2)	17:04	37	16:22 (3)	16:34	6	16:09 (3)	16:36
27	05:49	06:20	06:51	18:13 (2)	06:23	15:44 (3)	06:59	07:23				
	20:22	19:41	18:49	14	18:27 (2)	17:03	39	16:23 (3)	16:33	16:37		
28	05:50	06:21	06:52	18:12 (2)	06:24	15:43 (3)	07:01	07:23				
	20:21	19:40	18:48	14	18:26 (2)	17:01	40	16:23 (3)	16:33	16:37		
29	05:51	06:22	06:53	18:11 (2)	06:25	15:43 (3)	07:02	07:24				
	20:20	19:38	18:46	13	18:24 (2)	17:00	42	16:25 (3)	16:32	16:38		
30	05:52	06:23	06:54	18:10 (2)	06:27	15:42 (3)	07:03	07:24				
	20:19	19:37	18:44	12	18:22 (2)	16:59	43	16:25 (3)	16:32	16:39		
31	05:53	06:24		06:28	15:41 (3)			07:24				
	20:18	19:35		16:57	44	16:25 (3)		16:40				
Ore potenziali eliofanìa	459	428	375	345		298		288				
Totale, caso peggiore			109	439		833						

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: O - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (16)

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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre		
1	07:24 16:41	07:49 (9) 08:08 (9)	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32	07:35 (9) 18 07:53 (9)
2	07:24 16:42	07:49 (9) 08:08 (9)	07:10 17:16	06:33 17:50	06:43 19:24	05:57 19:56	05:29 20:25	05:31 20:35	05:55 20:15	06:26 19:32	06:56 18:41	06:30 16:55	07:05 16:31	07:35 (9) 19 07:54 (9)
3	07:24 16:42	07:50 (9) 08:09 (9)	07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 16:31	07:36 (9) 19 07:55 (9)
4	07:25 16:43	07:50 (9) 08:09 (9)	07:08 17:19	06:30 17:53	06:39 19:26	05:55 19:58	05:28 20:27	05:32 20:35	05:57 20:13	06:28 19:28	06:58 18:38	06:32 16:52	07:07 16:31	07:36 (9) 20 07:56 (9)
5	07:25 16:44	07:51 (9) 08:10 (9)	07:07 17:20	06:29 17:54	06:38 19:27	05:53 19:59	05:28 20:27	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:36	06:34 16:51	07:08 16:31	07:37 (9) 19 07:56 (9)
6	07:24 16:45	07:51 (9) 08:10 (9)	07:06 17:21	06:27 17:55	06:36 19:28	05:52 20:00	05:28 20:28	05:33 20:34	05:59 20:11	06:30 19:25	07:00 18:34	06:35 16:50	07:09 16:31	07:37 (9) 19 07:56 (9)
7	07:24 16:46	07:51 (9) 08:10 (9)	07:05 17:22	06:26 17:56	06:34 19:29	05:51 20:01	05:27 20:29	05:33 20:34	06:00 20:10	06:31 19:23	07:01 18:33	06:36 16:49	07:10 16:31	07:37 (9) 19 07:56 (9)
8	07:24 16:47	07:51 (9) 08:11 (9)	07:04 17:24	06:24 17:57	06:33 19:31	05:50 20:02	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 16:48	07:11 16:31	07:37 (9) 19 07:56 (9)
9	07:24 16:48	07:52 (9) 08:11 (9)	07:02 17:25	06:22 17:58	06:31 19:32	05:49 20:03	05:27 20:30	05:35 20:34	06:02 20:07	06:33 19:20	07:03 18:30	06:38 16:47	07:12 16:31	07:38 (9) 19 07:57 (9)
10	07:24 16:49	07:53 (9) 08:12 (9)	07:01 17:26	06:21 17:59	06:29 19:33	05:47 20:04	05:27 20:30	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28	06:40 16:46	07:12 16:31	07:39 (9) 18 07:57 (9)
11	07:24 16:50	07:53 (9) 08:11 (9)	07:00 17:27	06:19 18:00	06:28 19:34	05:46 20:05	05:26 20:31	05:36 20:33	06:04 20:04	06:35 19:17	07:05 18:26	06:41 16:45	07:13 16:31	07:39 (9) 19 07:58 (9)
12	07:24 16:51	07:54 (9) 08:12 (9)	06:59 17:29	06:18 18:02	06:26 19:35	05:45 20:06	05:26 20:31	05:37 20:32	06:05 20:03	06:36 19:15	07:06 18:25	06:42 16:44	07:14 16:31	07:40 (9) 18 07:58 (9)
13	07:23 16:52	07:55 (9) 08:12 (9)	06:58 17:30	06:16 18:03	06:25 19:36	05:44 20:07	05:26 20:32	05:37 20:32	06:06 20:02	06:37 19:13	07:07 18:23	06:43 16:43	07:15 16:31	07:41 (9) 18 07:59 (9)
14	07:23 16:53	07:55 (9) 08:12 (9)	06:56 17:31	06:14 18:04	06:23 19:37	05:43 20:08	05:26 20:32	05:38 20:31	06:07 20:00	06:38 19:12	07:08 18:22	06:44 16:42	07:16 16:31	07:41 (9) 17 07:58 (9)
15	07:23 16:55	07:56 (9) 08:12 (9)	06:55 17:32	06:13 18:05	06:22 19:38	05:42 20:09	05:26 20:33	05:39 20:31	06:08 19:59	06:39 19:10	07:10 18:20	06:46 16:41	07:16 16:31	07:41 (9) 18 07:59 (9)
16	07:22 16:56	07:57 (9) 08:11 (9)	06:54 17:34	06:11 18:06	06:20 19:39	05:41 20:10	05:26 20:33	05:40 20:30	06:09 19:58	06:40 19:08	07:11 18:19	06:47 16:40	07:17 16:32	07:42 (9) 18 08:00 (9)
17	07:22 16:57	07:58 (9) 08:11 (9)	06:52 17:35	06:09 18:07	06:18 19:40	05:40 20:11	05:26 20:34	05:41 20:29	06:10 19:56	06:41 19:07	07:12 18:17	06:48 16:40	07:18 16:32	07:42 (9) 17 07:59 (9)
18	07:21 16:58	07:59 (9) 08:10 (9)	06:51 17:36	06:08 18:08	06:17 19:41	05:39 20:12	05:26 20:34	05:41 20:29	06:11 19:55	06:42 19:05	07:13 18:15	06:49 16:39	07:18 16:32	07:43 (9) 17 08:00 (9)
19	07:21 16:59	08:02 (9) 08:09 (9)	06:50 17:37	06:06 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:28	06:12 19:53	06:43 19:03	07:14 18:14	06:50 16:38	07:19 16:33	07:44 (9) 17 08:01 (9)
20	07:20 17:00	08:09 (9) 08:16 (9)	06:48 17:38	06:04 18:10	06:14 19:43	05:38 20:14	05:27 20:34	05:43 20:27	06:13 19:52	06:44 19:01	07:15 18:13	06:52 16:37	07:20 16:33	07:44 (9) 17 08:01 (9)
21	07:20 17:01	08:12 (9) 08:19 (9)	06:47 17:40	06:03 18:11	06:12 19:44	05:37 20:15	05:27 20:35	05:44 20:27	06:14 19:50	06:45 19:00	07:16 18:11	06:53 16:37	07:20 16:33	07:45 (9) 17 08:02 (9)
22	07:19 17:03	08:19 (9) 08:26 (9)	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35	05:45 20:26	06:15 19:49	06:46 18:58	07:17 18:10	06:54 16:36	07:21 16:34	07:45 (9) 17 08:02 (9)
23	07:18 17:04	08:26 (9) 08:33 (9)	06:44 17:42	05:59 18:14	06:09 19:46	05:35 20:17	05:27 20:35	05:46 20:25	06:16 19:47	06:47 18:56	07:18 18:08	06:55 16:35	07:21 16:34	07:46 (9) 17 08:03 (9)
24	07:18 17:05	08:33 (9) 08:40 (9)	06:42 17:43	05:58 18:15	06:08 19:48	05:34 20:18	05:27 20:35	05:46 20:24	06:17 19:46	06:48 18:55	07:20 18:07	06:56 16:35	07:22 16:35	07:46 (9) 17 08:03 (9)
25	07:17 17:06	08:40 (9) 08:47 (9)	06:41 17:44	05:56 18:16	06:07 19:49	05:34 20:19	05:28 20:35	05:47 20:23	06:18 19:44	06:49 18:53	07:21 17:05	06:57 16:34	07:22 16:36	07:46 (9) 17 08:03 (9)
26	07:16 17:08	08:47 (9) 08:54 (9)	06:40 17:46	05:54 18:17	06:05 19:50	05:33 20:20	05:28 20:35	05:48 20:22	06:19 19:43	06:50 18:51	07:22 17:04	06:58 16:34	07:23 16:36	07:47 (9) 17 08:04 (9)
27	07:15 17:09	08:54 (9) 09:01 (9)	06:38 17:47	05:53 18:18	06:04 19:51	05:32 20:20	05:28 20:36	05:49 20:21	06:20 19:41	06:51 18:50	07:23 17:03	06:59 16:33	07:23 16:37	07:47 (9) 17 08:04 (9)
28	07:14 17:10	09:01 (9) 09:08 (9)	06:36 17:48	05:51 18:19	06:02 19:52	05:32 20:21	05:29 20:36	05:50 20:21	06:21 19:40	06:52 18:48	07:24 17:01	07:01 16:33	07:23 16:37	07:47 (9) 18 08:05 (9)
29	07:14 17:11	09:08 (9) 09:15 (9)	06:36 17:49	05:51 18:20	06:02 19:53	05:32 20:22	05:29 20:36	05:51 20:20	06:22 19:38	06:53 18:46	07:25 17:00	07:02 16:32	07:24 16:38	07:47 (9) 18 08:05 (9)
30	07:13 17:12	09:15 (9) 09:22 (9)	06:48 17:50	06:00 18:21	06:00 19:54	05:31 20:23	05:30 20:35	05:52 20:19	06:23 19:37	06:54 18:44	07:26 16:32	07:03 16:59	07:24 16:39	07:49 (9) 18 08:07 (9)
31	07:12 17:14	09:22 (9) 09:29 (9)	06:46 17:51	06:00 18:22	06:00 19:55	05:30 20:24	05:30 20:36	05:53 20:18	06:24 19:35	06:54 18:44	07:27 16:57	07:04 16:40	07:24 16:40	07:49 (9) 18 08:07 (9)
Ore potenziali eliofania	297	297	369	399	448	452	459	428	375	345	298	288	288	556
Totale, caso peggiore	322										113			

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687
Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: P - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (17)

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	07:24		07:58 (9)	07:11	08:01 (9)	06:35	06:44	05:58	05:30			
	16:41	54	08:52 (9)	17:15	68	09:09 (9)	17:49	19:23	19:55	20:24		
2	07:24		07:58 (9)	07:10	08:01 (9)	06:33	06:42	05:57	05:29			
	16:42	54	08:52 (9)	17:16	68	09:09 (9)	17:50	19:24	19:56	20:25		
3	07:24		07:59 (9)	07:09	08:01 (9)	06:32	06:41	05:56	05:29			
	16:42	54	08:53 (9)	17:17	68	09:09 (9)	17:51	19:25	19:57	20:26		
4	07:24		07:59 (9)	07:08	08:02 (9)	06:30	06:39	05:55	05:28			
	16:43	55	08:54 (9)	17:19	67	09:09 (9)	17:52	19:26	19:58	20:27		
5	07:24		07:59 (9)	07:07	08:02 (9)	06:29	06:38	05:53	05:28			
	16:44	56	08:55 (9)	17:20	67	09:09 (9)	17:54	19:27	19:59	20:27		
6	07:24		07:58 (9)	07:06	08:03 (9)	06:27	06:36	05:52	05:28			
	16:45	57	08:55 (9)	17:21	65	09:08 (9)	17:55	19:28	20:00	20:28		
7	07:24		07:58 (9)	07:05	08:02 (9)	06:26	06:34	05:51	05:27			
	16:46	57	08:55 (9)	17:22	65	09:07 (9)	17:56	19:29	20:01	20:29		
8	07:24		07:58 (9)	07:03	08:03 (9)	06:24	06:33	05:50	05:27			
	16:47	58	08:56 (9)	17:24	64	09:07 (9)	17:57	19:31	20:02	20:29		
9	07:24		07:59 (9)	07:02	08:04 (9)	06:22	06:31	05:49	05:27			
	16:48	59	08:58 (9)	17:25	62	09:06 (9)	17:58	19:32	20:03	20:30		
10	07:24		07:59 (9)	07:01	08:05 (9)	06:21	06:29	05:47	05:27			
	16:49	60	08:59 (9)	17:26	61	09:06 (9)	17:59	19:33	20:04	20:30		
11	07:24		07:58 (9)	07:00	08:05 (9)	06:19	06:28	05:46	05:26			
	16:50	61	08:59 (9)	17:27	59	09:04 (9)	18:00	19:34	20:05	20:31		
12	07:23		07:59 (9)	06:59	08:06 (9)	06:17	06:26	05:45	05:26			
	16:51	61	09:00 (9)	17:29	58	09:04 (9)	18:01	19:35	20:06	20:31		
13	07:23		07:59 (9)	06:57	08:07 (9)	06:16	06:25	05:44	05:26			
	16:52	62	09:01 (9)	17:30	56	09:03 (9)	18:03	19:36	20:07	20:32		
14	07:23		07:59 (9)	06:56	08:08 (9)	06:14	06:23	05:43	05:26			
	16:53	62	09:01 (9)	17:31	54	09:02 (9)	18:04	19:37	20:08	20:32		
15	07:22		07:59 (9)	06:55	08:08 (9)	06:13	06:22	05:42	05:26			
	16:55	63	09:02 (9)	17:32	53	09:01 (9)	18:05	19:38	20:09	20:33		
16	07:22		07:58 (9)	06:54	08:10 (9)	06:11	06:20	05:41	05:26			
	16:56	64	09:02 (9)	17:34	49	08:59 (9)	18:06	19:39	20:10	20:33		
17	07:22		07:59 (9)	06:52	08:12 (9)	06:09	06:18	05:40	05:26			
	16:57	65	09:04 (9)	17:35	46	08:58 (9)	18:07	19:40	20:11	20:34		
18	07:21		07:59 (9)	06:51	08:12 (9)	06:08	06:17	05:39	05:26			
	16:58	65	09:04 (9)	17:36	44	08:56 (9)	18:08	19:41	20:12	20:34		
19	07:21		07:59 (9)	06:50	08:14 (9)	06:06	06:15	05:38	05:26			
	16:59	66	09:05 (9)	17:37	40	08:54 (9)	18:09	19:42	20:13	20:34		
20	07:20		07:59 (9)	06:48	08:16 (9)	06:04	06:14	05:38	05:26			
	17:00	66	09:05 (9)	17:38	35	08:51 (9)	18:10	19:43	20:14	20:34		
21	07:19		07:59 (9)	06:47	08:19 (9)	06:03	06:12	05:37	05:27			
	17:01	66	09:05 (9)	17:40	30	08:49 (9)	18:11	19:44	20:15	20:35		
22	07:19		07:59 (9)	06:45	08:21 (9)	06:01	06:11	05:36	05:27			
	17:03	68	09:07 (9)	17:41	24	08:45 (9)	18:12	19:45	20:16	20:35		
23	07:18		07:59 (9)	06:44	08:26 (9)	05:59	06:09	05:35	05:27			
	17:04	68	09:07 (9)	17:42	14	08:40 (9)	18:13	19:46	20:17	20:35		
24	07:18		07:59 (9)	06:42		05:58	06:08	05:34	05:27			
	17:05	68	09:07 (9)	17:43		18:15	19:47	20:18	20:35			
25	07:17		07:59 (9)	06:41		05:56	06:07	05:34	05:28			
	17:06	68	09:07 (9)	17:44		18:16	19:49	20:19	20:35			
26	07:16		07:59 (9)	06:39		05:54	06:05	05:33	05:28			
	17:07	68	09:07 (9)	17:46		18:17	19:50	20:20	20:35			
27	07:15		08:00 (9)	06:38		05:52	06:04	05:32	05:28			
	17:09	68	09:08 (9)	17:47		18:18	19:51	20:20	20:35			
28	07:14		08:00 (9)	06:36		05:51	06:02	05:32	05:29			
	17:10	69	09:09 (9)	17:48		18:19	19:52	20:21	20:35			
29	07:14		08:00 (9)			06:49	06:01	05:31	05:29			
	17:11	69	09:09 (9)			19:20	19:53	20:22	20:35			
30	07:13		08:00 (9)			06:47	06:00	05:31	05:30			
	17:12	69	09:09 (9)			19:21	19:54	20:23	20:35			
31	07:12		08:00 (9)			06:46		05:30				
	17:14	69	09:09 (9)			19:22		20:24				
Ore potenziali eliofania	297			297		369	399	448	452			
Totale, caso peggiore	1949			1217								

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: P - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (17)

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

	Luglio	Agosto	Settembre	Ottobre		Novembre		Dicembre		
1	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43		06:29 16:56	62	07:33 (9) 16:32	07:04 61	07:40 (9) 08:41 (9)
2	05:30 20:35	05:55 20:15	06:26 19:32	06:56 18:41		06:30 16:55	62	07:34 (9) 16:31	07:05 60	07:41 (9) 08:41 (9)
3	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39		06:31 16:54	64	07:33 (9) 16:31	07:06 59	07:42 (9) 08:41 (9)
4	05:32 20:35	05:57 20:13	06:28 19:28	06:58 18:38		06:32 16:52	65	07:32 (9) 16:31	07:07 59	07:42 (9) 08:41 (9)
5	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:36		06:34 16:51	65	07:33 (9) 16:31	07:08 58	07:43 (9) 08:41 (9)
6	05:33 20:34	05:59 20:11	06:30 19:25	07:00 18:34		06:35 16:50	66	07:32 (9) 16:31	07:09 57	07:44 (9) 08:41 (9)
7	05:33 20:34	06:00 20:09	06:31 19:23	07:01 18:33		06:36 16:49	67	07:32 (9) 16:31	07:10 56	07:45 (9) 08:41 (9)
8	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31		06:37 16:48	68	07:31 (9) 16:31	07:11 55	07:46 (9) 08:41 (9)
9	05:35 20:33	06:02 20:07	06:33 19:20	07:03 18:30		06:38 16:47	68	07:32 (9) 16:31	07:12 54	07:47 (9) 08:41 (9)
10	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28		06:40 16:46	69	07:31 (9) 16:31	07:12 54	07:47 (9) 08:41 (9)
11	05:36 20:33	06:04 20:04	06:35 19:17	07:05 18:26		06:41 16:45	69	07:31 (9) 16:31	07:13 54	07:48 (9) 08:42 (9)
12	05:37 20:32	06:05 20:03	06:36 19:15	07:06 18:25		06:42 16:44	69	07:31 (9) 16:31	07:14 53	07:49 (9) 08:42 (9)
13	05:37 20:32	06:06 20:02	06:37 19:13	07:07 18:23		06:43 16:43	69	07:32 (9) 16:31	07:15 52	07:50 (9) 08:42 (9)
14	05:38 20:31	06:07 20:00	06:38 19:12	07:08 18:22		06:44 16:42	69	07:32 (9) 16:31	07:16 52	07:50 (9) 08:42 (9)
15	05:39 20:31	06:08 19:59	06:39 19:10	07:09 18:20		06:46 16:41	68	07:32 (9) 16:31	07:16 51	07:51 (9) 08:42 (9)
16	05:40 20:30	06:09 19:58	06:40 19:08	07:11 18:18		06:47 16:40	68	07:33 (9) 16:32	07:17 51	07:52 (9) 08:43 (9)
17	05:40 20:29	06:10 19:56	06:41 19:07	07:12 18:17		06:48 16:40	68	07:33 (9) 16:32	07:18 51	07:52 (9) 08:43 (9)
18	05:41 20:29	06:11 19:55	06:42 19:05	07:13 18:15		06:49 16:39	68	07:33 (9) 16:32	07:18 50	07:53 (9) 08:43 (9)
19	05:42 20:28	06:12 19:53	06:43 19:03	07:14 18:14	18	08:56 (9) 09:14 (9)	06:50 16:38	07:33 (9) 16:33	07:19 50	07:54 (9) 08:44 (9)
20	05:43 20:27	06:13 19:52	06:44 19:01	07:15 18:12	27	08:51 (9) 09:18 (9)	06:51 16:37	07:34 (9) 16:33	07:20 50	07:54 (9) 08:44 (9)
21	05:44 20:27	06:14 19:50	06:45 19:00	07:16 18:11	33	08:48 (9) 09:21 (9)	06:53 16:37	07:35 (9) 16:33	07:20 50	07:55 (9) 08:45 (9)
22	05:45 20:26	06:15 19:49	06:46 18:58	07:17 18:10	37	08:46 (9) 09:23 (9)	06:54 16:36	07:35 (9) 16:34	07:21 50	07:55 (9) 08:45 (9)
23	05:46 20:25	06:16 19:47	06:47 18:56	07:18 18:08	40	08:44 (9) 09:24 (9)	06:55 16:35	07:35 (9) 16:34	07:21 50	07:55 (9) 08:45 (9)
24	05:46 20:24	06:17 19:46	06:48 18:55	07:20 18:07	44	08:43 (9) 09:27 (9)	06:56 16:35	07:36 (9) 16:35	07:22 50	07:56 (9) 08:46 (9)
25	05:47 20:23	06:18 19:44	06:49 18:53	07:21 17:05	47	07:41 (9) 08:28 (9)	06:57 16:34	07:37 (9) 16:35	07:22 50	07:56 (9) 08:46 (9)
26	05:48 20:22	06:19 19:43	06:50 18:51	07:22 17:04	50	07:39 (9) 08:29 (9)	06:58 16:34	07:38 (9) 16:36	07:23 50	07:57 (9) 08:47 (9)
27	05:49 20:21	06:20 19:41	06:51 18:49	07:23 17:03	52	07:38 (9) 08:30 (9)	06:59 16:33	07:38 (9) 16:37	07:23 51	07:57 (9) 08:48 (9)
28	05:50 20:20	06:21 19:40	06:52 18:48	07:24 17:01	54	07:37 (9) 08:31 (9)	07:01 16:33	07:39 (9) 16:37	07:23 51	07:57 (9) 08:48 (9)
29	05:51 20:19	06:22 19:38	06:53 18:46	07:25 17:00	57	07:36 (9) 08:33 (9)	07:02 16:32	07:39 (9) 16:38	07:23 52	07:57 (9) 08:49 (9)
30	05:52 20:18	06:23 19:37	06:54 18:44	07:27 16:59	59	07:35 (9) 08:34 (9)	07:03 16:32	07:40 (9) 16:39	07:24 52	07:57 (9) 08:49 (9)
31	05:53 20:17	06:24 19:35	06:55 16:57	07:28 08:34 (9)	60	07:34 (9)		07:40 (9) 16:40	07:24 53	07:58 (9) 08:51 (9)
Ore potenziali eliofanìa	459	428	375	345		298		288		1646
Totale, caso peggiore					578		1979			1646

