

**Comuni di : SAN GIORGIO LA MOLARA, MOLINARA,  
SAN MARCO DEI CAVOTI, BASELICE E FOIANO DI VAL FORTORE**

Provincia di : BENEVENTO

Regione : CAMPANIA

PROPONENTE

**IVPC**



IVPC S.r.l.  
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*Infes*



OPERA

**PROGETTO PER IL RIFACIMENTO E POTENZIAMENTO  
DI UN PARCO EOLICO**

OGGETTO

TITOLO ELABORATO :

Relazione shadow flickering

DATA : Agosto 2023

N°/CODICE ELABORATO :

**R 04.8 Rev.01**

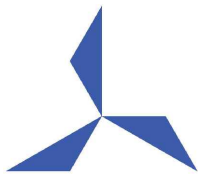
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Tipologia : Relazione

Lingua : ITALIANO

I TECNICI



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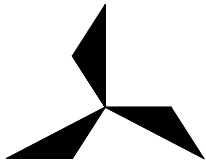
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01	Agosto 2023	Revisione progetto a seguito richieste integrazione del Ministero	Ing. MEZZINA	Ing. MEZZINA	IVPC
00	Dicembre 2021	Emissione per progetto definitivo	Ing. Merlino	Ing. MEZZINA	IVPC
N° REVISIONE	DATA	OGGETTO DELLA REVISIONE	ELABORAZIONE	VERIFICA	APPROVAZIONE

Proprietà e diritto del presente documento sono riservati - la riproduzione è vietata.



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## 1. PREMESSA

La presente relazione è relativa alla progettazione definitiva in seno al procedimento autorizzativo del “Progetto per il rifacimento e potenziamento di un parco eolico” che la **IVPC S.r.l.** intende realizzare in territorio di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio la Molarata, tutti in provincia di Benevento.

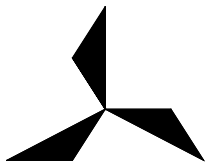
Questa relazione costituisce la revisione della precedente Rev. 00 del 29/12/2021 emessa nell’ambito dell’iniziale progetto definitivo dell’impianto da sottoporre a VIA al Ministero della Transizione Ecologica e della Sicurezza Energetica (MASE). Il MASE, con propria nota Prot. N. del xx richiedeva precisazioni e integrazioni al progetto; per ottemperare alle quali si è reso necessario una revisione del layout di progetto con riduzione del numero complessivo di aerogeneratori da 24, previsti nell’iniziale progetto definitivo, a 17 previsti nella revisione progettuale della quale fa parte il presente documento.

Pertanto, l’impianto, nella nuova configurazione, sarà composto da n. 17 aerogeneratori, ciascuno della potenza di 6,1MW, con diametro del rotore di 158m, altezza di mozzo 101m e altezza complessiva (TIP) di 180m; la potenza complessiva del parco eolico è quindi pari a 103,70 MW. Il nuovo layout prevede la seguente dislocazione territoriale degli aerogeneratori: 2 Aerogeneratori situati nel territorio di Baselice; 1 aerogeneratore in agro di Foiano di Valfortore; 4 aerogeneratori in agro di San Marco dei Cavoti; 5 aerogeneratori in agro di Molinara; 5 aerogeneratori in agro di San Giorgio La Molarata.

**Il presente elaborato ha lo scopo di valutare in maniera tecnica l'eventuale impatto generato dall'evoluzione dell'ombra derivante dalla futura installazione dell’impianto eolico sopra descritto.**

## 2. LO SHADOW FLICKERING

Lo Shadow-Flickering è l’espressione comunemente impiegata in ambito specialistico per descrivere l’effetto stroboscopico delle ombre proiettate dalle pale rotanti degli aerogeneratori eolici quando sussistono le condizioni meteorologiche opportune; infatti la possibilità e la durata di tali effetti dipendono da una serie di condizioni ambientali, tra cui: la posizione del sole, l’ora del giorno, il giorno dell’anno, le condizioni atmosferiche ambientali e la posizione della turbina eolica rispetto ad un recettore sensibile. La valutazione tecnica è eseguita con l’ausilio di un software di simulazione specifico per la progettazione degli impianti eolici WIND PRO®, costituito da un insieme di moduli di elaborazione orientati alla simulazione di una serie di aspetti che caratterizzano le diverse fasi progettuali. Il modulo SHADOW è quello specifico per la valutazione dell’evoluzione dell’ombra e del flickering. In tale report è riportata:



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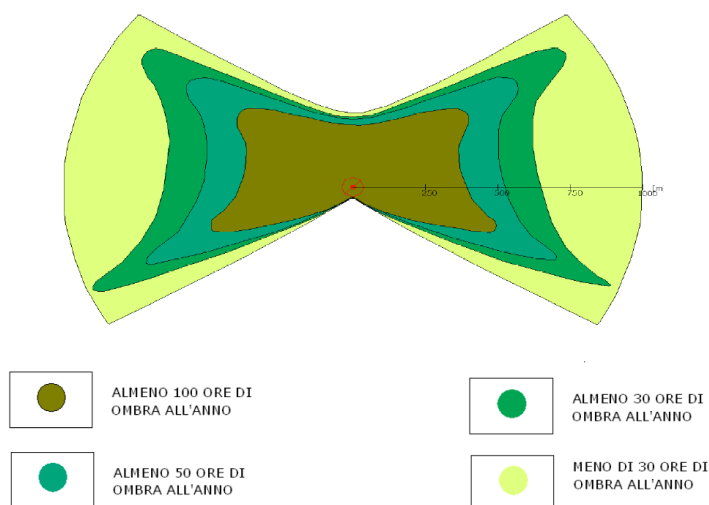


- *La descrizione del caso studio con le posizioni delle turbine e loro caratteristiche tecniche*
- *Una breve descrizione tecnica del fenomeno di shadow flickering*
- *La descrizione dei recettori soggetti al fenomeno per i quali è stata richiesta questa analisi*
- *Sintesi della metodologia di analisi seguita per lo studio*
- *Sintesi dei risultati ottenuti, con allegati grafici ed analitici di dettaglio che descrivono il fenomeno su ognuno dei recettori e da parte di ognuna delle turbine per tutto l'anno solare.*

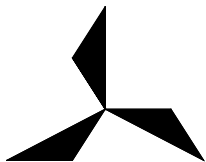
### 3. STUDIO DELL'EVOLUZIONE DELL'OMBRA GIORNALIERA GENERATA DAGLI AEROGENERATORI

Le turbine eoliche, come altre strutture fortemente sviluppate in altezza, proiettano un'ombra sulle aree adiacenti in presenza della luce solare diretta. Per chi vive in tali zone prossime all'insediamento eolico può essere molto fastidioso il cosiddetto fenomeno del "flicker" che consiste in un effetto di lampeggiamento che si verifica quando le pale del rotore in movimento "tagliano" la luce solare in maniera intermittente. Una progettazione attenta a questa problematica permette di evitare questo spiacevole fenomeno semplicemente prevedendo il luogo di incidenza dell'ombra e disponendo le turbine in maniera tale che l'ombra sulle zone sensibili non superi un certo numero di ore all'anno. Il grafico in figura i riporta l'evoluzione annuale dell'ombra di una turbina considerando il caso peggiore di pale sempre in rotazione intorno al mozzo, e orientate sempre ortogonalmente al sole durante la sua evoluzione giornaliera.

Come è evidente dal grafico e dalla legenda le ore annue di ombra sono sempre minori con l'aumentare della distanza dal pilone secondo una particolare geometria dettata dalla posizione geografica; da osservare che l'ombra arriva a proiettarsi anche sino ad una distanza di 1 km, anche se solo per pochi minuti all'anno.



*Figura 1: Evoluzione annuale tipo dell'ombra di una pala*



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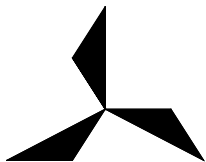
Considerati i pochi precedenti esistenti (Germania) e le ipotesi così penalizzanti con cui è stata calcolato tale grafico si è ritenuto opportuno effettuare una sovrapposizione sull'impianto della parte più interna del grafico ovvero dell'area **che supera le 100 ore all'anno di ombra dei punti di installazione, intendendo questo come limite da non superarsi.**

In Italia, così come nella maggior parte dei paesi Europei ed extraeuropei non esiste una normativa specifica in relativa al disturbo generato dal fenomeno di Shadow – Flickering. Esistono delle regolamentazioni locali ma quasi mai comprendono limiti numerici specifici, quanto piuttosto delle raccomandazioni tese a sottolineare che il fenomeno non sia “unreasonable” o “significant”.

#### 4. INDIVIDUAZIONE DEI RECETTORI ED IPOTESI DI CALCOLO

L'analisi di shadow-flickering di cui al presente studio è stata elaborata per specifici 83 recettori che circondano l'impianto; tuttavia, alcune strutture inserite nel modello di simulazione potrebbero essere ruderi non abitati e sostanzialmente privi di caratteristiche minime di abitabilità o agibilità; il che sarà analizzato nel seguito.