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it

Redatto il:

17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: Q - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (18)

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

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: R - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (19)

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	07:24		07:11	15:03 (12)	06:35	06:44			05:58	17:30 (10)	05:30	
	16:41		17:15	47 15:50 (12)	17:49	19:23			19:55	13 17:43 (10)	20:24	
2	07:24		07:10	15:04 (12)	06:33	06:42			05:57	17:30 (10)	05:29	
	16:42		17:16	47 15:51 (12)	17:50	19:24			19:56	11 17:41 (10)	20:25	
3	07:24		07:09	15:04 (12)	06:32	06:41			05:56	17:30 (10)	05:29	
	16:42		17:17	47 15:51 (12)	17:51	19:25			19:57	9 17:39 (10)	20:26	
4	07:24		07:08	15:04 (12)	06:30	06:39			05:54	17:30 (10)	05:28	
	16:43		17:19	47 15:51 (12)	17:52	19:26			19:58	8 17:38 (10)	20:27	
5	07:24		07:07	15:05 (12)	06:29	06:38			05:53	17:30 (10)	05:28	
	16:44		17:20	46 15:51 (12)	17:54	19:27			19:59	7 17:37 (10)	20:27	
6	07:24		07:06	15:04 (12)	06:27	06:36			05:52	17:30 (10)	05:28	
	16:45		17:21	46 15:50 (12)	17:55	19:28			20:00	5 17:35 (10)	20:28	
7	07:24		07:05	15:05 (12)	06:25	06:34			05:51	17:29 (10)	05:27	
	16:46		17:22	45 15:50 (12)	17:56	19:29			20:01	4 17:33 (10)	20:28	
8	07:24		07:03	15:05 (12)	06:24	06:33			05:50	17:30 (10)	05:27	
	16:47		17:24	45 15:50 (12)	17:57	19:30			20:02	1 17:31 (10)	20:29	
9	07:24		07:02	15:06 (12)	06:22	06:31		18:00 (10)	05:49		05:27	
	16:48	6	15:23 (12)	17:25	44 15:50 (12)	17:58	19:32	21 18:21 (10)	20:03		20:30	
10	07:24		07:01	15:07 (12)	06:21	06:29		17:56 (10)	05:47		05:27	
	16:49	13	15:27 (12)	17:26	43 15:50 (12)	17:59	19:33	27 18:23 (10)	20:04		20:30	
11	07:24		07:00	15:07 (12)	06:19	06:28		17:52 (10)	05:46		05:26	
	16:50	16	15:28 (12)	17:27	42 15:49 (12)	18:00	19:34	28 18:20 (10)	20:05		20:31	
12	07:23		06:59	15:09 (12)	06:17	06:26		17:50 (10)	05:45		05:26	
	16:51	20	15:31 (12)	17:29	39 15:48 (12)	18:01	19:35	29 18:19 (10)	20:06		20:31	
13	07:23		06:57	15:10 (12)	06:16	06:25		17:47 (10)	05:44		05:26	
	16:52	23	15:33 (12)	17:30	38 15:48 (12)	18:03	19:36	30 18:17 (10)	20:07		20:32	
14	07:23		06:56	15:11 (12)	06:14	06:23		17:46 (10)	05:43		05:26	
	16:53	25	15:34 (12)	17:31	36 15:47 (12)	18:04	19:37	29 18:15 (10)	20:08		20:32	
15	07:22		06:55	15:12 (12)	06:12	06:21		17:43 (10)	05:42		05:26	
	16:54	28	15:36 (12)	17:32	33 15:45 (12)	18:05	19:38	30 18:13 (10)	20:09		20:33	
16	07:22		06:54	15:14 (12)	06:11	06:20		17:42 (10)	05:41		05:26	
	16:56	30	15:37 (12)	17:34	30 15:44 (12)	18:06	19:39	29 18:11 (10)	20:10		20:33	
17	07:22		06:52	15:17 (12)	06:09	06:18		17:40 (10)	05:40		05:26	
	16:57	32	15:39 (12)	17:35	26 15:43 (12)	18:07	19:40	29 18:09 (10)	20:11		20:33	
18	07:21		06:51	15:19 (12)	06:07	06:17		17:39 (10)	05:39		05:26	
	16:58	34	15:40 (12)	17:36	21 15:40 (12)	18:08	19:41	28 18:07 (10)	20:12		20:34	
19	07:21		06:49	15:23 (12)	06:06	06:15		17:37 (10)	05:38		05:26	
	16:59	35	15:40 (12)	17:37	14 15:37 (12)	18:09	19:42	28 18:05 (10)	20:13		20:34	
20	07:20		06:48		06:04	06:14		17:37 (10)	05:38		05:26	
	17:00	37	15:42 (12)	17:38		18:10	19:43	26 18:03 (10)	20:14		20:34	
21	07:19		06:47		06:02	06:12		17:35 (10)	05:37		05:27	
	17:01	38	15:43 (12)	17:40		18:11	19:44	26 18:01 (10)	20:15		20:35	
22	07:19		06:45		06:01	06:11		17:35 (10)	05:36		05:27	
	17:03	40	15:44 (12)	17:41		18:12	19:45	24 17:59 (10)	20:16		20:35	
23	07:18		06:44		05:59	06:09		17:33 (10)	05:35		05:27	
	17:04	41	15:45 (12)	17:42		18:13	19:46	24 17:57 (10)	20:17		20:35	
24	07:17		06:42		05:57	06:08		17:33 (10)	05:34		05:27	
	17:05	42	15:46 (12)	17:43		18:14	19:47	23 17:56 (10)	20:18		20:35	
25	07:17		06:41		05:56	06:07		17:33 (10)	05:34		05:28	
	17:06	43	15:46 (12)	17:44		18:16	19:48	21 17:54 (10)	20:19		20:35	
26	07:16		06:39		05:54	06:05		17:32 (10)	05:33		05:28	
	17:07	44	15:47 (12)	17:45		18:17	19:50	20 17:52 (10)	20:19		20:35	
27	07:15		06:38		05:52	06:04		17:32 (10)	05:32		05:28	
	17:09	44	15:48 (12)	17:47		18:18	19:51	18 17:50 (10)	20:20		20:35	
28	07:14		06:36		05:51	06:02		17:30 (10)	05:32		05:29	
	17:10	46	15:49 (12)	17:48		18:19	19:52	18 17:48 (10)	20:21		20:35	
29	07:13		06:35		05:50	06:01		17:30 (10)	05:31		05:29	
	17:11	46	15:49 (12)			19:20	19:53	16 17:46 (10)	20:22		20:35	
30	07:13		06:34		05:49	06:00		17:30 (10)	05:31		05:30	
	17:12	47	15:50 (12)			19:21	19:54	15 17:45 (10)	20:23		20:35	
31	07:12		06:33		05:48	06:00			05:30			
	17:14	47	15:50 (12)			19:22			20:24			
Ore potenziali eliofania	297		297		369	399		448		58	452	
Totale, caso peggiore	777		736			539						

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

Recettore d'ombra: R - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (19)

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

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre			
1	05:30 20:35	05:54 20:16	06:25 19:33	17:51 (10) 18:19 (10)	06:55 18:43	06:29 16:56	14:36 (12) 15:19 (12)	07:04 16:32	14:54 (12) 15:11 (12)
2	05:30 20:35	05:55 20:15	06:26 19:32	17:54 (10) 18:21 (10)	06:56 18:41	06:30 16:55	14:36 (12) 15:20 (12)	07:05 16:31	14:56 (12) 15:09 (12)
3	05:31 20:35	05:56 20:14	06:27 19:30	17:58 (10) 18:19 (10)	06:57 18:39	06:31 16:54	14:35 (12) 15:20 (12)	07:06 16:31	14:59 (12) 15:06 (12)
4	05:32 20:35	05:57 20:13	17:40 (10) 19:28	06:28 19:28	06:58 18:38	06:32 16:52	14:34 (12) 15:20 (12)	07:07 16:31	
5	05:32 20:35	05:58 20:12	17:40 (10) 19:27	06:29 19:27	06:59 18:36	06:34 16:51	14:34 (12) 15:20 (12)	07:08 16:31	
6	05:33 20:34	05:59 20:11	17:40 (10) 19:25	06:30 19:25	07:00 18:34	06:35 16:50	14:34 (12) 15:21 (12)	07:09 16:31	
7	05:33 20:34	06:00 20:09	17:40 (10) 19:23	06:31 19:23	07:01 18:33	06:36 16:49	14:34 (12) 15:21 (12)	07:10 16:31	
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9	05:35 20:33	06:02 20:07	17:38 (10) 19:20	06:33 19:20	07:03 18:29	06:38 16:47	14:34 (12) 15:22 (12)	07:11 16:30	
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14	05:38 20:31	06:07 20:00	17:38 (10) 19:12	06:38 19:12	07:08 18:22	06:44 16:42	14:35 (12) 15:21 (12)	07:16 16:31	
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18	05:41 20:29	06:11 19:55	17:39 (10) 19:05	06:41 19:05	07:13 18:15	06:49 16:39	14:38 (12) 15:20 (12)	07:18 16:32	
19	05:42 20:28	06:12 19:53	17:39 (10) 19:03	06:42 19:03	07:14 18:14	06:50 16:38	14:38 (12) 15:19 (12)	07:19 16:32	
20	05:43 20:27	06:13 19:52	17:39 (10) 19:01	06:43 19:01	07:15 18:12	06:51 16:37	14:39 (12) 15:19 (12)	07:20 16:33	
21	05:44 20:26	06:14 19:50	17:40 (10) 19:00	06:44 19:00	07:16 18:11	06:53 16:37	14:41 (12) 15:19 (12)	07:20 16:33	
22	05:45 20:26	06:15 19:49	17:40 (10) 18:58	06:45 18:58	07:17 18:10	06:54 16:36	14:41 (12) 15:18 (12)	07:21 16:34	
23	05:46 20:25	06:16 19:47	17:41 (10) 18:56	06:46 18:56	07:18 18:08	06:55 16:35	14:42 (12) 15:17 (12)	07:21 16:34	
24	05:46 20:24	06:17 19:46	17:41 (10) 18:55	06:47 18:55	07:19 18:07	06:56 16:35	14:43 (12) 15:17 (12)	07:22 16:35	
25	05:47 20:23	06:18 19:44	17:42 (10) 18:53	06:48 18:53	06:21 17:05	14:46 (12) 15:13 (12)	06:57 16:34	14:44 (12) 15:16 (12)	07:22 16:35
26	05:48 20:22	06:19 19:43	17:43 (10) 18:51	06:49 18:51	06:22 17:04	14:43 (12) 15:14 (12)	06:58 16:34	14:46 (12) 15:16 (12)	07:22 16:36
27	05:49 20:21	06:20 19:41	17:44 (10) 18:49	06:51 18:49	06:23 17:03	14:42 (12) 15:15 (12)	06:59 16:33	14:47 (12) 15:15 (12)	07:23 16:37
28	05:50 20:20	06:21 19:40	17:45 (10) 18:48	06:52 18:48	06:24 17:01	14:40 (12) 15:16 (12)	07:00 16:33	14:49 (12) 15:14 (12)	07:23 16:37
29	05:51 20:19	06:22 19:38	17:47 (10) 18:46	06:53 18:46	06:25 17:00	14:39 (12) 15:18 (12)	07:02 16:32	14:50 (12) 15:13 (12)	07:23 16:38
30	05:52 20:18	06:23 19:36	17:48 (10) 18:44	06:54 18:44	06:26 16:59	14:38 (12) 15:18 (12)	07:03 16:32	14:52 (12) 15:12 (12)	07:24 16:39
31	05:53 20:17	06:24 19:35	17:49 (10) 18:18 (10)	06:55 18:18 (10)	06:28 16:57	14:37 (12) 15:19 (12)	06:59 16:32	14:52 (12) 15:12 (12)	07:24 16:40
Ore potenziali eliofanìa	459	428	375	345	298	288			
Totale, caso peggiore		529	76	291	1202	37			

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

Recettore d'ombra: S - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (20)
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 16:41	15:14 (11) 15:38 (11)	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32	15:00 (11) 24 15:24 (11)
2	07:24 16:42	15:15 (11) 15:39 (11)	07:10 17:16	06:33 17:50	06:42 19:24	05:57 19:56	05:30 20:25	05:30 20:35	05:55 20:15	06:26 19:32	06:56 18:41	06:30 16:55	07:05 16:31	15:00 (11) 25 15:25 (11)
3	07:24 16:42	15:15 (11) 15:40 (11)	07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 16:31	15:00 (11) 25 15:25 (11)
4	07:24 16:43	15:15 (11) 15:40 (11)	07:08 17:19	06:30 17:52	06:39 19:26	05:54 19:58	05:28 20:26	05:32 20:35	05:57 20:13	06:28 19:28	06:58 18:38	06:32 16:52	07:07 16:31	15:01 (11) 25 15:26 (11)
5	07:24 16:44	15:16 (11) 15:41 (11)	07:07 17:20	06:29 17:54	06:38 19:27	05:53 19:59	05:28 20:27	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:36	06:34 16:51	07:09 16:31	15:01 (11) 25 15:26 (11)
6	07:24 16:45	15:16 (11) 15:40 (11)	07:06 17:21	06:27 17:55	06:36 19:28	05:52 20:00	05:28 20:28	05:33 20:34	05:59 20:11	06:30 19:25	07:00 18:34	06:35 16:50	07:09 16:31	15:02 (11) 25 15:26 (11)
7	07:24 16:46	15:16 (11) 15:41 (11)	07:05 17:22	06:25 17:56	06:34 19:29	05:51 20:01	05:27 20:28	05:33 20:34	06:00 20:09	06:31 19:23	07:01 18:33	06:36 16:49	07:10 16:31	15:02 (11) 25 15:27 (11)
8	07:24 16:47	15:17 (11) 15:42 (11)	07:03 17:24	06:24 17:57	06:33 19:30	05:50 20:02	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 16:48	07:11 16:31	15:02 (11) 25 15:27 (11)
9	07:24 16:48	15:17 (11) 15:42 (11)	07:02 17:25	06:22 17:58	06:31 19:31	05:49 20:03	05:27 20:30	05:35 20:33	06:02 20:07	06:33 19:20	07:03 18:29	06:38 16:47	07:11 16:31	15:03 (11) 25 15:28 (11)
10	07:24 16:49	15:18 (11) 15:43 (11)	07:01 17:26	06:21 17:59	06:29 19:32	05:47 20:04	05:27 20:30	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28	06:39 16:46	07:12 16:31	15:04 (11) 24 15:28 (11)
11	07:24 16:50	15:18 (11) 15:42 (11)	07:00 17:27	06:19 18:00	06:28 19:34	05:46 20:05	05:26 20:31	05:36 20:33	06:04 20:04	06:35 19:17	07:05 18:26	06:41 16:45	07:13 16:31	15:04 (11) 25 15:29 (11)
12	07:23 16:51	15:19 (11) 15:43 (11)	06:59 17:29	06:17 18:01	06:26 19:35	05:45 20:06	05:26 20:31	05:37 20:32	06:05 20:03	06:36 19:15	07:06 18:25	06:42 16:44	07:14 16:31	15:05 (11) 24 15:29 (11)
13	07:23 16:52	15:20 (11) 15:44 (11)	06:57 17:30	06:16 18:03	06:25 19:36	05:44 20:07	05:26 20:32	05:37 20:32	06:06 20:02	06:37 19:13	07:07 18:23	06:43 16:43	07:15 16:31	15:05 (11) 24 15:30 (11)
14	07:23 16:53	15:20 (11) 15:43 (11)	06:56 17:31	06:14 18:04	06:23 19:37	05:43 20:08	05:26 20:32	05:38 20:31	06:07 20:00	06:38 19:12	07:08 18:22	06:44 16:42	07:16 16:31	15:06 (11) 23 15:30 (11)
15	07:22 16:55	15:21 (11) 15:44 (11)	06:55 17:32	06:12 18:05	06:21 19:38	05:42 20:09	05:26 20:33	05:39 20:30	06:08 19:59	06:38 19:10	07:09 18:20	06:45 16:41	07:16 16:31	15:06 (11) 24 15:31 (11)
16	07:22 16:56	15:21 (11) 15:43 (11)	06:54 17:34	06:11 18:06	06:20 19:39	05:41 20:10	05:26 20:33	05:40 20:30	06:09 19:58	06:39 19:08	07:11 18:18	06:47 16:40	07:17 16:31	15:07 (11) 24 15:31 (11)
17	07:22 16:57	15:22 (11) 15:44 (11)	06:52 17:35	06:09 18:07	06:18 19:40	05:40 20:11	05:26 20:33	05:40 20:29	06:10 19:56	06:40 19:06	07:12 18:17	06:48 16:39	07:18 16:32	15:07 (11) 23 15:31 (11)
18	07:21 16:58	15:23 (11) 15:43 (11)	06:51 17:36	06:07 18:08	06:17 19:41	05:39 20:12	05:26 20:34	05:41 20:29	06:11 19:55	06:41 19:05	07:13 18:15	06:49 16:39	07:18 16:32	15:08 (11) 23 15:31 (11)
19	07:21 16:59	15:24 (11) 15:42 (11)	06:49 17:37	06:06 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:28	06:12 19:53	06:42 19:03	07:14 18:14	06:50 16:38	07:19 16:32	15:08 (11) 23 15:31 (11)
20	07:20 17:00	15:25 (11) 15:42 (11)	06:48 17:38	06:04 18:10	06:14 19:43	05:38 20:14	05:26 20:34	05:43 20:27	06:13 19:52	06:43 19:01	07:15 18:12	06:51 16:37	07:20 16:33	15:09 (11) 23 15:32 (11)
21	07:19 17:01	15:27 (11) 15:41 (11)	06:47 17:40	06:02 18:11	06:12 19:44	05:37 20:15	05:27 20:35	05:44 20:26	06:14 19:50	06:44 19:00	07:16 18:11	06:53 16:37	07:20 16:33	15:09 (11) 23 15:32 (11)
22	07:19 17:03	15:28 (11) 15:39 (11)	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35	05:45 20:26	06:15 19:49	06:45 18:58	07:17 18:10	06:54 16:36	07:21 16:34	15:10 (11) 23 15:33 (11)
23	07:18 17:04	15:32 (11) 15:38 (11)	06:44 17:42	05:59 18:13	06:09 19:46	05:35 20:17	05:27 20:35	05:46 20:25	06:16 19:47	06:46 18:56	07:18 18:08	06:55 16:35	07:21 16:34	15:10 (11) 23 15:33 (11)
24	07:17 17:05	15:38 (11) 17:43	06:42 18:14	05:57 18:14	06:08 19:47	05:34 20:18	05:27 20:35	05:46 20:24	06:17 19:46	06:47 18:55	07:19 18:07	06:56 16:35	07:22 16:35	15:11 (11) 20 15:20 (11)
25	07:17 17:06	15:39 (11) 17:44	06:41 18:16	05:56 18:16	06:07 19:48	05:34 20:19	05:28 20:35	05:47 20:23	06:18 19:44	06:48 18:53	07:20 17:05	06:57 16:34	07:22 16:35	15:11 (11) 23 15:34 (11)
26	07:16 17:07	15:40 (11) 17:45	06:39 18:17	05:54 18:17	06:05 19:50	05:33 20:19	05:28 20:35	05:48 20:22	06:19 19:43	06:49 18:51	07:21 17:04	06:58 16:34	07:22 16:36	15:11 (11) 23 15:34 (11)
27	07:15 17:09	15:41 (11) 17:47	06:38 18:18	05:52 18:18	06:04 19:51	05:32 20:20	05:28 20:35	05:49 20:21	06:20 19:41	06:51 18:49	06:23 17:03	06:59 16:33	07:23 16:37	15:12 (11) 23 15:35 (11)
28	07:14 17:10	15:42 (11) 17:48	06:36 18:19	05:51 18:19	06:02 19:52	05:32 20:21	05:29 20:35	05:50 20:20	06:21 19:40	06:52 18:48	06:24 17:01	07:00 16:33	07:23 16:37	15:12 (11) 24 15:36 (11)
29	07:13 17:11	15:43 (11) 17:49	06:34 18:20	05:49 18:20	06:01 19:53	05:31 20:22	05:29 20:35	05:51 20:19	06:22 19:38	06:53 18:46	06:25 17:00	07:02 16:32	07:23 16:38	15:13 (11) 23 15:36 (11)
30	07:13 17:12	15:44 (11) 17:50	06:47 18:21	06:00 18:21	06:00 19:54	05:31 20:23	05:30 20:35	05:52 20:18	06:23 19:36	06:54 18:44	06:26 16:59	07:03 16:32	07:24 16:39	15:13 (11) 23 15:36 (11)
31	07:12 17:14	15:45 (11) 17:51	06:46 18:22	06:00 18:22	06:00 19:55	05:30 20:24	05:30 20:35	05:53 20:17	06:24 19:35	06:54 18:44	06:28 16:57	07:04 16:40	07:24 16:40	15:13 (11) 24 15:37 (11)
Ore potenziali eliofania	297	297	369	399	448	452	459	428	375	345	298	224	739	
Totale, caso peggiore	496													

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)

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: T - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (21)

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

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687

Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it

Redatto il:

17/10/2022 16:08/3.5.584



SHADOW - Calendario

Recettore d'ombra: U - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (22)

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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
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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

Recettore d'ombra: V - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (23)

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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
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Ore potenziali eliofania	297	297	369	399	448	452	459	428	375	345	298	288
Totale, caso peggiore	158										11	441

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

Recettore d'ombra: W - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (24)

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

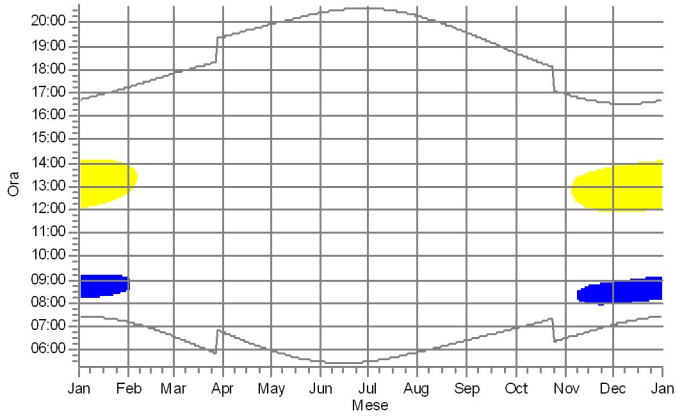
	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
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22	07:19 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35	05:45 20:26	06:15 19:49	06:46 18:58	07:17 18:10	06:54 16:36	07:21 16:34
23	07:18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

Legenda della tabella:

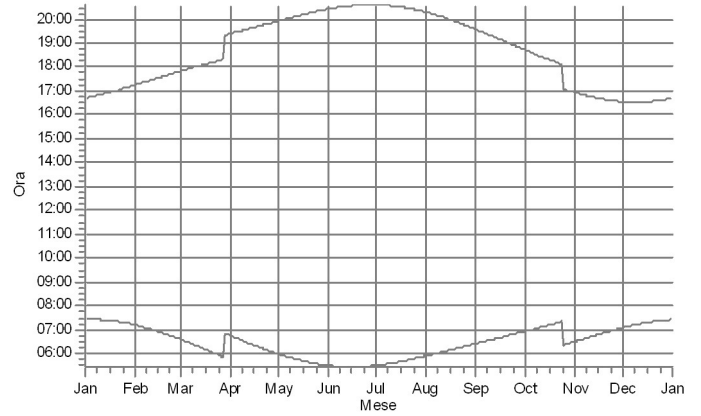
Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario, grafico

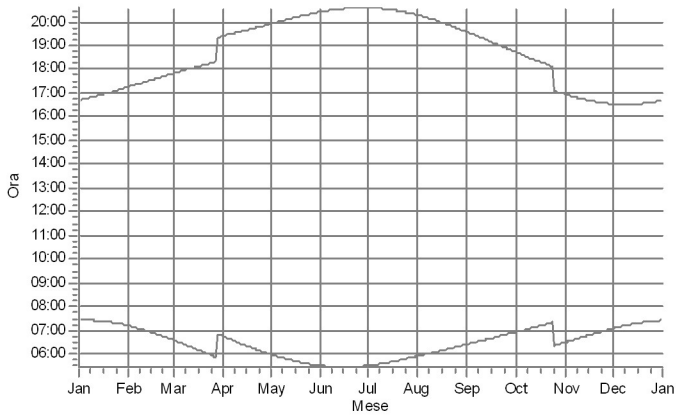
A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)



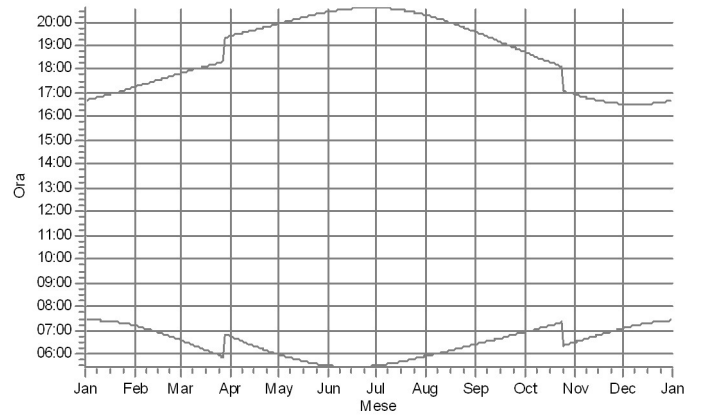
B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)



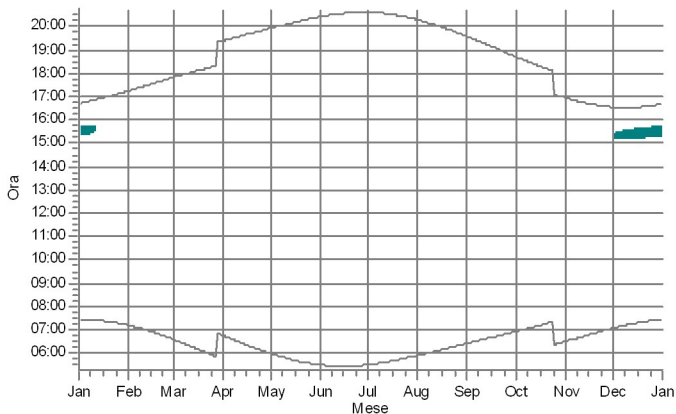
C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)



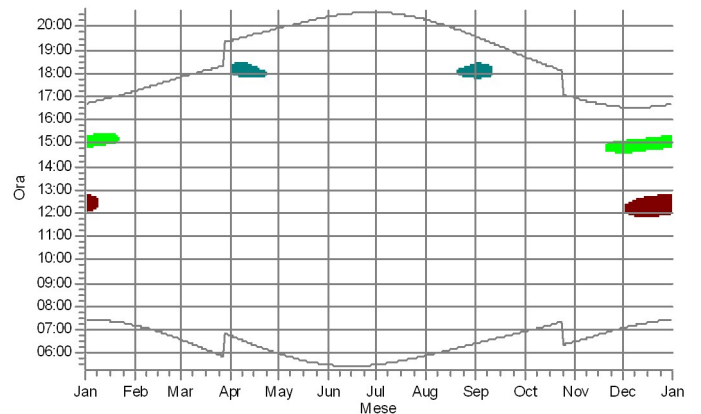
D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)



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° (7)



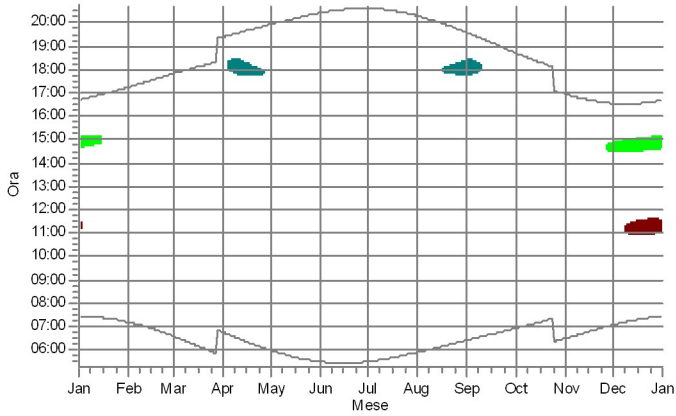
WTG

- 2: VESTAS V105-3.45 3450 105.0 IO! hub: 72,5 m (TOT: 125,0 m) (3)
- 3: VESTAS V105-3.45 3450 105.0 IO! hub: 72,5 m (TOT: 125,0 m) (4)
- 6: VESTAS V105-3.45 3450 105.0 IO! hub: 72,5 m (TOT: 125,0 m) (7)

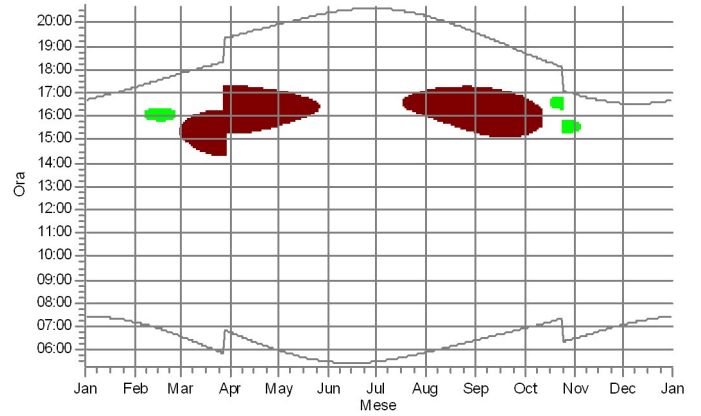
- 8: VESTAS V126-3.3 GridStream 3300 126.0 IO! hub: 117,0 m (TOT: 180,0 m) (9)
- 9: VESTAS V126-3.3 GridStream 3300 126.0 IO! hub: 117,0 m (TOT: 180,0 m) (10)

SHADOW - Calendario, grafico

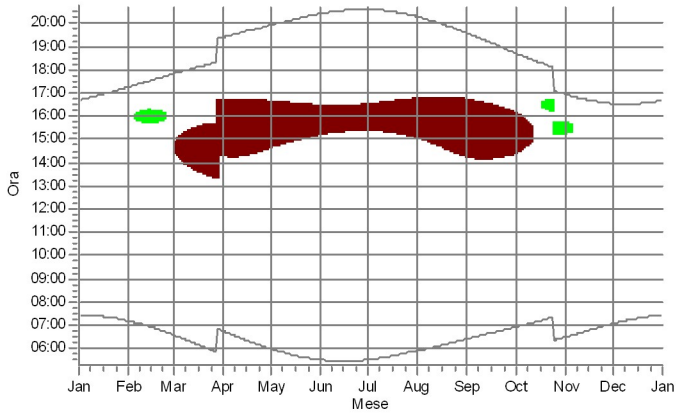
G: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)



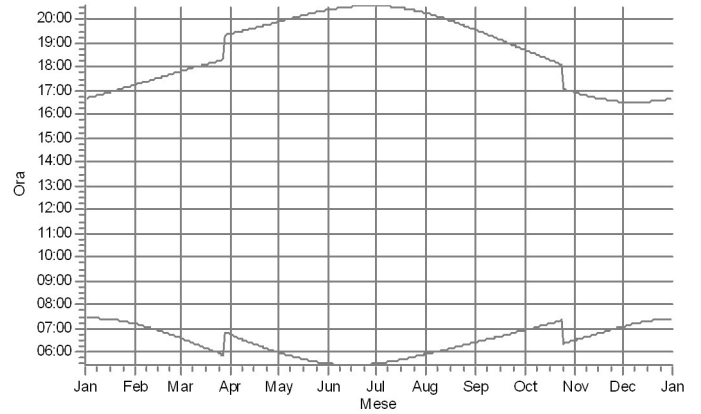
H: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)



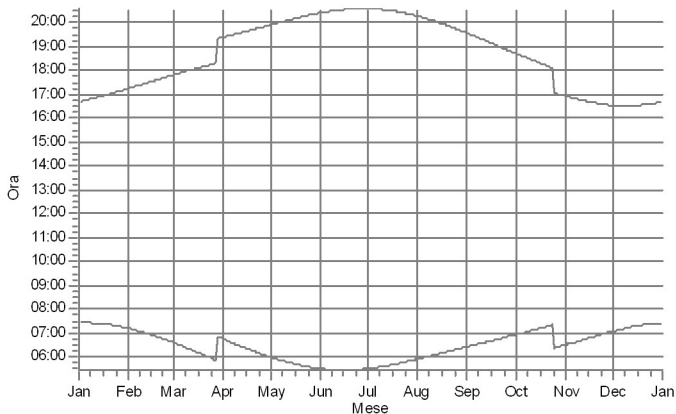
I: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)



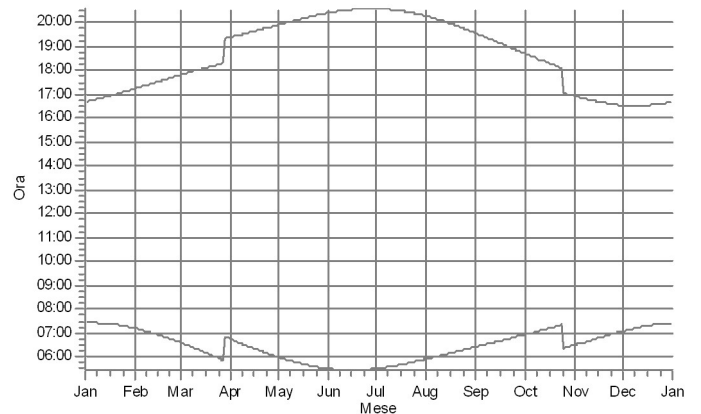
J: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)



K: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)



L: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)



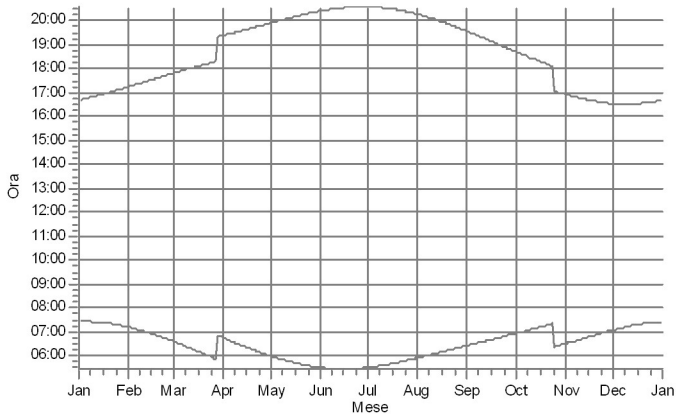
WTG

- 6: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (7)
- 8: VESTAS V126-3.3 GridStreame 3300 126.0 !O! hub: 117,0 m (TOT: 180,0 m) (9)

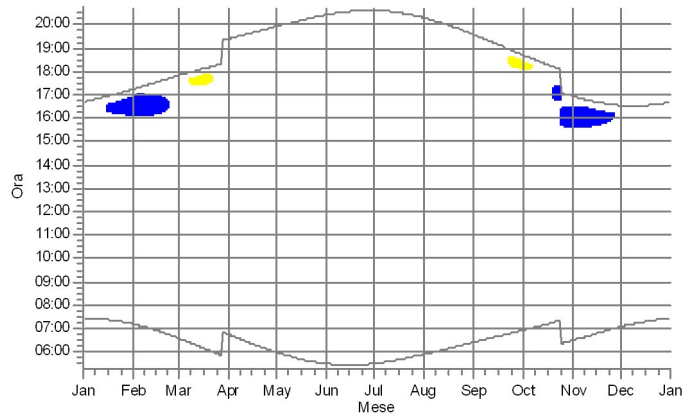
- 9: VESTAS V126-3.3 GridStreame 3300 126.0 !O! hub: 117,0 m (TOT: 180,0 m) (10)

SHADOW - Calendario, grafico

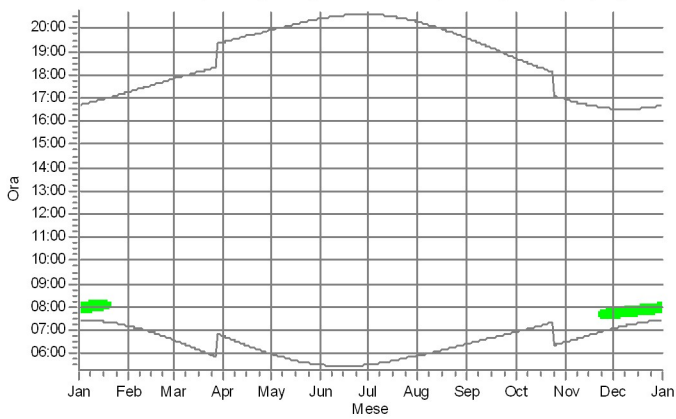
M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)



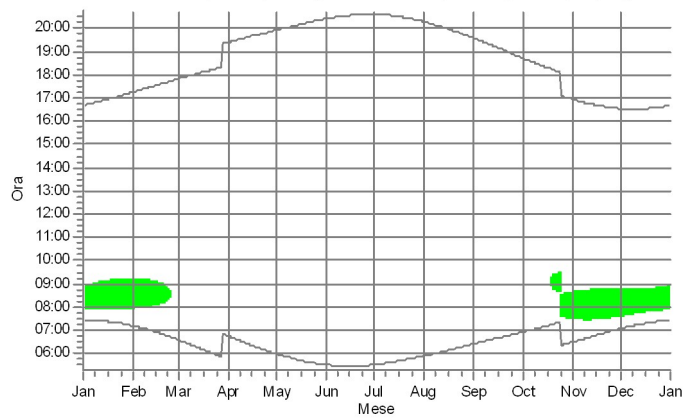
N: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)



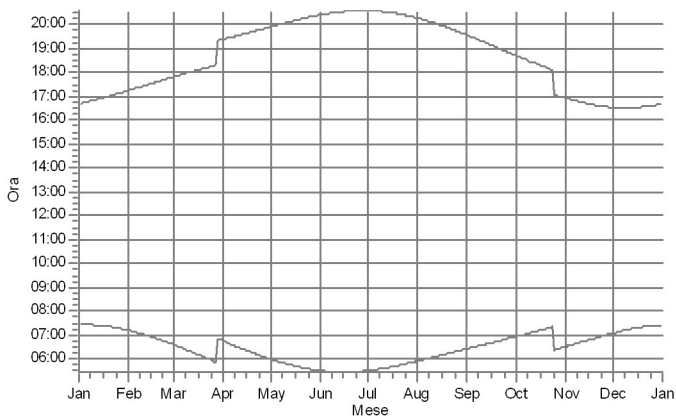
O: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (16)



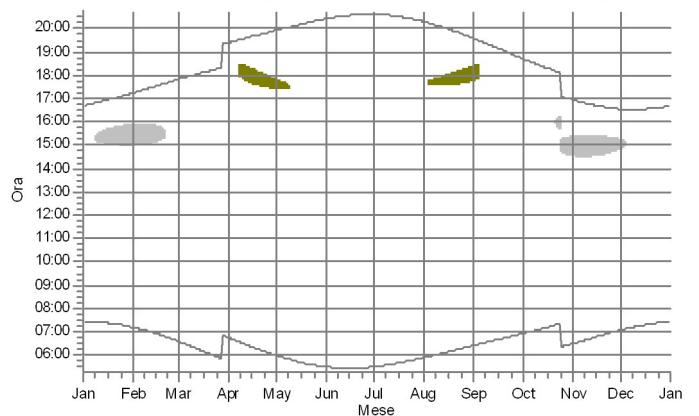
P: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)



Q: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)



R: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (19)



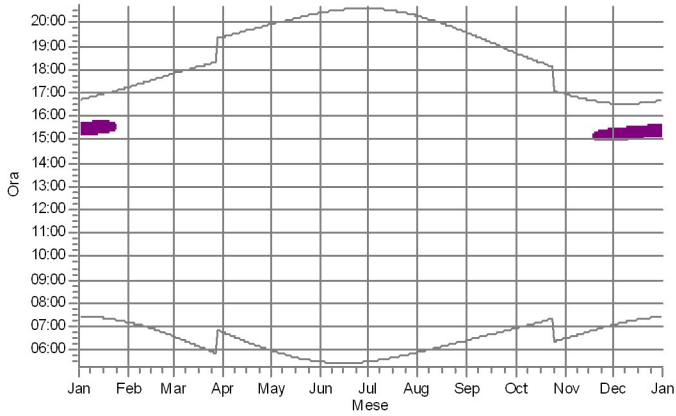
WTG

- 2: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (3)
- 3: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (4)
- 9: VESTAS V126-3.3 GridStream 3300 126.0 !O! hub: 117,0 m (TOT: 180,0 m) (10)

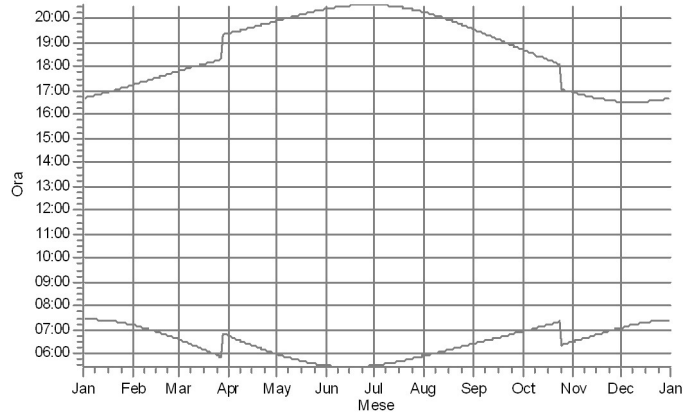
- 10: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (11)
- 12: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (13)

SHADOW - Calendario, grafico

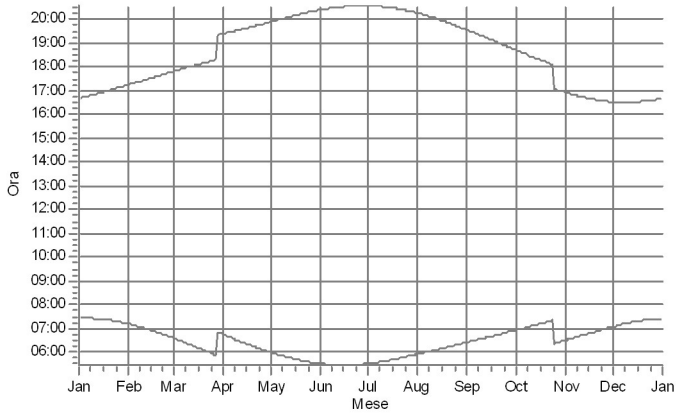
S: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (20)



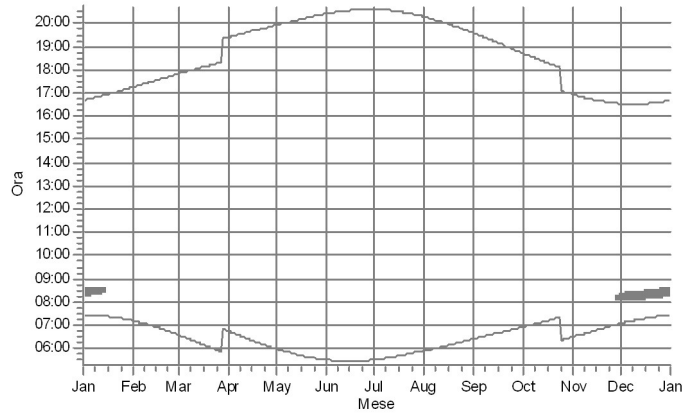
T: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (21)



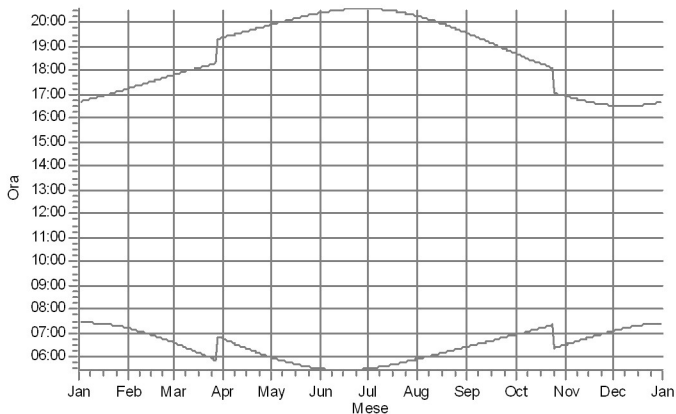
U: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (22)



V: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (23)



W: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (24)



WTG

4: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (5)

11: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (12)

SHADOW - Calendario per WTG

WTG: 1 - VESTAS V150-6.0 6000 150.0 !O! hub: 105,0 m (TOT: 180,0 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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:25	05:30 20:36	05:54 20:17	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
2	07:24 16:42	07:10 17:16	06:33 17:50	06:43 19:24	05:57 19:56	05:29 20:25	05:30 20:35	05:55 20:15	06:26 19:32	06:56 18:41	06:30 16:55	07:05 16:31
3	07:25 16:45	07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 16:31
4	07:25 16:43	07:08 17:19	06:30 17:53	06:39 19:26	05:55 19:58	05:28 20:27	05:32 20:35	05:57 20:13	06:28 19:28	06:58 18:38	06:33 16:52	07:07 16:31
5	07:25 16:44	07:07 17:20	06:29 17:54	06:38 19:27	05:53 19:59	05:28 20:27	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:36	06:34 16:51	07:08 16:31
6	07:25 16:45	07:06 17:21	06:27 17:55	06:36 19:28	05:52 20:00	05:28 20:28	05:33 20:35	05:59 20:11	06:30 19:25	07:00 18:34	06:35 16:50	07:09 16:31
7	07:25 16:46	07:05 17:22	06:26 17:56	06:34 19:30	05:51 20:01	05:27 20:29	05:33 20:34	06:00 20:10	06:31 19:24	07:01 18:33	06:36 16:49	07:10 16:31
8	07:24 16:47	07:04 17:24	06:24 17:57	06:33 19:31	05:50 20:02	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 16:48	07:11 16:31
9	07:24 16:48	07:02 17:25	06:22 17:58	06:31 19:32	05:49 20:03	05:27 20:30	05:35 20:34	06:02 20:07	06:33 19:20	07:03 18:30	06:39 16:47	07:12 16:31
10	07:24 16:49	07:01 17:26	06:21 17:59	06:29 19:33	05:47 20:04	05:27 20:30	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28	06:40 16:46	07:13 16:31
11	07:24 16:50	07:00 17:27	06:19 18:00	06:28 19:34	05:46 20:05	05:26 20:31	05:36 20:33	06:04 20:05	06:35 19:17	07:05 18:26	06:41 16:45	07:13 16:31
12	07:24 16:51	06:59 17:29	06:18 18:02	06:26 19:35	05:45 20:06	05:26 20:32	05:37 20:32	06:05 20:03	06:36 19:15	07:06 18:25	06:42 16:44	07:14 16:31
13	07:23 16:52	06:58 17:30	06:16 18:03	06:25 19:36	05:44 20:07	05:26 20:32	05:37 20:32	06:06 20:02	06:37 19:13	07:07 18:23	06:43 16:43	07:15 16:31
14	07:23 16:53	06:56 17:31	06:14 18:04	06:23 19:37	05:43 20:08	05:26 20:32	05:38 20:31	06:07 20:01	06:38 19:12	07:08 18:22	06:44 16:42	07:16 16:31
15	07:23 16:55	06:55 17:32	06:13 18:05	06:22 19:38	05:42 20:09	05:26 20:33	05:39 20:31	06:08 19:59	06:39 19:10	07:10 18:20	06:46 16:41	07:17 16:31
16	07:22 16:56	06:54 17:34	06:11 18:06	06:20 19:39	05:41 20:10	05:26 20:33	05:40 20:30	06:09 19:58	06:40 19:08	07:11 18:19	06:47 16:40	07:17 16:32
17	07:22 16:57	06:52 17:35	06:09 18:07	06:18 19:40	05:40 20:11	05:26 20:34	05:40 20:30	06:10 19:56	06:41 19:07	07:12 18:17	06:48 16:40	07:18 16:32
18	07:21 16:58	06:51 17:36	06:08 18:08	06:17 19:41	05:39 20:12	05:26 20:34	05:41 20:29	06:11 19:55	06:42 19:05	07:13 18:15	06:49 16:39	07:19 16:32
19	07:21 16:59	06:50 17:37	06:06 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:28	06:12 19:53	06:43 19:03	07:14 18:14	06:50 16:38	07:19 16:33
20	07:20 17:00	06:48 17:38	06:04 18:10	06:14 19:43	05:38 20:14	05:26 20:35	05:43 20:27	06:13 19:52	06:44 19:01	07:15 18:13	06:52 16:37	07:20 16:33
21	07:20 17:01	06:47 17:40	06:03 18:11	06:12 19:44	05:37 20:15	05:27 20:35	05:44 20:27	06:14 19:51	06:45 19:00	07:16 18:11	06:53 16:37	07:20 16:33
22	07:19 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35	05:45 20:26	06:15 19:49	06:46 18:58	07:17 18:10	06:54 16:36	07:21 16:34
23	07:18 17:04	06:44 17:42	05:59 18:14	06:09 19:47	05:35 20:17	05:27 20:35	05:46 20:25	06:16 19:48	06:47 18:56	07:19 18:08	06:55 16:35	07:21 16:34
24	07:18 17:05	06:43 17:43	05:58 18:15	06:08 19:48	05:34 20:18	05:27 20:35	05:46 20:24	06:17 19:46	06:48 18:55	07:20 18:07	06:56 16:35	07:22 16:35
25	07:17 17:06	06:41 17:44	05:56 18:16	06:07 19:49	05:34 20:19	05:28 20:35	05:47 20:23	06:18 19:44	06:49 18:53	07:21 17:05	06:57 16:34	07:22 16:35
26	07:16 17:08	06:40 17:46	05:54 18:17	06:05 19:50	05:33 20:20	05:28 20:36	05:48 20:22	06:19 19:43	06:50 18:51	07:22 17:04	06:58 16:34	07:23 16:36
27	07:15 17:09	06:38 17:47	05:53 18:18	06:04 19:51	05:32 20:21	05:28 20:36	05:49 20:22	06:20 19:41	06:51 18:50	07:23 17:03	07:00 16:33	07:23 16:37
28	07:15 17:10	06:37 17:48	05:51 18:19	06:02 19:52	05:32 20:21	05:29 20:36	05:50 20:21	06:21 19:40	06:52 18:48	07:24 17:01	07:01 16:33	07:23 16:37
29	07:14 17:11		06:49 19:20	06:01 19:53	05:31 20:22	05:29 20:36	05:51 20:20	06:22 19:38	06:53 18:46	07:25 17:00	07:02 16:32	07:24 16:38
30	07:13 17:12		06:48 19:21	06:00 19:54	05:31 20:23	05:30 20:36	05:52 20:19	06:23 19:37	06:54 18:44	07:26 16:59	07:03 16:32	07:24 16:39
31	07:12 17:14		06:46 19:22		05:30 20:24		05:53 20:18	06:24 19:35	06:54 18:44	07:27 16:57	07:04 16:32	07:24 16:40
Ore potenziali eliofanìa	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

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687
Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario per WTG

WTG: 2 - VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 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 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	07:24 12:08-14:01/113 16:41	07:11 12:51-13:47/56 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:25
2	07:24 12:09-14:01/112 16:42	07:10 12:55-13:45/50 17:16	06:33 17:50	06:43 19:24	05:57 19:56	05:29 20:25
3	07:25 12:10-14:01/111 16:42	07:09 13:00-13:41/41 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26
4	07:25 12:10-14:02/112 16:43	07:08 13:06-13:37/31 17:19	06:30 17:53	06:39 19:26	05:55 19:58	05:28 20:27
5	07:25 12:11-14:02/111 16:44	07:07 13:17-13:29/12 17:20	06:29 17:54	06:38 19:27	05:53 19:59	05:28 20:27
6	07:25 12:12-14:02/110 16:45	07:06 17:21	06:27 17:55	06:36 19:28	05:52 20:00	05:28 20:28
7	07:24 12:12-14:01/109 16:46	07:05 17:22	06:26 17:56	06:34 19:30	05:51 20:01	05:27 20:29
8	07:24 12:13-14:02/109 16:47	07:04 17:24	06:24 17:34-17:36/2 17:57	06:33 19:31	05:50 20:02	05:27 20:29
9	07:24 12:14-14:02/108 16:48	07:02 17:25	06:22 17:33-17:37/4 17:58	06:31 19:32	05:49 20:03	05:27 20:30
10	07:24 12:15-14:03/108 16:49	07:01 17:26	06:21 17:31-17:38/7 17:59	06:29 19:33	05:47 20:04	05:27 20:30
11	07:24 12:15-14:02/107 16:50	07:00 17:27	06:19 17:31-17:39/8 18:00	06:28 19:34	05:46 20:05	05:26 20:31
12	07:24 12:17-14:02/105 16:51	06:59 17:29	06:18 17:30-17:40/10 18:02	06:26 19:35	05:45 20:06	05:26 20:32
13	07:23 12:18-14:03/105 16:52	06:58 17:30	06:16 17:31-17:42/11 18:03	06:25 19:36	05:44 20:07	05:26 20:32
14	07:23 12:18-14:02/104 16:53	06:56 17:31	06:14 17:30-17:43/13 18:04	06:23 19:37	05:43 20:08	05:26 20:32
15	07:23 12:20-14:02/102 16:55	06:55 17:32	06:13 17:30-17:44/14 18:05	06:22 19:38	05:42 20:09	05:26 20:33
16	07:22 12:20-14:02/102 16:56	06:54 17:34	06:11 17:31-17:45/14 18:06	06:20 19:39	05:41 20:10	05:26 20:33
17	07:22 12:22-14:02/100 16:57	06:52 17:35	06:09 17:31-17:46/15 18:07	06:18 19:40	05:40 20:11	05:26 20:34
18	07:21 12:23-14:01/98 16:58	06:51 17:36	06:08 17:32-17:47/15 18:08	06:17 19:41	05:39 20:12	05:26 20:34
19	07:21 12:25-14:01/96 16:59	06:50 17:37	06:06 17:33-17:48/15 18:09	06:15 19:42	05:38 20:13	05:26 20:34
20	07:20 12:26-14:01/95 17:00	06:48 17:38	06:04 17:35-17:48/13 18:10	06:14 19:43	05:38 20:14	05:26 20:35
21	07:20 12:27-14:00/93 17:01	06:47 17:40	06:03 17:39-17:43/4 18:11	06:12 19:44	05:37 20:15	05:27 20:35
22	07:19 12:29-14:00/91 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35
23	07:18 12:30-13:59/89 17:04	06:44 17:42	05:59 18:14	06:09 19:47	05:35 20:17	05:27 20:35
24	07:18 12:32-13:58/86 17:05	06:42 17:43	05:58 18:15	06:08 19:48	05:34 20:18	05:27 20:35
25	07:17 12:33-13:57/84 17:06	06:41 17:44	05:56 18:16	06:07 19:49	05:34 20:19	05:28 20:35
26	07:16 12:36-13:57/81 17:08	06:40 17:46	05:54 18:17	06:05 19:50	05:33 20:20	05:28 20:36
27	07:15 12:38-13:56/78 17:09	06:38 17:47	05:53 18:18	06:04 19:51	05:32 20:21	05:28 20:36
28	07:15 12:40-13:54/74 17:10	06:37 17:48	05:51 18:19	06:02 19:52	05:32 20:21	05:29 20:36
29	07:14 12:42-13:53/71 17:11		06:49 19:20	06:01 19:53	05:31 20:22	05:29 20:36
30	07:13 12:45-13:51/66 17:12		06:48 19:21	06:00 19:54	05:31 20:23	05:30 20:36
31	07:12 12:48-13:49/61 17:14		06:46 19:22		05:30 20:24	
Ore potenziali eliofanìa	297	297	369	399	448	452
Somma minuti d'ombra	2991	190	145	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

Progetto:
Bisaccia Ecopower

Descrizione:
Parco Eolico N. 12 Aerogeneratori
Potenza complessiva 43,65 MW

Utente autorizzato:
Ecoenergia srl
Via Cardito 5
IT-83012 Cervinara
3357227687
Ing. Saverio Vitagliano / antoniosantangelo@ecoenergiagroup.it
Redatto il:
17/10/2022 16:08/3.5.584



SHADOW - Calendario per WTG

WTG: 2 - VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 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	06:25 19:33	06:55 18:10-18:20/10 18:43	06:29 16:56	07:04 11:57-13:44/107 16:32
2	05:30 20:35	05:55 20:15	06:26 19:32	06:56 18:10-18:19/9 18:41	06:30 16:55	07:05 11:58-13:46/108 16:31
3	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:10-18:17/7 18:39	06:31 16:54	07:06 11:58-13:46/108 16:31
4	05:32 20:35	05:57 20:13	06:28 19:28	06:58 18:10-18:15/5 18:38	06:33 16:52	07:07 11:58-13:47/109 16:31
5	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:10-18:13/3 18:36	06:34 16:51	07:08 11:58-13:48/110 16:31
6	05:33 20:35	05:59 20:11	06:30 19:25	07:00 18:11-18:12/1 18:34	06:35 12:45-13:00/15 16:50	07:09 11:58-13:48/110 16:31
7	05:33 20:34	06:00 20:10	06:31 19:24	07:01 18:33	06:36 12:35-13:07/32 16:49	07:10 11:58-13:49/111 16:31
8	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 12:29-13:12/43 16:48	07:11 11:57-13:49/112 16:31
9	05:35 20:34	06:02 20:07	06:33 19:20	07:03 18:30	06:38 12:26-13:16/50 16:47	07:12 11:58-13:49/111 16:31
10	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28	06:40 12:22-13:18/56 16:46	07:13 11:58-13:50/112 16:31
11	05:36 20:33	06:04 20:05	06:35 19:17	07:05 18:26	06:41 12:19-13:21/62 16:45	07:13 11:58-13:51/113 16:31
12	05:37 20:32	06:05 20:03	06:36 19:15	07:06 18:25	06:42 12:17-13:23/66 16:44	07:14 11:59-13:52/113 16:31
13	05:37 20:32	06:06 20:02	06:37 19:13	07:07 18:23	06:43 12:14-13:25/71 16:43	07:15 11:59-13:52/113 16:31
14	05:38 20:31	06:07 20:01	06:38 19:12	07:08 18:22	06:44 12:12-13:26/74 16:42	07:16 11:59-13:52/113 16:31
15	05:39 20:31	06:08 19:59	06:39 19:10	07:10 18:20	06:46 12:10-13:28/78 16:41	07:16 11:59-13:53/114 16:31
16	05:40 20:30	06:09 19:58	06:40 19:08	07:11 18:19	06:47 12:09-13:30/81 16:40	07:17 12:00-13:54/114 16:32
17	05:40 20:30	06:10 19:56	06:41 19:07	07:12 18:17	06:48 12:07-13:31/84 16:40	07:18 12:00-13:54/114 16:32
18	05:41 20:29	06:11 19:55	06:42 19:05	07:13 18:15	06:49 12:06-13:32/86 16:39	07:19 12:01-13:55/114 16:32
19	05:42 20:28	06:12 19:53	06:43 19:03	07:14 18:14	06:50 12:04-13:33/89 16:38	07:19 12:01-13:56/115 16:33
20	05:43 20:27	06:13 19:52	06:44 19:01	07:15 18:12	06:52 12:04-13:35/91 16:37	07:20 12:01-13:56/115 16:33
21	05:44 20:27	06:14 19:51	06:45 19:00	07:16 18:11	06:53 12:03-13:36/93 16:37	07:20 12:02-13:56/114 16:33
22	05:45 20:26	06:15 19:49	06:46 18:58	07:17 18:10	06:54 12:02-13:37/95 16:36	07:21 12:02-13:56/114 16:34
23	05:46 20:25	06:16 19:48	06:47 18:21-18:32/11 18:56	07:19 18:08	06:55 12:01-13:37/96 16:35	07:21 12:03-13:58/115 16:34
24	05:46 20:24	06:17 19:46	06:48 18:18-18:33/15 18:55	07:20 18:07	06:56 12:01-13:39/98 16:35	07:22 12:03-13:58/115 16:35
25	05:47 20:23	06:18 19:44	06:49 18:16-18:31/15 18:53	06:21 17:05	06:57 12:00-13:40/100 16:34	07:22 12:03-13:58/115 16:35
26	05:48 20:22	06:19 19:43	06:50 18:14-18:29/15 18:51	06:22 17:04	06:58 11:59-13:41/102 16:34	07:23 12:05-13:59/114 16:36
27	05:49 20:22	06:20 19:41	06:51 18:13-18:27/14 18:50	06:23 17:03	07:00 11:59-13:41/102 16:33	07:23 12:05-13:59/114 16:37
28	05:50 20:21	06:21 19:40	06:52 18:12-18:26/14 18:48	06:24 17:01	07:01 11:58-13:42/104 16:33	07:23 12:05-13:59/114 16:37
29	05:51 20:20	06:22 19:38	06:53 18:11-18:24/13 18:46	06:25 17:00	07:02 11:58-13:43/105 16:32	07:24 12:06-13:59/113 16:38
30	05:52 20:19	06:23 19:37	06:54 18:10-18:22/12 18:44	06:27 16:59	07:03 11:58-13:43/105 16:32	07:24 12:07-14:00/113 16:39
31	05:53 20:18	06:24 19:35		06:28 16:57		07:24 12:08-14:00/112 16:40
Ore potenziali eliofanìa	459	428	375	345	298	288
Somma minuti d'ombra	0	0	109	35	1978	3489

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

WTG: 3 - VESTAS V105-3.45 3450 105.0 IO! hub: 72,5 m (TOT: 125,0 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 08:15-09:05/50 16:41	07:11 16:11-16:51/40 17:15 08:42-08:56/14	06:35 06:44 17:49	06:44 19:23 19:55	05:58 05:30 20:25	05:30 05:30 20:35	05:30 05:55 20:16	05:54 06:25 19:33	06:25 06:55 18:43	06:55 06:26 18:41	06:29 15:40-16:25/45 16:56	07:04 08:01-08:50/49 16:32
2	07:24 08:16-09:05/49 16:42	07:10 16:11-16:52/41 17:16	06:33 06:43 17:50	06:43 19:24 19:56	05:57 05:29 20:25	05:30 05:35 20:35	05:55 06:26 20:15	06:25 06:55 19:32	06:55 06:26 18:41	06:55 06:27 18:39	06:30 15:41-16:26/45 16:55	07:05 08:02-08:51/49 16:31
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5	07:25 08:17-09:06/49 16:44	07:07 16:11-16:57/46 17:20	06:29 06:38 17:54	06:38 19:27 19:59	05:53 05:28 20:27	05:32 05:35 20:12	06:58 06:29 19:27	06:29 06:59 18:36	06:59 06:30 18:34	06:59 06:30 18:34	06:34 15:41-16:27/46 16:51	07:08 08:03-08:53/50 16:31
6	07:25 08:18-09:07/49 16:45	07:06 16:11-16:57/46 17:21	06:27 06:36 17:55	06:36 19:28 20:00	05:52 05:28 20:28	05:33 05:35 20:11	06:59 06:30 19:25	06:30 07:00 18:34	07:00 07:00 18:34	07:00 07:00 18:34	06:35 15:41-16:26/45 16:50	07:09 08:04-08:53/49 16:31
7	07:24 08:17-09:07/50 16:46	07:05 16:10-16:56/46 17:22	06:26 06:34 17:56	06:34 19:29 20:01	05:51 05:27 20:29	05:33 05:34 20:10	06:00 06:31 19:23	06:31 07:01 18:33	07:01 07:01 18:33	07:01 07:01 18:33	06:36 15:40-16:25/45 16:49	07:10 08:04-08:54/50 16:31
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9	07:24 08:18-09:08/50 16:48	07:02 16:11-16:56/45 17:25	06:22 06:31 17:58	06:31 19:32 20:03	05:49 05:27 20:30	05:35 05:34 20:07	06:02 06:33 19:20	06:33 07:03 18:30	07:03 07:03 18:30	07:03 07:03 18:30	06:38 15:42-16:23/41 16:47	07:12 08:04-08:54/50 16:30
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13	07:23 08:21-09:09/48 16:52	06:58 16:13-16:55/42 17:30	06:16 06:25 18:03	06:25 19:36 20:07	05:44 05:26 20:32	05:37 05:32 20:02	06:06 06:37 19:13	06:37 07:07 18:23	07:07 07:07 18:23	07:07 07:07 18:23	06:43 15:44-16:19/35 16:43	07:15 08:07-08:56/49 16:31
14	07:23 08:21-09:09/48 16:53	06:56 16:14-16:54/40 17:31	06:14 06:23 18:04	06:23 19:37 20:08	05:43 05:26 20:32	05:38 05:31 20:00	06:07 06:38 19:12	06:38 07:08 18:22	07:08 07:08 18:22	07:08 07:08 18:22	06:44 15:44-16:18/34 16:42	07:16 08:06-08:56/50 16:31
15	07:23 08:22-09:09/47 16:55	06:55 16:14-16:53/39 17:32	06:13 06:22 18:05	06:22 19:38 20:09	05:42 05:26 20:33	05:39 05:31 20:01	06:08 06:39 19:10	06:39 07:10 18:20	07:10 07:10 18:20	07:10 07:10 18:20	06:46 15:45-16:17/32 16:41	07:16 08:07-08:56/49 16:31
16	07:22 16:24-16:30/6 16:56 08:22-09:09/47	06:54 16:16-16:52/36 17:34	06:11 06:20 18:06	06:20 19:39 20:10	05:41 05:25 20:30	05:40 05:30 20:18	06:09 06:40 19:08	06:40 07:11 18:19	07:11 07:11 18:19	07:11 07:11 18:19	06:47 15:46-16:16/30 16:40	07:17 08:08-08:57/49 16:31
17	07:22 16:22-16:32/10 16:57 08:23-09:09/46	06:52 16:17-16:52/35 17:35	06:09 06:18 18:07	06:18 19:40 20:11	05:40 05:26 20:34	05:40 05:30 20:29	06:10 06:41 19:56	06:41 07:12 18:17	07:12 07:12 18:17	07:12 07:12 18:17	06:48 15:47-16:15/28 16:39	07:18 08:08-08:57/49 16:32
18	07:21 16:19-16:33/14 16:58 08:23-09:09/46	06:51 16:18-16:50/32 17:36	06:08 06:17 18:08	06:17 19:41 20:12	05:39 05:26 20:34	05:41 05:31 20:29	06:11 06:42 19:55	06:42 07:13 18:15	07:13 07:13 18:15	07:13 07:13 18:15	06:49 15:48-16:14/26 16:39	07:19 08:09-08:58/49 16:32
19	07:21 16:19-16:34/15 16:59 08:24-09:09/45	06:50 16:20-16:48/28 17:37	06:06 06:15 18:09	06:15 19:42 20:13	05:38 05:26 20:28	05:42 05:31 20:18	06:12 06:43 19:53	06:43 07:14 18:14	07:14 07:14 18:14	07:14 07:14 18:14	06:50 15:49-16:13/24 16:38	07:19 08:09-08:59/50 16:32
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22	07:19 16:16-16:38/22 17:03 08:27-09:09/42	06:45 16:29-16:40/11 17:41	06:01 06:11 18:12	06:11 19:45 20:16	05:36 05:27 20:35	05:45 05:35 20:26	06:15 06:46 19:49	06:46 07:17 18:10	07:17 07:17 18:10	07:17 07:17 18:10	06:54 15:53-16:11/18 16:36	08:10-08:59/49 16:32
23	07:18 16:15-16:39/24 17:04 08:27-09:08/41	06:44 17:42	05:59 06:09 18:13	06:09 19:46 20:17	05:35 05:27 20:35	05:46 05:36 20:25	06:16 06:47 19:47	06:47 07:18 18:08	07:18 07:18 18:08	07:18 07:18 18:08	06:55 15:55-16:10/15 16:35	08:11-09:00/49 16:31
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25	07:17 16:13-16:41/28 17:06 08:29-09:07/38	06:41 17:44	05:56 06:07 18:16	06:07 19:49 20:19	05:34 05:28 20:35	05:47 05:37 20:23	06:18 06:49 19:44	06:49 07:21 18:53	07:21 07:21 17:05	07:21 07:21 17:05	06:57 15:46-16:22/36 16:34	08:12-09:01/49 16:35
26	07:16 16:13-16:43/30 17:07 08:31-09:07/36	06:40 17:46	05:54 06:05 18:17	06:05 19:50 20:20	05:33 05:28 20:36	05:48 05:38 20:22	06:19 06:50 19:43	06:50 07:22 18:51	07:22 07:22 17:04	07:22 07:22 17:04	06:58 16:03-16:09/6 16:34	08:13-09:02/49 16:36
27	07:15 16:13-16:45/32 17:09 08:32-09:06/34	06:38 17:47	05:53 06:04 18:18	06:04 19:51 20:20	05:32 05:28 20:36	05:49 05:39 20:22	06:20 06:51 19:41	06:51 07:23 18:50	07:23 07:23 17:03	07:23 07:23 17:03	06:59 15:44-16:23/39 16:33	08:13-09:02/49 16:37
28	07:14 16:12-16:46/34 17:10 08:33-09:04/31	06:37 17:48	05:51 06:02 18:19	06:02 19:52 20:21	05:32 05:29 20:36	05:50 05:40 20:21	06:21 06:52 19:40	06:52 07:24 18:48	07:24 07:24 17:01	07:24 07:24 17:01	06:52 15:43-16:23/40 16:33	08:13-09:02/49 16:37
29	07:14 16:12-16:47/35 17:11 08:35-09:03/28	06:36 17:47	06:49 06:01 19:20	06:01 19:53 20:22	05:31 05:29 20:36	05:51 05:41 20:20	06:22 06:53 19:38	06:53 07:25 18:46	07:25 07:25 17:00	07:25 07:25 17:00	06:53 15:43-16:25/42 16:32	08:13-09:02/49 16:38
30	07:13 16:11-16:48/37 17:12 08:36-09:01/25	06:35 17:46	06:48 06:00 19:21	06:00 19:54 20:23	05:31 05:29 20:36	05:52 05:42 20:19	06:23 06:54 19:37	06:54 07:26 18:44	07:26 07:26 16:59	07:26 07:26 16:59	06:54 15:42-16:25/43 16:32	08:14-09:04/50 16:39
31	07:12 16:11-16:50/39 17:14 08:39-08:59/20	06:34 17:48	06:46 06:02 19:22	06:02 19:22 20:24	05:30 05:24 20:38	05:53 05:43 20:18	06:24 06:55 19:35	06:55 07:27 16:57	07:27 07:27 16:57	07:27 07:27 16:57	06:54 15:41-16:25/44 16:32	08:15-09:04/49 16:40
Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	1730	849	0	0	0	0	0	0	0	404	1644	1526

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

WTG: 4 - VESTAS V105-3.45 3450 105.0 IO! hub: 72,5 m (TOT: 125,0 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 16:41	08:18-08:33/15 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
2	07:24 16:42	08:19-08:34/15 17:16	06:33 17:50	06:43 19:24	05:57 19:56	05:29 20:25	05:30 20:35	05:55 20:15	06:26 19:32	06:56 18:41	06:30 16:55	07:05 16:31
3	07:24 16:42	08:19-08:34/15 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 16:31
4	07:24 16:43	08:20-08:34/14 17:19	06:30 17:52	06:39 19:26	05:55 19:58	05:28 20:27	05:32 20:35	05:57 20:13	06:28 19:28	06:58 18:38	06:32 16:52	07:07 16:31
5	07:25 16:44	08:21-08:35/14 17:20	06:29 17:54	06:38 19:27	05:53 19:59	05:28 20:27	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:36	06:34 16:51	07:08 16:31
6	07:24 16:45	08:21-08:35/14 17:21	06:27 17:55	06:36 19:28	05:52 20:00	05:28 20:28	05:33 20:34	05:59 20:11	06:30 19:25	07:00 18:34	06:35 16:50	07:09 16:31
7	07:24 16:46	08:21-08:35/14 17:22	06:26 17:56	06:34 19:29	05:51 20:01	05:27 20:29	05:33 20:34	06:00 20:10	06:31 19:23	07:01 18:33	06:36 16:49	07:10 16:31
8	07:24 16:47	08:22-08:35/13 17:24	06:24 17:57	06:33 19:31	05:50 20:02	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 16:48	07:11 16:31
9	07:24 16:48	08:23-08:35/12 17:25	06:22 17:58	06:31 19:32	05:49 20:03	05:27 20:30	05:35 20:34	06:02 20:07	06:33 19:20	07:03 18:30	06:38 16:47	07:12 16:31
10	07:24 16:49	08:24-08:35/11 17:26	06:21 17:59	06:29 19:33	05:47 20:04	05:27 20:30	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28	06:40 16:46	07:12 16:31
11	07:24 16:50	08:25-08:34/9 17:27	06:19 18:00	06:28 19:34	05:46 20:05	05:26 20:31	05:36 20:33	06:04 20:04	06:35 19:17	07:05 18:26	06:41 16:45	07:13 16:31
12	07:24 16:51	08:26-08:34/8 17:29	06:17 18:01	06:26 19:35	05:45 20:06	05:26 20:31	05:37 20:32	06:05 20:03	06:36 19:15	07:06 18:25	06:42 16:44	07:14 16:31
13	07:23 16:52	08:29-08:33/4 17:30	06:16 18:03	06:25 19:36	05:44 20:07	05:26 20:32	05:37 20:32	06:06 20:02	06:37 19:13	07:07 18:23	06:43 16:43	07:15 16:31
14	07:23 16:53	08:29-08:33/4 17:31	06:14 18:04	06:23 19:37	05:43 20:08	05:26 20:32	05:38 20:31	06:07 20:00	06:38 19:12	07:08 18:22	06:44 16:42	07:16 16:31
15	07:23 16:55	08:29-08:33/4 17:32	06:13 18:05	06:22 19:38	05:42 20:09	05:26 20:33	05:39 20:31	06:08 19:59	06:39 19:10	07:10 18:20	06:46 16:41	07:16 16:31
16	07:22 16:56	08:29-08:33/4 17:34	06:11 18:06	06:20 19:39	05:41 20:10	05:26 20:33	05:40 20:30	06:09 19:58	06:40 19:08	07:11 18:19	06:47 16:40	07:17 16:32
17	07:22 16:57	08:29-08:33/4 17:35	06:09 18:07	06:18 19:40	05:40 20:11	05:26 20:34	05:40 20:29	06:10 19:56	06:41 19:07	07:12 18:17	06:48 16:40	07:18 16:32
18	07:21 16:58	08:29-08:33/4 17:36	06:08 18:08	06:17 19:41	05:39 20:12	05:26 20:34	05:41 20:29	06:11 19:55	06:42 19:05	07:13 18:15	06:49 16:39	07:18 16:32
19	07:21 16:59	08:29-08:33/4 17:37	06:06 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:28	06:12 19:53	06:43 19:03	07:14 18:14	06:50 16:38	07:19 16:33
20	07:20 17:00	08:29-08:33/4 17:38	06:04 18:10	06:14 19:43	05:38 20:14	05:26 20:34	05:43 20:27	06:13 19:52	06:44 19:01	07:15 18:12	06:51 16:37	07:20 16:33
21	07:20 17:01	08:29-08:33/4 17:40	06:03 18:11	06:12 19:44	05:37 20:15	05:27 20:35	05:44 20:27	06:14 19:50	06:45 19:00	07:16 18:11	06:53 16:37	07:20 16:33
22	07:19 17:03	08:29-08:33/4 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35	05:45 20:26	06:15 19:49	06:46 18:58	07:17 18:10	06:54 16:36	07:21 16:34
23	07:18 17:04	08:29-08:33/4 17:42	05:59 18:13	06:09 19:46	05:35 20:17	05:27 20:35	05:46 20:25	06:16 19:47	06:47 18:56	07:18 18:08	06:55 16:35	07:21 16:34
24	07:18 17:05	08:29-08:33/4 17:43	05:58 18:15	06:08 19:48	05:34 20:18	05:27 20:35	05:46 20:24	06:17 19:46	06:48 18:55	07:20 18:07	06:56 16:35	07:22 16:35
25	07:17 17:06	08:29-08:33/4 17:44	05:56 18:16	06:07 19:49	05:34 20:19	05:28 20:35	05:47 20:23	06:18 19:44	06:49 18:53	07:21 17:05	06:57 16:34	07:22 16:35
26	07:16 17:08	08:29-08:33/4 17:46	05:54 18:17	06:05 19:50	05:33 20:20	05:28 20:35	05:48 20:22	06:19 19:43	06:50 18:51	07:22 17:04	06:58 16:34	07:23 16:36
27	07:15 17:09	08:29-08:33/4 17:47	05:53 18:18	06:04 19:51	05:32 20:20	05:28 20:36	05:49 20:21	06:20 19:41	06:51 18:50	07:23 17:03	06:59 16:33	07:23 16:37
28	07:14 17:10	08:29-08:33/4 17:48	05:51 18:19	06:02 19:52	05:32 20:21	05:29 20:36	05:50 20:21	06:21 19:40	06:52 18:48	07:24 17:01	07:01 16:33	07:23 16:37
29	07:14 17:11	08:29-08:33/4 17:49	05:49 18:20	06:01 19:53	05:31 20:22	05:29 20:36	05:51 20:20	06:22 19:38	06:53 18:46	07:25 17:00	07:02 16:32	07:24 16:38
30	07:13 17:12	08:29-08:33/4 17:50	05:48 18:21	06:00 19:54	05:30 20:23	05:30 20:35	05:52 20:19	06:23 19:37	06:54 18:44	07:26 16:59	07:03 16:32	07:24 16:39
31	07:12 17:14	08:29-08:33/4 17:51	05:46 18:22	06:00 19:55	05:30 20:24	05:30 20:36	05:53 20:17	06:24 19:35	06:55 18:45	07:27 16:57	07:04 16:32	07:24 16:40
Ore potenziali eliofania	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	158	0	0	0	0	0	0	0	0	0	11	441

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

WTG: 5 - VESTAS V105-3.45 3450 105.0 IO! hub: 72,5 m (TOT: 125,0 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 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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:29 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
2	07:24 16:41	07:10 17:16	06:33 17:50	06:42 19:24	05:57 19:56	05:29 20:25	05:30 20:35	05:55 20:15	06:26 19:32	06:56 18:41	06:30 16:55	07:05 16:31
3	07:24 16:42	07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 16:31
4	07:24 16:43	07:08 17:19	06:30 17:52	06:39 19:26	05:54 19:58	05:28 20:27	05:31 20:35	05:57 20:13	06:28 19:28	06:58 18:38	06:32 16:52	07:07 16:31
5	07:24 16:44	07:07 17:20	06:29 17:54	06:37 19:27	05:53 19:59	05:28 20:27	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:36	06:34 16:51	07:08 16:31
6	07:24 16:45	07:06 17:21	06:27 17:55	06:36 19:28	05:52 20:00	05:27 20:28	05:33 20:34	05:59 20:11	06:30 19:25	07:00 18:34	06:35 16:50	07:09 16:31
7	07:24 16:46	07:05 17:22	06:25 17:56	06:34 19:29	05:51 20:01	05:27 20:29	05:33 20:34	06:00 20:09	06:31 19:23	07:01 18:33	06:36 16:49	07:10 16:30
8	07:24 16:47	07:03 17:24	06:24 17:57	06:33 19:30	05:50 20:02	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 16:48	07:11 16:30
9	07:24 16:48	07:02 17:25	06:22 17:58	06:31 19:32	05:48 20:03	05:27 20:30	05:34 20:33	06:02 20:07	06:33 19:20	07:03 18:29	06:38 16:47	07:11 16:30
10	07:24 16:49	07:01 17:26	06:21 17:59	06:29 19:33	05:47 20:04	05:26 20:30	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28	06:40 16:46	07:12 16:30
11	07:24 16:50	07:00 17:27	06:19 18:00	06:28 19:34	05:46 20:05	05:26 20:31	05:36 20:33	06:04 20:04	06:35 19:17	07:05 18:26	06:41 16:45	07:13 16:30
12	07:23 16:51	06:59 17:29	06:17 18:01	06:26 19:35	05:45 20:06	05:26 20:31	05:37 20:32	06:05 20:03	06:36 19:15	07:06 18:25	06:42 16:44	07:14 16:31
13	07:23 16:52	06:57 17:30	06:16 18:03	06:25 19:36	05:44 20:07	05:26 20:32	05:37 20:32	06:06 20:02	06:36 19:13	07:07 18:23	06:43 16:43	07:15 16:31
14	07:23 16:53	06:56 17:31	06:14 18:04	06:23 19:37	05:43 20:08	05:26 20:32	05:38 20:31	06:07 20:00	06:37 19:12	07:08 18:22	06:44 16:42	07:16 16:31
15	07:22 16:54	06:55 17:32	06:12 18:05	06:21 19:38	05:42 20:09	05:26 20:33	05:39 20:31	06:08 19:59	06:38 19:10	07:09 18:20	06:46 16:41	07:16 16:31
16	07:22 16:55	06:54 17:33	06:11 18:06	06:20 19:39	05:41 20:10	05:26 20:33	05:40 20:30	06:09 19:58	06:39 19:08	07:11 18:18	06:47 16:40	07:17 16:31
17	07:22 16:57	06:52 17:35	06:09 18:07	06:18 19:40	05:40 20:11	05:26 20:34	05:40 20:29	06:10 19:56	06:40 19:06	07:12 18:17	06:48 16:39	07:18 16:32
18	07:21 16:58	06:51 17:36	06:07 18:08	06:17 19:41	05:39 20:12	05:26 20:34	05:41 20:29	06:11 19:55	06:41 19:05	07:13 18:15	06:49 16:39	07:18 16:32
19	07:21 16:59	06:49 17:37	06:06 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:28	06:12 19:53	06:42 19:03	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	06:14 19:43	05:37 20:14	05:26 20:34	05:43 20:27	06:13 19:52	06:43 19:01	07:15 18:12	06:51 16:37	07:20 16:33
21	07:19 17:01	06:47 17:40	06:02 18:11	06:12 19:44	05:37 20:15	05:27 20:35	05:44 20:27	06:14 19:50	06:44 19:00	07:16 18:11	06:53 16:36	07:20 16:33
22	07:19 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35	05:45 20:26	06:15 19:49	06:45 18:58	07:17 18:09	06:54 16:36	07:21 16:34
23	07:18 17:04	06:44 17:42	05:59 18:13	06:09 19:46	05:35 20:17	05:27 20:35	05:45 20:25	06:16 19:47	06:46 18:56	07:18 18:08	06:55 16:35	07:21 16:34
24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:34 20:18	05:27 20:35	05:46 20:24	06:17 19:46	06:47 18:55	07:20 18:07	06:56 16:35	07:22 16:35
25	07:17 17:06	06:41 17:44	05:56 18:16	06:06 19:49	05:34 20:19	05:28 20:35	05:47 20:23	06:18 19:44	06:48 18:53	07:19 17:05	06:57 16:34	07:22 16:35
26	07:16 17:07	06:39 17:45	05:54 18:17	06:05 19:50	05:33 20:20	05:28 20:35	05:48 20:22	06:19 19:43	06:49 18:51	07:22 17:04	06:58 16:34	07:23 16:36
27	07:15 17:09	06:38 17:47	05:52 18:18	06:04 19:51	05:32 20:20	05:28 20:35	05:49 20:21	06:20 19:41	06:50 18:49	07:23 17:02	06:59 16:33	07:23 16:37
28	07:14 17:10	06:36 17:48	05:51 18:19	06:02 19:52	05:32 20:21	05:29 20:35	05:50 20:20	06:21 19:40	06:52 18:48	07:24 17:01	07:01 16:33	07:23 16:37
29	07:14 17:11		06:49 19:20	06:01 19:53	05:31 20:22	05:29 20:35	05:51 20:19	06:22 19:38	06:53 18:46	07:25 17:00	07:02 16:32	07:23 16:38
30	07:13 17:12		06:47 19:21	06:00 19:54	05:30 20:23	05:29 20:35	05:52 20:18	06:23 19:36	06:54 18:44	07:26 16:59	07:03 16:32	07:24 16:39
31	07:12 17:14		06:46 19:22		05:30 20:24		05:53 20:17	06:24 19:35		06:28 16:57		07:24 16:40
Ore potenziali eliofanìa	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

WTG: 6 - VESTAS V105-3.45 3450 105.0 IO! hub: 72,5 m (TOT: 125,0 m) (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 16:41	15:25-15:41/16 07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:29 20:24	05:30 20:35	05:54 20:16	06:25 19:33	17:49-18:19/30 18:43	06:29 16:56	07:04 16:32
2	07:24 16:42	15:25-15:41/16 07:10 17:16	06:33 17:50	06:42 19:24	05:57 19:56	05:29 20:25	05:30 20:35	05:55 20:15	06:26 19:32	17:50-18:21/31 18:41	06:59 16:55	07:05 16:31
3	07:24 16:42	15:26-15:42/16 07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	17:50-18:21/31 18:39	06:57 16:54	07:06 16:31
4	07:24 16:43	15:27-15:42/15 07:08 17:19	06:30 17:52	06:39 19:26	05:54 19:58	05:28 20:27	05:31 20:35	05:57 20:13	06:28 19:28	17:51-18:20/29 18:38	06:58 16:52	07:07 16:31
5	07:24 16:44	15:28-15:42/14 07:07 17:20	06:29 17:54	06:38 19:27	05:53 19:59	05:28 20:27	05:32 20:35	05:58 20:12	06:29 19:27	17:51-18:19/28 18:36	06:59 16:51	07:08 16:31
6	07:24 16:45	15:28-15:41/13 07:06 17:21	06:27 17:55	06:36 19:28	05:52 20:00	05:28 20:28	05:33 20:34	05:59 20:11	06:30 19:25	17:52-18:18/26 18:34	07:00 16:50	07:09 16:31
7	07:24 16:46	15:29-15:41/12 07:05 17:22	06:26 17:56	06:34 19:29	05:51 20:01	05:27 20:29	05:33 20:34	06:00 20:09	06:31 19:23	17:53-18:16/23 18:33	07:01 16:49	07:10 16:31
8	07:24 16:47	15:31-15:41/10 07:03 17:24	06:24 17:57	06:33 19:30	05:50 20:02	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	17:54-18:14/20 18:31	07:02 16:48	07:11 16:30
9	07:24 16:48	15:33-15:40/7 07:02 17:25	06:22 17:58	06:31 19:32	05:49 20:03	05:27 20:30	05:35 20:33	06:02 20:07	06:33 19:20	17:56-18:12/16 18:30	07:03 16:47	07:11 16:30
10	07:24 16:49	15:35-15:39/4 07:01 17:26	06:21 17:59	06:29 19:33	05:47 20:04	05:27 20:30	05:35 20:33	06:03 20:06	06:34 19:18	18:00-18:07/7 18:28	07:04 16:46	07:12 16:31
11	07:24 16:50	15:33-15:39/4 07:00 17:27	06:19 18:00	06:28 19:34	05:46 20:05	05:26 20:31	05:36 20:33	06:04 20:04	06:35 19:17	18:00-18:07/7 18:26	07:05 16:45	07:13 16:31
12	07:23 16:51	15:33-15:39/4 06:59 17:29	06:17 18:01	06:26 19:35	05:45 20:06	05:26 20:31	05:37 20:32	06:05 20:03	06:36 19:15	18:00-18:07/7 18:25	07:06 16:44	07:14 16:31
13	07:23 16:52	15:33-15:39/4 06:57 17:30	06:16 18:03	06:25 19:36	05:44 20:07	05:26 20:32	05:37 20:32	06:06 20:02	06:37 19:13	18:00-18:07/7 18:23	07:07 16:43	07:15 16:31
14	07:23 16:53	15:33-15:39/4 06:56 17:31	06:14 18:04	06:23 19:37	05:43 20:08	05:26 20:32	05:38 20:31	06:07 20:00	06:38 19:12	18:00-18:07/7 18:22	07:08 16:42	07:16 16:31
15	07:22 16:54	15:33-15:39/4 06:55 17:32	06:13 18:05	06:21 19:38	05:42 20:09	05:26 20:33	05:39 20:31	06:08 19:59	06:39 19:10	18:00-18:07/7 18:20	07:09 16:41	07:16 16:31
16	07:22 16:56	15:33-15:39/4 06:54 17:34	06:11 18:06	06:20 19:39	05:41 20:10	05:26 20:33	05:40 20:30	06:09 19:58	06:40 19:08	18:00-18:07/7 18:18	07:11 16:40	07:17 16:31
17	07:22 16:57	15:33-15:39/4 06:52 17:35	06:09 18:07	06:18 19:40	05:40 20:11	05:26 20:34	05:40 20:29	06:10 19:56	06:41 19:06	17:58-17:59/1 18:17	07:12 16:39	07:18 16:32
18	07:21 16:58	15:33-15:39/4 06:51 17:36	06:08 18:08	06:17 19:41	05:39 20:12	05:26 20:34	05:41 20:29	06:11 19:55	06:41 19:05	17:57-18:00/3 18:15	07:13 16:39	07:18 16:32
19	07:21 16:59	15:33-15:39/4 06:50 17:37	06:06 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:28	06:12 19:53	06:42 19:03	17:55-18:02/7 18:14	07:14 16:38	07:19 16:32
20	07:20 17:00	15:33-15:39/4 06:48 17:38	06:04 18:10	06:14 19:43	05:37 20:14	05:26 20:34	05:43 20:27	06:13 19:52	06:43 19:01	17:54-18:03/9 18:12	07:15 16:37	07:20 16:33
21	07:19 17:01	15:33-15:39/4 06:47 17:40	06:03 18:11	06:12 19:44	05:37 20:15	05:27 20:35	05:44 20:27	06:14 19:50	06:44 19:00	17:53-18:05/12 18:11	07:16 16:37	07:20 16:33
22	07:19 17:03	15:33-15:39/4 06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35	05:45 20:26	06:15 19:49	06:45 18:58	17:53-18:06/13 18:10	07:17 16:36	07:21 16:34
23	07:18 17:04	15:33-15:39/4 06:44 17:42	05:59 18:13	06:09 19:46	05:35 20:17	05:27 20:35	05:46 20:25	06:16 19:47	06:46 18:56	17:52-18:07/15 18:08	07:18 16:35	07:21 16:34
24	07:17 17:05	15:33-15:39/4 06:42 17:43	05:57 18:15	06:08 19:47	05:34 20:18	05:27 20:35	05:45 20:24	06:17 19:46	06:48 18:55	17:51-18:09/18 18:07	07:20 16:35	07:22 16:35
25	07:17 17:06	15:33-15:39/4 06:41 17:44	05:56 18:16	06:07 19:49	05:34 20:19	05:28 20:35	05:47 20:23	06:18 19:44	06:49 18:53	17:51-18:10/19 18:06	07:21 16:34	07:23 16:35
26	07:16 17:07	15:33-15:39/4 06:39 17:45	05:54 18:17	06:05 19:50	05:33 20:20	05:28 20:35	05:48 20:22	06:19 19:43	06:50 18:51	17:50-18:12/22 18:04	07:22 16:34	07:24 16:36
27	07:15 17:09	15:33-15:39/4 06:38 17:47	05:52 18:18	06:04 19:51	05:32 20:20	05:28 20:35	05:49 20:21	06:20 19:41	06:51 18:49	17:50-18:13/23 18:03	07:23 16:33	07:25 16:37
28	07:14 17:10	15:33-15:39/4 06:36 17:48	05:51 18:19	06:02 19:52	05:32 20:21	05:29 20:35	05:50 20:20	06:21 19:40	06:52 18:48	17:50-18:15/25 18:05	07:24 16:33	07:26 16:37
29	07:14 17:11	15:33-15:39/4 06:35 17:49	05:50 18:20	06:01 19:53	05:31 20:22	05:29 20:35	05:51 20:19	06:22 19:38	06:53 18:46	17:50-18:16/26 18:06	07:25 16:32	07:27 16:38
30	07:13 17:12	15:33-15:39/4 06:34 17:50	05:49 18:21	06:00 19:54	05:31 20:23	05:29 20:35	05:52 20:18	06:23 19:36	06:54 18:44	17:50-18:18/28 18:07	07:26 16:32	07:28 16:39
31	07:12 17:14	15:33-15:39/4 06:33 17:51	05:48 18:22	05:59 19:55	05:30 20:24	05:28 20:36	05:53 20:17	06:24 19:35	06:55 18:43	17:49-18:18/29 18:08	07:27 16:31	07:29 16:40
Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	241	298	288
Somma minuti d'ombra	123	0	0	484	0	0	0	250	241	0	0	472

Ore potenziali eliofanía

Somma minuti d'ombra

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

WTG: 7 - VESTAS V105-3.45 3450 105.0 IO! hub: 72,5 m (TOT: 125,0 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 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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:29 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
2	07:24 16:41	07:10 17:16	06:33 17:50	06:42 19:24	05:57 19:56	05:29 20:25	05:30 20:35	05:55 20:15	06:26 19:32	06:56 18:41	06:30 16:55	07:05 16:31
3	07:24 16:42	07:09 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 16:31
4	07:24 16:43	07:08 17:19	06:30 17:52	06:39 19:26	05:54 19:58	05:28 20:27	05:31 20:35	05:57 20:13	06:28 19:28	06:58 18:38	06:32 16:52	07:07 16:31
5	07:24 16:44	07:07 17:20	06:29 17:54	06:38 19:27	05:53 19:59	05:28 20:27	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:36	06:34 16:51	07:08 16:31
6	07:24 16:45	07:06 17:21	06:27 17:55	06:36 19:28	05:52 20:00	05:27 20:28	05:33 20:34	05:59 20:11	06:30 19:25	07:00 18:34	06:35 16:50	07:09 16:31
7	07:24 16:46	07:05 17:22	06:25 17:56	06:34 19:29	05:51 20:01	05:27 20:29	05:33 20:34	06:00 20:09	06:31 19:23	07:01 18:33	06:36 16:49	07:10 16:31
8	07:24 16:47	07:03 17:24	06:24 17:57	06:33 19:30	05:50 20:02	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 16:48	07:11 16:30
9	07:24 16:48	07:02 17:25	06:22 17:58	06:31 19:32	05:48 20:03	05:27 20:30	05:35 20:33	06:02 20:07	06:33 19:20	07:03 18:29	06:38 16:47	07:11 16:30
10	07:24 16:49	07:01 17:26	06:21 17:59	06:29 19:33	05:47 20:04	05:27 20:30	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28	06:40 16:46	07:12 16:30
11	07:24 16:50	07:00 17:27	06:19 18:00	06:28 19:34	05:46 20:05	05:26 20:31	05:36 20:33	06:04 20:04	06:35 19:17	07:05 18:26	06:41 16:45	07:13 16:31
12	07:23 16:51	06:59 17:29	06:17 18:01	06:26 19:35	05:45 20:06	05:26 20:31	05:37 20:32	06:05 20:03	06:36 19:15	07:06 18:25	06:42 16:44	07:14 16:31
13	07:23 16:52	06:57 17:30	06:16 18:03	06:25 19:36	05:44 20:07	05:26 20:32	05:37 20:32	06:06 20:02	06:37 19:13	07:07 18:23	06:43 16:43	07:15 16:31
14	07:23 16:53	06:56 17:31	06:14 18:04	06:23 19:37	05:43 20:08	05:26 20:32	05:38 20:31	06:07 20:00	06:38 19:12	07:08 18:22	06:44 16:42	07:16 16:31
15	07:22 16:54	06:55 17:32	06:12 18:05	06:21 19:38	05:42 20:09	05:26 20:33	05:39 20:31	06:08 19:59	06:38 19:10	07:09 18:20	06:46 16:41	07:16 16:31
16	07:22 16:55	06:54 17:33	06:11 18:06	06:20 19:39	05:41 20:10	05:26 20:33	05:40 20:30	06:09 19:58	06:39 19:08	07:11 18:18	06:47 16:40	07:17 16:31
17	07:22 16:57	06:52 17:35	06:09 18:07	06:18 19:40	05:40 20:11	05:26 20:33	05:40 20:29	06:10 19:56	06:40 19:06	07:12 18:17	06:48 16:39	07:18 16:32
18	07:21 16:58	06:51 17:36	06:07 18:08	06:17 19:41	05:39 20:12	05:26 20:34	05:41 20:29	06:11 19:55	06:41 19:05	07:13 18:15	06:49 16:39	07:18 16:32
19	07:21 16:59	06:49 17:37	06:06 18:09	06:15 19:42	05:38 20:13	05:26 20:34	05:42 20:28	06:12 19:53	06:42 19:03	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	06:14 19:43	05:37 20:14	05:26 20:34	05:43 20:27	06:13 19:52	06:43 19:01	07:15 18:12	06:51 16:37	07:20 16:33
21	07:19 17:01	06:47 17:40	06:02 18:11	06:12 19:44	05:37 20:15	05:27 20:35	05:44 20:27	06:14 19:50	06:44 19:00	07:16 18:11	06:53 16:37	07:20 16:33
22	07:19 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:16	05:27 20:35	05:45 20:26	06:15 19:49	06:45 18:58	07:17 18:09	06:54 16:36	07:21 16:34
23	07:18 17:04	06:44 17:42	05:59 18:13	06:09 19:46	05:35 20:17	05:27 20:35	05:45 20:25	06:16 19:47	06:46 18:56	07:18 18:08	06:55 16:35	07:21 16:34
24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:34 20:18	05:27 20:35	05:46 20:24	06:17 19:46	06:47 18:55	07:20 18:07	06:56 16:35	07:22 16:35
25	07:17 17:06	06:41 17:44	05:56 18:16	06:07 19:49	05:34 20:19	05:28 20:35	05:47 20:23	06:18 19:44	06:48 18:53	07:19 17:05	06:57 16:34	07:22 16:35
26	07:16 17:07	06:39 17:45	05:54 18:17	06:05 19:50	05:33 20:20	05:28 20:35	05:48 20:22	06:19 19:43	06:49 18:51	07:22 17:04	06:58 16:34	07:22 16:36
27	07:15 17:09	06:38 17:47	05:52 18:18	06:04 19:51	05:32 20:20	05:28 20:35	05:49 20:21	06:20 19:41	06:51 18:49	07:23 17:02	06:59 16:33	07:23 16:37
28	07:14 17:10	06:36 17:48	05:51 18:19	06:02 19:52	05:32 20:21	05:29 20:35	05:50 20:20	06:21 19:40	06:52 18:48	07:24 17:01	07:00 16:33	07:23 16:37
29	07:14 17:11		06:49 19:20	06:01 19:53	05:31 20:22	05:29 20:35	05:51 20:19	06:22 19:38	06:53 18:46	07:25 17:00	07:02 16:32	07:23 16:38
30	07:13 17:12		06:47 19:21	06:00 19:54	05:30 20:23	05:29 20:35	05:52 20:18	06:23 19:36	06:54 18:44	07:26 16:59	07:03 16:32	07:24 16:39
31	07:12 17:14		06:46 19:22		05:30 20:24		05:53 20:17	06:24 19:35		06:28 16:57		07:24 16:40
Ore potenziali eliofanìa	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

WTG: 8 - VESTAS V126-3.3 GridStreame 3300 126.0 IO! hub: 117,0 m (TOT: 180,0 m) (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
1	07:24 11:13-11:30/17 16:41 12:05-12:43/38	07:11 17:15	06:35 17:49	06:44 14:21-17:13/172 19:23	05:58 14:43-17:00/137 19:55	05:29 15:15-16:26/71 20:24
2	07:24 11:16-11:27/11 16:41 12:07-12:42/35	07:10 17:16	06:33 15:17-15:27/10 17:50	06:42 14:20-17:13/173 19:24	05:57 14:44-16:59/135 19:56	05:29 15:16-16:25/69 20:25
3	07:24 12:08-12:42/34 16:42	07:09 17:17	06:32 14:28-14:52/24 17:51 15:07-15:37/30	06:41 14:20-17:12/172 19:25	05:56 14:45-16:58/133 19:57	05:29 15:17-16:26/69 20:26
4	07:24 12:10-12:41/31 16:43	07:08 17:19	06:30 14:20-14:59/39 17:52 15:01-15:42/41	06:39 14:20-17:13/173 19:26	05:54 14:47-16:57/130 19:58	05:28 15:18-16:26/68 20:27
5	07:24 12:12-12:40/28 16:44	07:07 17:20	06:29 14:15-15:47/92 17:54	06:37 14:19-17:13/174 19:27	05:53 14:48-16:57/129 19:59	05:28 15:19-16:26/67 20:27
6	07:24 12:13-12:38/25 16:45	07:06 17:21	06:27 14:10-15:49/99 17:55	06:36 14:19-17:12/173 19:28	05:52 14:49-16:56/127 20:00	05:28 15:19-16:25/66 20:28
7	07:24 12:16-12:36/20 16:46	07:05 17:22	06:25 14:05-15:52/107 17:56	06:34 14:19-17:12/173 19:29	05:51 14:50-16:54/124 20:01	05:27 15:19-16:25/66 20:29
8	07:24 12:21-12:33/12 16:47	07:03 17:24	06:24 14:02-15:55/113 17:57	06:33 14:19-17:12/173 19:30	05:50 14:51-16:53/122 20:02	05:27 15:20-16:25/65 20:29
9	07:24 16:48	07:02 17:25	06:22 13:59-15:56/117 17:58	06:31 14:19-17:11/172 19:32	05:48 14:52-16:53/121 20:03	05:27 15:21-16:25/64 20:30
10	07:24 16:49	07:01 17:26	06:21 13:56-15:58/122 17:59	06:29 14:20-17:12/172 19:33	05:47 14:54-16:52/118 20:04	05:27 15:21-16:24/63 20:30
11	07:24 16:50	07:00 17:27	06:19 13:53-16:00/127 18:00	06:28 14:20-17:11/171 19:34	05:46 14:55-16:51/116 20:05	05:26 15:21-16:25/64 20:31
12	07:23 16:51	06:59 17:29	06:17 13:50-16:01/131 18:01	06:26 14:21-17:11/170 19:35	05:45 14:56-16:50/114 20:06	05:26 15:22-16:25/63 20:31
13	07:23 16:52	06:57 17:30	06:16 13:48-16:02/134 18:03	06:25 14:21-17:10/169 19:36	05:44 14:57-16:49/112 20:07	05:26 15:23-16:25/62 20:32
14	07:23 16:53	06:56 17:31	06:14 13:46-16:04/138 18:04	06:23 14:22-17:10/168 19:37	05:43 14:58-16:47/109 20:08	05:26 15:23-16:25/62 20:32
15	07:22 16:54	06:55 17:32	06:12 13:44-16:05/141 18:05	06:21 14:23-17:10/167 19:38	05:42 14:59-16:46/107 20:09	05:26 15:23-16:25/62 20:33
16	07:22 16:56	06:54 17:33	06:11 13:41-16:06/145 18:06	06:20 14:24-17:10/166 19:39	05:41 15:00-16:45/105 20:10	05:26 15:24-16:25/61 20:33
17	07:22 16:57	06:52 17:35	06:09 13:40-16:07/147 18:07	06:18 14:25-17:09/164 19:40	05:40 15:01-16:43/102 20:11	05:26 15:24-16:25/61 20:33
18	07:21 16:58	06:51 17:36	06:07 13:38-16:08/150 18:08	06:17 14:26-17:09/163 19:41	05:39 15:03-16:43/100 20:12	05:26 15:25-16:26/61 20:34
19	07:21 16:59	06:49 17:37	06:06 13:36-16:08/152 18:09	06:15 14:27-17:08/161 19:42	05:38 15:04-16:41/97 20:13	05:26 15:25-16:26/61 20:34
20	07:20 17:00	06:48 17:38	06:04 13:35-16:09/154 18:10	06:14 14:28-17:08/160 19:43	05:37 15:05-16:40/95 20:14	05:26 15:26-16:26/60 20:34
21	07:19 17:01	06:47 17:40	06:02 13:33-16:10/157 18:11	06:12 14:29-17:06/157 19:44	05:37 15:05-16:38/93 20:15	05:27 15:26-16:26/60 20:35
22	07:19 17:03	06:45 17:41	06:01 13:31-16:10/159 18:12	06:11 14:31-17:06/155 19:45	05:36 15:07-16:37/90 20:16	05:27 15:26-16:26/60 20:35
23	07:18 17:04	06:44 17:42	05:59 13:30-16:11/161 18:13	06:09 14:32-17:05/153 19:46	05:35 15:08-16:34/86 20:17	05:27 15:25-16:26/61 20:35
24	07:17 17:05	06:42 17:43	05:57 13:29-16:11/162 18:14	06:08 14:33-17:05/152 19:47	05:34 15:08-16:31/83 20:18	05:27 15:26-16:27/61 20:35
25	07:17 17:06	06:41 17:44	05:56 13:27-16:11/164 18:16	06:07 14:34-17:04/150 19:48	05:34 15:10-16:28/78 20:19	05:28 15:26-16:27/61 20:35
26	07:16 17:07	06:39 17:45	05:54 13:26-16:12/166 18:17	06:05 14:36-17:03/147 19:50	05:33 15:10-16:28/78 20:19	05:28 15:26-16:27/61 20:35
27	07:15 17:09	06:38 17:47	05:52 13:25-16:12/167 18:18	06:04 14:37-17:03/146 19:51	05:32 15:11-16:27/76 20:20	05:28 15:27-16:28/61 20:35
28	07:14 17:10	06:36 17:48	05:51 13:24-16:12/168 18:19	06:02 14:38-17:02/144 19:52	05:32 15:12-16:27/75 20:21	05:29 15:26-16:28/62 20:35
29	07:14 17:11		06:49 14:24-17:13/169 19:20	06:01 14:40-17:01/141 19:53	05:31 15:13-16:27/74 20:22	05:29 15:27-16:29/62 20:35
30	07:13 17:12		06:47 14:22-17:13/171 19:21	06:00 14:41-17:01/140 19:54	05:30 15:14-16:27/73 20:23	05:29 15:26-16:29/63 20:35
31	07:12 17:14		06:46 14:21-17:13/172 19:22		05:30 15:14-16:26/72 20:24	
Ore potenziali eliofania	297	297	369	399	448	452
Somma minuti d'ombra	251	0	4029	4871	3211	1897

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

WTG: 8 - VESTAS V126-3.3 GridStreame 3300 126.0 IO! hub: 117,0 m (TOT: 180,0 m) (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

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	05:30 15:27-16:30/63 20:35	05:54 15:06-17:01/115 20:16	06:25 14:19-17:10/171 19:33	06:55 14:29-16:41/132 18:43	06:29 16:56	07:04 16:32
2	05:30 15:26-16:29/63 20:35	05:55 15:05-17:02/117 20:15	06:26 14:18-17:10/172 19:32	06:56 14:31-16:39/128 18:41	06:30 16:55	07:05 16:31
3	05:31 15:26-16:30/64 20:35	05:56 15:04-17:03/119 20:14	06:27 14:17-17:09/172 19:30	06:57 14:33-16:37/124 18:39	06:31 16:54	07:06 16:31
4	05:31 15:26-16:30/64 20:35	05:57 15:03-17:04/121 20:13	06:28 14:16-17:09/173 19:28	06:58 14:35-16:35/120 18:38	06:32 16:52	07:07 12:05-12:17/12 16:31
5	05:32 15:26-16:31/65 20:35	05:58 15:01-17:04/123 20:12	06:29 14:15-17:09/174 19:27	06:59 14:38-16:32/114 18:36	06:34 16:51	07:08 12:02-12:21/19 16:31
6	05:33 15:25-16:31/66 20:34	05:59 15:00-17:05/125 20:11	06:30 14:15-17:08/173 19:25	07:00 14:40-16:30/110 18:34	06:35 16:50	07:09 12:00-12:24/24 16:31
7	05:33 15:25-16:32/67 20:34	06:00 14:59-17:06/127 20:09	06:31 14:14-17:08/174 19:23	07:01 14:44-16:26/102 18:33	06:36 16:49	07:10 11:58-12:26/28 16:31
8	05:34 15:24-16:32/68 20:34	06:01 14:57-17:07/130 20:08	06:32 14:14-17:07/173 19:22	07:02 14:47-16:23/96 18:31	06:37 16:48	07:11 11:57-12:28/31 16:30
9	05:35 15:24-16:33/69 20:33	06:02 14:55-17:06/131 20:07	06:33 14:14-17:07/173 19:20	07:03 14:51-16:19/88 18:29	06:38 16:47	07:11 11:56-12:30/34 16:30
10	05:35 15:24-16:33/69 20:33	06:03 14:53-17:07/134 20:06	06:34 14:13-17:06/173 19:18	07:04 14:57-15:30/33 18:28	06:40 16:46	07:12 11:05-11:16/11 16:30
11	05:36 15:23-16:33/70 20:33	06:04 14:52-17:08/136 20:04	06:35 14:13-17:05/172 19:17	07:05 15:08-15:20/12 18:26	06:41 16:45	07:13 11:03-11:20/17 16:31
12	05:37 15:23-16:34/71 20:32	06:05 14:50-17:08/138 20:03	06:36 14:13-17:05/172 19:15	07:06 15:44-16:08/24 18:25	06:42 16:44	07:14 11:02-11:22/20 16:31
13	05:37 15:23-16:35/72 20:32	06:06 14:49-17:09/140 20:02	06:37 14:13-17:04/171 19:13	07:07 18:23	06:43 16:43	07:15 11:00-11:23/23 16:31
14	05:38 15:22-16:36/74 20:31	06:07 14:47-17:09/142 20:00	06:37 14:14-17:03/169 19:12	07:08 18:22	06:44 16:42	07:16 11:00-11:25/25 16:31
15	05:39 15:21-16:35/74 20:31	06:08 14:45-17:09/144 19:59	06:38 14:14-17:02/168 19:10	07:09 18:20	06:46 16:41	07:16 11:00-11:27/27 16:31
16	05:40 15:21-16:36/75 20:30	06:09 14:44-17:10/146 19:58	06:39 14:14-17:02/168 19:08	07:11 18:18	06:47 16:40	07:17 11:00-11:28/28 16:31
17	05:40 15:20-16:37/77 20:29	06:10 14:42-17:10/148 19:56	06:40 14:15-17:01/166 19:06	07:12 18:17	06:48 16:39	07:18 10:59-11:29/30 16:32
18	05:41 15:20-16:37/77 20:29	06:11 14:40-17:10/150 19:55	06:41 14:15-17:00/165 19:05	07:13 18:15	06:49 16:39	07:18 10:59-11:30/31 16:32
19	05:42 15:19-16:40/81 20:28	06:12 14:39-17:11/152 19:53	06:42 14:16-16:59/163 19:03	07:14 18:14	06:50 16:38	07:19 10:59-11:30/31 16:32
20	05:43 15:18-16:42/84 20:27	06:13 14:37-17:11/154 19:52	06:43 14:16-16:58/162 19:01	07:15 18:12	06:51 16:37	07:20 11:00-11:31/31 16:33
21	05:44 15:17-16:45/88 20:27	06:14 14:35-17:11/156 19:50	06:44 14:17-16:57/160 19:00	07:16 18:11	06:53 16:37	07:20 11:00-11:32/32 16:33
22	05:45 15:16-16:47/91 20:26	06:15 14:34-17:11/157 19:49	06:45 14:18-16:55/157 18:58	07:17 18:09	06:54 16:36	07:21 11:00-11:32/32 16:34
23	05:45 15:16-16:49/93 20:25	06:16 14:32-17:11/159 19:47	06:46 14:19-16:54/155 18:56	07:18 18:08	06:55 16:35	07:21 11:00-11:32/32 16:34
24	05:46 15:15-16:51/96 20:24	06:17 14:30-17:11/161 19:46	06:47 14:20-16:53/153 18:55	07:20 18:07	06:56 16:35	07:22 11:02-11:33/31 16:35
25	05:47 15:14-16:53/99 20:23	06:18 14:29-17:12/163 19:44	06:48 14:21-16:51/150 18:53	07:21 17:05	06:57 16:34	07:22 11:02-11:33/31 16:35
26	05:48 15:12-16:53/101 20:22	06:19 14:27-17:12/165 19:43	06:49 14:22-16:50/148 18:51	07:22 17:04	06:58 16:34	07:22 11:04-11:34/30 16:36
27	05:49 15:11-16:55/104 20:21	06:20 14:26-17:12/166 19:41	06:51 14:23-16:48/145 18:49	07:23 17:03	06:59 16:33	07:23 11:04-11:33/29 16:37
28	05:50 15:10-16:56/106 20:20	06:21 14:24-17:11/167 19:40	06:52 14:24-16:47/143 18:48	07:24 17:01	07:00 16:33	07:23 11:05-11:33/28 16:37
29	05:51 15:09-16:57/108 20:19	06:22 14:23-17:11/168 19:38	06:53 14:26-16:45/139 18:46	07:25 17:00	07:02 16:32	07:23 11:06-11:32/26 16:38
30	05:52 15:08-16:58/110 20:18	06:23 14:22-17:11/169 19:36	06:54 14:27-16:43/136 18:44	07:26 16:59	07:03 16:32	07:24 11:07-11:32/25 16:39
31	05:53 15:07-17:00/113 20:17	06:24 14:20-17:10/170 19:35		07:27 16:57		07:24 11:10-11:32/22 16:40
Ore potenziali eliofanìa	459	428	375	345	298	288
Somma minuti d'ombra	2522	4493	4890	1119	0	1667

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

WTG: 9 - VESTAS V126-3.3 GridStreame 3300 126.0 IO! hub: 117,0 m (TOT: 180,0 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	07:24 07:49-08:52/63 16:41 14:42-15:17/35	07:11 08:01-09:09/68 17:15	06:35 17:49	06:44 19:23	05:58 19:55	05:30 20:24	05:30 20:35	05:54 20:16	06:25 19:33	06:55 18:43	06:29 16:56	07:04 16:32
2	07:24 07:49-08:52/63 16:42 14:42-15:17/35	07:10 08:01-09:09/68 17:16	06:33 17:50	06:42 19:24	05:57 19:56	05:29 20:25	05:30 20:35	05:55 20:15	06:26 19:32	06:56 18:41	06:30 16:55	07:05 16:31
3	07:24 07:50-08:53/63 16:42 14:43-15:17/34	07:09 08:01-09:09/68 17:17	06:32 17:51	06:41 19:25	05:56 19:57	05:29 20:26	05:31 20:35	05:56 20:14	06:27 19:30	06:57 18:39	06:31 16:54	07:06 16:31
4	07:24 07:50-08:53/64 16:43 14:44-15:18/34	07:08 08:02-09:09/67 17:19	06:30 17:52	06:39 19:26	05:55 19:58	05:28 20:27	05:32 20:35	05:57 20:13	06:28 19:28	06:58 18:38	06:32 16:52	07:07 16:31
5	07:24 07:51-08:55/64 16:44 14:45-15:18/33	07:07 08:02-09:09/67 17:20	06:29 17:54	06:38 19:27	05:53 19:59	05:28 20:27	05:32 20:35	05:58 20:12	06:29 19:27	06:59 18:36	06:34 16:51	07:08 16:31
6	07:24 07:51-08:55/64 16:45 14:45-15:18/33	07:06 08:03-09:08/65 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:28	05:33 20:34	05:59 20:11	06:30 19:25	07:00 18:34	06:35 16:50	07:09 16:31
7	07:24 07:51-08:55/64 16:46 14:46-15:19/33	07:05 08:02-09:07/65 17:22	06:26 17:56	06:34 19:29	05:51 19:59	05:27 20:29	05:33 20:34	06:00 20:10	06:31 19:23	07:01 18:33	06:36 16:49	07:10 16:31
8	07:24 07:51-08:56/65 16:47 14:47-15:19/32	07:03 08:03-09:07/64 17:24	06:24 17:57	06:33 19:30	05:50 19:59	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 16:48	07:11 16:31
9	07:24 07:52-08:58/66 16:48 14:48-15:20/32	07:02 08:04-09:06/62 17:25	06:22 17:58	06:31 19:32	05:49 19:59	05:27 20:30	05:35 20:33	06:02 20:07	06:33 19:20	07:03 18:30	06:38 16:47	07:12 16:31
10	07:24 07:53-08:59/66 16:49 14:49-15:20/31	07:01 08:05-09:06/61 17:26	06:21 17:59	06:29 19:33	05:47 19:59	05:27 20:30	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28	06:40 16:46	07:13 16:31
11	07:24 07:53-08:59/66 16:50 14:50-15:20/30	07:00 08:05-09:04/59 17:27	06:19 18:00	06:28 19:34	05:46 19:59	05:26 20:31	05:36 20:33	06:04 20:04	06:35 19:17	07:05 18:26	06:41 16:45	07:14 16:31
12	07:23 07:54-09:00/66 16:51 14:51-15:20/29	06:59 08:06-09:04/58 17:29	06:17 18:01	06:26 19:35	05:45 19:59	05:26 20:31	05:37 20:32	06:05 20:03	06:36 19:15	07:06 18:25	06:42 16:44	07:15 16:31
13	07:23 07:55-09:01/66 16:52 14:53-15:21/28	06:57 08:07-09:03/56 17:30	06:16 18:03	06:25 19:36	05:44 19:59	05:26 20:32	05:37 20:32	06:06 20:02	06:37 19:13	07:07 18:23	06:43 16:43	07:16 16:31
14	07:23 07:55-09:01/66 16:53 14:55-15:20/25	06:56 08:08-09:02/54 17:31	06:14 18:04	06:23 19:37	05:43 19:59	05:26 20:32	05:38 20:31	06:07 20:00	06:38 19:12	07:08 18:22	06:44 16:42	07:17 16:31
15	07:22 07:56-09:02/66 16:55 15:00-15:20/20	06:55 08:08-09:01/53 17:32	06:13 18:05	06:22 19:38	05:42 19:59	05:26 20:33	05:39 20:31	06:08 19:59	06:39 19:10	07:09 18:20	06:46 16:41	07:18 16:31
16	07:22 07:57-09:02/65 16:56 15:01-15:20/19	06:54 08:10-08:59/49 17:34	06:11 18:06	06:20 19:39	05:41 19:59	05:26 20:33	05:40 20:30	06:09 19:58	06:40 18:18	07:10 18:18	06:47 16:40	07:19 16:31
17	07:22 07:58-09:04/66 16:57 15:02-15:20/18	06:52 08:12-08:58/46 17:35	06:09 18:07	06:18 19:40	05:40 19:59	05:26 20:33	05:40 20:29	06:10 19:56	06:41 18:17	07:12 18:17	06:48 16:39	07:20 16:31
18	07:21 07:59-09:04/65 16:58 15:03-15:19/16	06:51 08:12-08:56/44 17:36	06:08 18:08	06:17 19:41	05:39 19:59	05:26 20:34	05:41 20:29	06:11 19:55	06:42 18:15	16:27-16:41/14 18:17	06:49 16:39	07:21 16:31
19	07:21 07:59-09:05/66 16:59 15:05-15:18/13	06:50 15:47-16:16/29 17:37	06:06 18:09	06:15 19:42	05:38 19:59	05:26 20:34	05:42 20:28	06:12 19:53	06:43 19:03	07:14 16:23-16:43/20 18:18	06:50 16:38	07:22 16:31
20	07:20 07:59-09:05/66 17:00 15:07-15:17/10	06:48 15:48-16:16/28 17:38	06:04 18:10	06:14 19:43	05:38 19:59	05:26 20:34	05:43 20:27	06:13 19:52	06:43 19:01	07:15 16:22-16:45/23 18:19	06:51 16:37	07:23 16:31
21	07:19 07:59-09:05/66 17:01 15:11-15:13/2	06:47 15:50-16:15/25 17:40	06:03 18:11	06:12 19:44	05:37 19:59	05:27 20:35	05:44 20:27	06:14 19:00	06:44 18:11	07:16 16:20-16:46/26 18:20	06:53 16:37	07:24 16:31
22	07:19 07:59-09:07/68 17:03	06:45 15:51-16:13/22 17:41	06:01 18:12	06:11 19:45	05:36 19:59	05:27 20:35	05:45 20:26	06:15 19:49	06:45 18:58	07:17 16:19-16:46/27 18:21	06:54 16:36	07:25 16:31
23	07:18 07:59-09:07/68 17:04	06:44 15:54-16:12/18 17:42	06:00 18:13	06:09 19:46	05:35 19:59	05:27 20:35	05:46 20:25	06:16 19:47	06:47 18:56	07:18 16:17-16:46/29 18:22	06:55 16:35	07:26 16:31
24	07:17 07:59-09:07/68 17:05	06:42 15:59-16:09/10 17:43	06:00 18:15	06:08 19:47	05:34 19:59	05:27 20:35	05:46 20:24	06:17 19:46	06:48 18:55	07:20 16:16-16:46/30 18:23	06:56 16:34	07:27 16:31
25	07:17 07:59-09:07/68 17:06	06:41 17:44	06:00 18:16	06:07 19:49	05:34 19:59	05:28 20:35	05:47 20:23	06:18 19:44	06:49 18:53	07:21 17:05 15:17-15:47/30 18:24	06:57 16:34	07:28 16:31
26	07:16 07:59-09:07/68 17:07	06:39 17:46	06:00 18:17	06:05 19:50	05:34 19:59	05:28 20:35	05:48 20:22	06:19 19:43	06:50 18:51	07:22 17:04 15:16-15:47/31 18:25	06:58 16:34	07:29 16:31
27	07:15 08:00-09:08/68 17:09	06:38 17:47	06:00 18:18	06:04 19:51	05:32 19:59	05:28 20:35	05:49 20:21	06:20 19:41	06:51 18:49	07:23 17:03 15:16-15:46/30 18:26	06:59 16:33	07:30 16:31
28	07:14 08:00-09:09/69 17:10	06:36 17:48	06:00 18:19	06:02 19:52	05:32 19:59	05:29 20:35	05:50 20:20	06:21 19:40	06:52 18:48	07:24 17:01 15:16-15:45/29 18:27	07:00 16:33	07:31 16:31
29	07:14 08:00-09:09/69 17:11	06:35 17:49	06:00 18:20	06:01 19:53	05:31 19:59	05:29 20:35	05:51 20:19	06:22 19:38	06:53 18:46	07:25 17:00 15:16-15:46/30 18:28	07:02 16:32	07:32 16:31
30	07:13 08:00-09:09/69 17:12	06:34 17:50	06:00 18:21	06:00 19:54	05:31 19:59	05:30 20:35	05:52 20:18	06:23 19:36	06:54 18:44	07:26 17:03 15:17-15:45/28 18:29	07:03 16:32	07:33 16:31
31	07:12 08:00-09:09/69 17:14	06:33 17:51	06:00 18:22	06:00 19:55	05:30 19:59	05:30 20:35	05:53 20:17	06:24 19:35	06:55 18:44	07:27 16:57 15:17-15:43/26 18:30	07:04 16:32	07:34 16:31
Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	345	298	288
Somma minuti d'ombra	2592	1667	0	0	0	0	0	0	0	0	951	2262

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

WTG: 10 - VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (11)

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 16:41	07:11 17:15	06:35 17:49	06:44 19:23	05:58 19:55	17:30-17:43/13	05:30 20:24	05:30 20:35	05:54 20:16	06:25 19:33	17:51-18:19/28	06:55 18:43	06:29 16:56	07:04 16:32
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Somma minuti d'ombra	0	0	0	539	58		0	0	529	76		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

WTG: 11 - VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 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 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	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre																																																																																																																																																																																																																																											
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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

WTG: 12 - VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 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

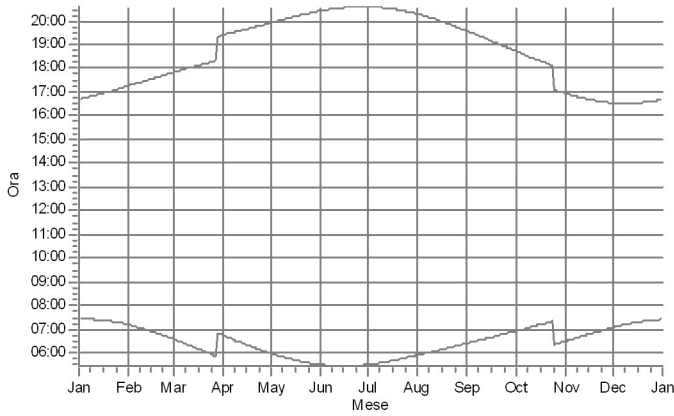
	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
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7	07:24 16:46	07:05 15:05-15:50/45 17:22	06:25 17:56	06:34 19:29	05:51 20:01	05:27 20:28	05:33 20:34	06:00 20:09	06:31 19:23	07:01 18:33	06:36 14:34-15:21/47 16:49	07:10 16:31
8	07:24 16:47	07:03 15:05-15:50/45 17:24	06:24 17:57	06:33 19:30	05:50 20:02	05:27 20:29	05:34 20:34	06:01 20:08	06:32 19:22	07:02 18:31	06:37 14:34-15:21/47 16:48	07:11 16:31
9	07:24 15:17-15:23/6 16:48	07:02 15:06-15:50/44 17:25	06:22 17:58	06:31 19:32	05:49 20:03	05:27 20:30	05:35 20:33	06:02 20:07	06:33 19:20	07:03 18:30	06:38 14:34-15:22/48 16:47	07:11 16:31
10	07:24 15:14-15:27/13 16:49	07:01 15:07-15:50/43 17:26	06:21 17:59	06:29 19:33	05:47 20:04	05:27 20:30	05:35 20:33	06:03 20:06	06:34 19:18	07:04 18:28	06:40 14:34-15:21/47 16:46	07:12 16:31
11	07:24 15:12-15:28/16 16:50	07:00 15:07-15:49/42 17:27	06:19 18:00	06:28 19:34	05:46 20:05	05:26 20:31	05:36 20:33	06:04 20:04	06:35 19:17	07:05 18:26	06:41 14:34-15:21/47 16:45	07:13 16:31
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20	07:20 15:05-15:42/37 17:00	06:48 17:38	06:04 18:10	06:14 19:43	05:38 20:14	05:26 20:34	05:43 20:27	06:13 19:52	06:43 19:01	07:15 18:12	06:51 14:39-15:19/40 16:37	07:20 16:33
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29	07:14 15:03-15:49/46 17:11		06:49 19:20	06:01 19:53	05:31 20:22	05:29 20:35	05:51 20:19	06:22 19:38	06:53 18:46	07:25 14:39-15:18/39 17:00	07:02 14:50-15:13/23 16:32	07:23 16:38
30	07:13 15:03-15:50/47 17:12		06:47 19:21	06:00 19:54	05:31 20:23	05:30 20:35	05:52 20:18	06:23 19:36	06:54 18:44	07:26 14:38-15:18/40 16:59	07:03 14:52-15:12/20 16:32	07:24 16:39
31	07:12 15:03-15:50/47 17:14		06:46 19:22		05:30 20:24		05:53 20:17	06:24 19:35		07:27 14:37-15:19/42 16:57		07:24 16:40
Ore potenziali eliofanía	297	297	369	399	448	452	459	428	375	345	291	298
Somma minuti d'ombra	777	736	0	0	0	0	0	0	0	0	1202	37

Legenda della tabella:

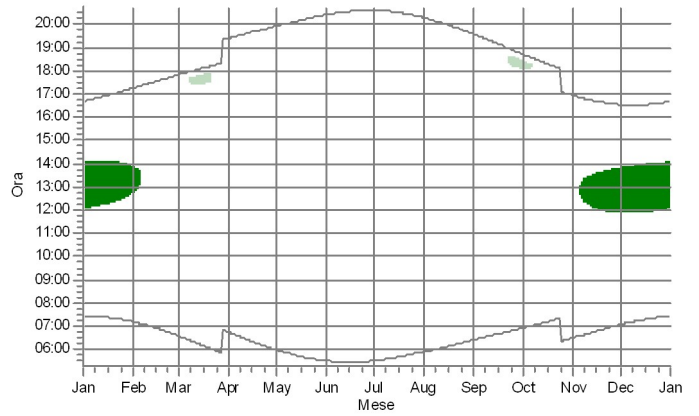
Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG, grafico

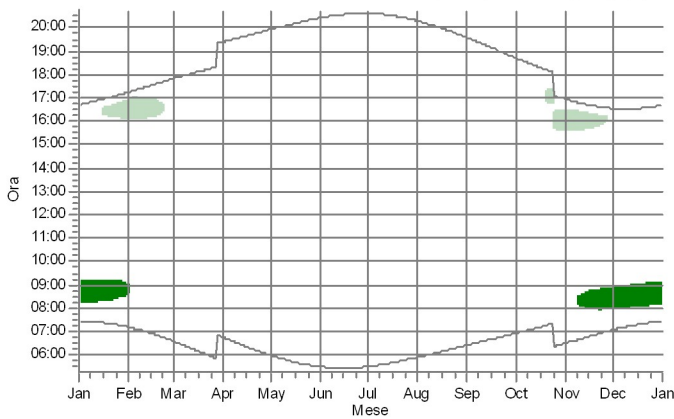
1: VESTAS V150-6.0 6000 150.0 !O! hub: 105,0 m (TOT: 180,0 m) (1)



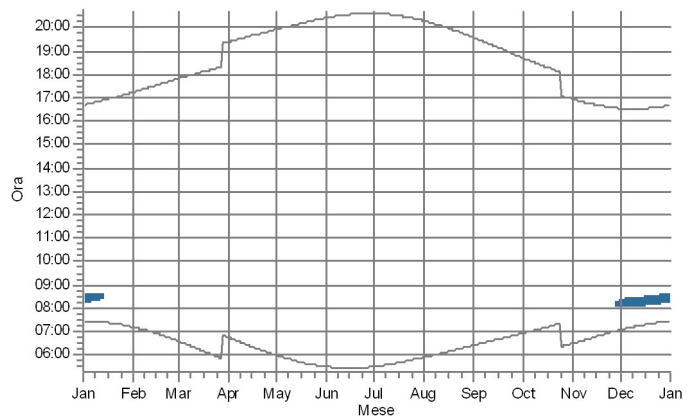
2: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (3)



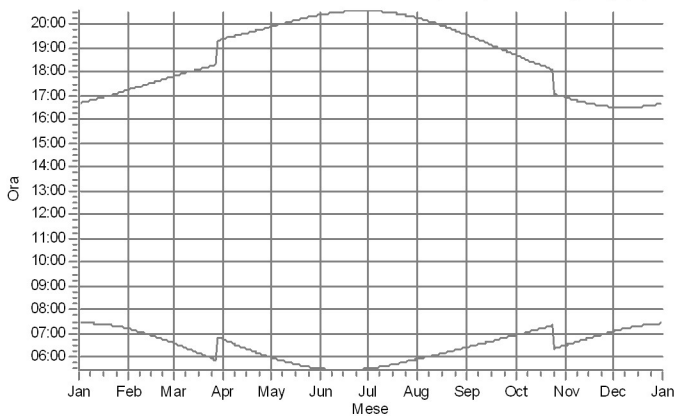
3: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (4)



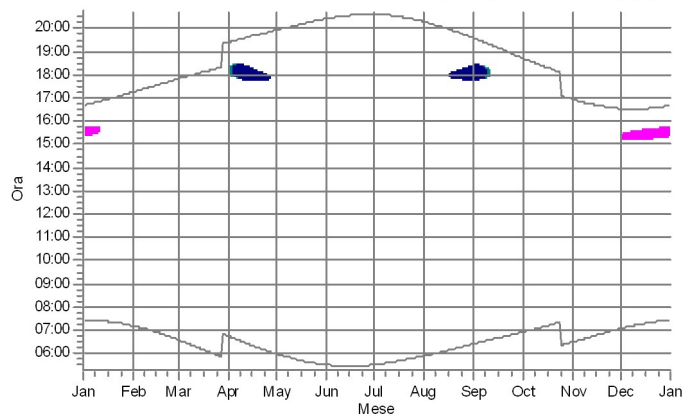
4: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (5)



5: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (6)



6: VESTAS V105-3.45 3450 105.0 !O! hub: 72,5 m (TOT: 125,0 m) (7)

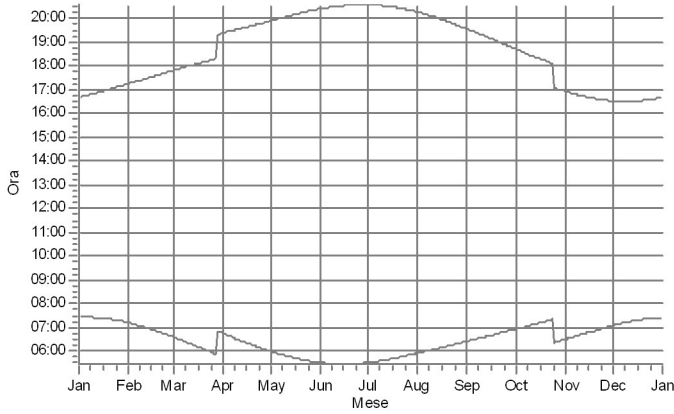


Recettori d'ombra

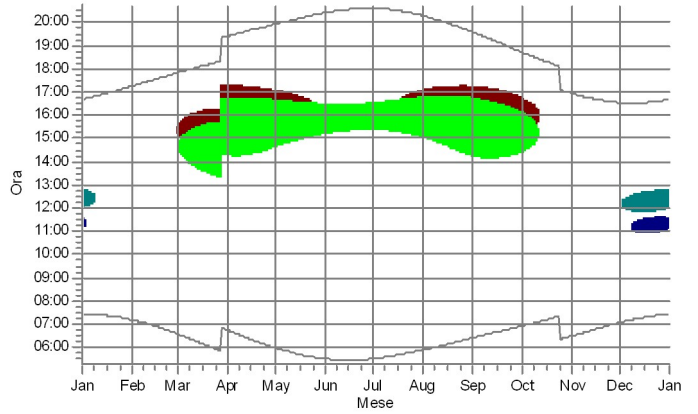
- A: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (1)
- E: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (5)
- F: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (7)
- G: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (8)
- N: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (15)
- V: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (23)

SHADOW - Calendario per WTG, grafico

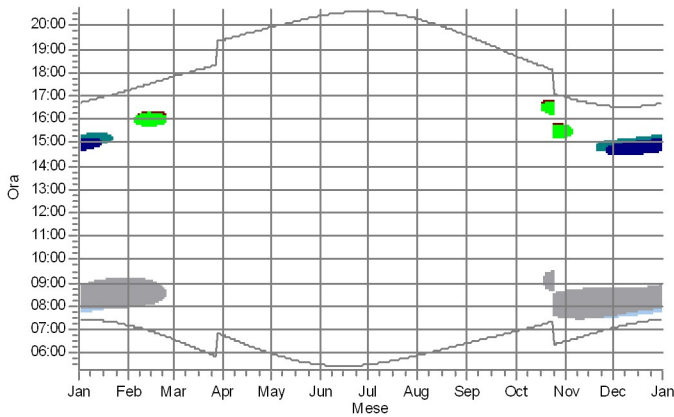
7: VESTAS V105-3.45 3450 105.0 !O!hub: 72,5 m (TOT: 125,0 m) (8)



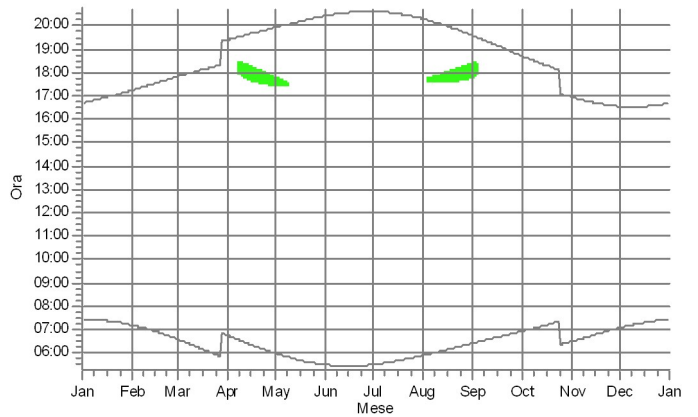
8: VESTAS V126-3.3 GridStreame 3300 126.0 !O!hub: 117,0 m (TOT: 180



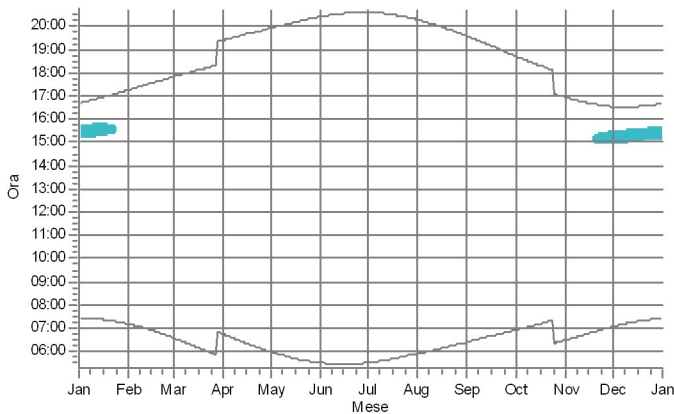
9: VESTAS V126-3.3 GridStreame 3300 126.0 !O!hub: 117,0 m (TOT: 180



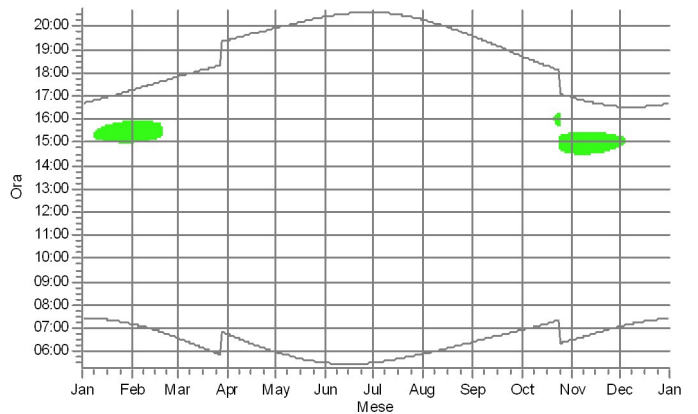
10: VESTAS V105-3.45 3450 105.0 !O!hub: 72,5 m (TOT: 125,0 m) (11)











11: VESTAS V105-3.45 3450 105.0 !O!hub: 72,5 m (TOT: 125,0 m) (12)



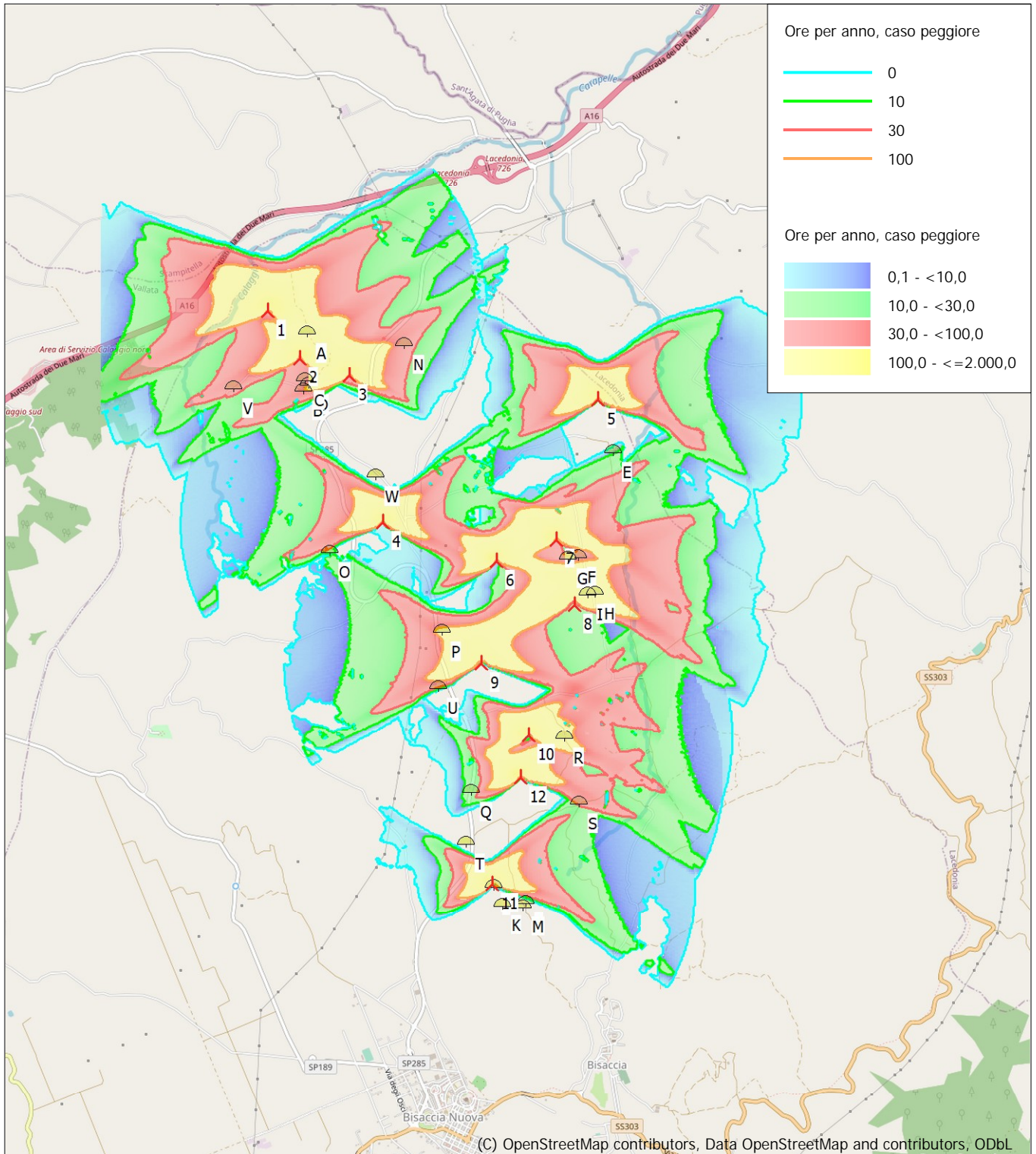
12: VESTAS V105-3.45 3450 105.0 !O!hub: 72,5 m (TOT: 125,0 m) (13)



Recettori d'ombra

 F: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (7)	 I: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (10)	 R: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (19)
 G: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (8)	 O: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (16)	 S: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (20)
 H: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (9)	 P: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (17)	

SHADOW - Mappa



0 500 1000 1500 2000 m

Mappa: EMD OpenStreetMap , Scala di stampa 1:50.000, Centro mappa Geo WGS84 Est: 15°21'54,33" E Nord: 41°02'59,26" N

📍 Nuova WTG

📍 Recettore d'ombra

Fonte altimetria:: Height Contours: CONTOURLINE_ONLINEDATA_0.wpo (1)

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