RECELTTORE				Coordinate WGS84 UTM		Ore di ombra per anno	Giorni di ombra per anno	Max ore ombra per giorno
Cod.	ID	Comune	Categoria	E	N			
R1	A	BASELICE(BN)	A2 e altri	492591	4580264	27:46	53	00:40:00
R2	B	BASELICE(BN)	A4-C2	492858	4579642	37:22	91	00:37:00
R3	C	FOIANO DI VAL FORTORE (BN)	A7	493801	4578576	95:36	124	01:30:00
R4	D	FOIANO DI VAL FORTORE (BN)	A3	493219	4577897	31:33	56	00:43:00
R5	E	FOIANO DI VAL FORTORE (BN)	A2 e altri	496649	4575498	0:00	0	00:00:00
R6	F	SAN GIORGIO LA MOLARA(BN)	A3	494856	4571786	0:00	0	00:00:00
R7	G	SAN GIORGIO LA MOLARA(BN)	D10	496609	4571009	0:00	0	00:00:00
R8	H	SAN GIORGIO LA MOLARA(BN)	A3-D10	498548	4571918	0:00	0	00:00:00
R9	I	S. MARCO DEI CAVOTI(BN)	PASCOLO Edificio non Censito	491732	4578249	58:54	127	00:46:00
R10	J	MOLINARA(BN)	A7	493293	4576267	221:10	150	01:43:00
R11	K	MOLINARA(BN)	D8	493451	4576247	141:46	165	01:16:00
R12	L	FOIANO DI VAL FORTORE (BN)	A3 e altri	493775	4576433	77:05	161	00:44:00
R13	M	FOIANO DI VAL FORTORE (BN)	A2 e altri	493952	4578297	19:42	82	00:23:00
R14	N	FOIANO DI VAL FORTORE (BN)	A3	493770	4578295	16:23	61	00:26:00
R15	O	FOIANO DI VAL FORTORE (BN)	A2	494071	4578176	28:29	99	00:24:00
R16	P	FOIANO DI VAL FORTORE (BN)	A2	494146	4578519	39:24	85	00:42:00



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R17	Q	FOIANO DI VAL FORTORE (BN)	A3	494076	4578726	49:27	108	00:59:00
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*Tab.1 – Recettori: Coordinate in UTM-WGS84, caratteristiche e ore di ombra*

Lo studio, i cui risultati in dettaglio sono riportati nei report allegati alla presente relazione, è stato condotto con uno specifico software (WindPRO).

Nello studio ci si è posti nella condizione più sfavorevole possibile, in quanto si è considerato che:

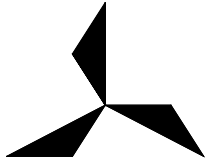
- il sole risplende per tutta la giornata dall'alba al tramonto (cioè si è **sempre** in assenza di copertura nuvolosa);
- il piano di rotazione delle pale è sempre perpendicolare alla linea che passa per il sole e per l'aerogeneratore (l'aerogeneratore "insegue" il sole);
- l'aerogeneratore è sempre operativo.

Allo stesso tempo, si è trascurata la presenza degli alberi e di altri ostacoli che bordano le strade "intercettando" l'ombra degli aerogeneratori riducendo il fenomeno del flickering sui recettori.

Ciò significa che i risultati forniti dal calcolo sono ampiamente cautelativi.

In base alla metodologia descritta nei paragrafi precedenti, sono stati utilizzati i seguenti dati di input per impostare il modello di simulazione per la valutazione del fenomeno di Shadow-Flickering degli aerogeneratori di progetto:

- Il DTM o Modello del terreno digitale** per caratterizzare l'orografia è stato estrapolato dal grid disponibile in download dal SIT della Regione Puglia, georeferenziato, sovrapposto, confrontato e adeguato con le curve di livello presenti sulla cartografia ufficiale CTR 1:5.000 con uno step di 5 m. Il modello digitale ottenuto copre un'area sufficiente ad inglobare l'area del parco eolico di progetto e trova un ottimo riscontro con l'andamento orografico verificato in sito.
- Posizioni geografiche di recettori con dettaglio dimensionale delle aree più esposte.** Sono i ricettori individuati dallo studio acustico e in quello della gittata massima degli elementi rotanti; essi sono classificati secondo la loro abitabilità e destinazione d'uso. Per tutti i ricettori si è ritenuto opportuno usare l'ipotesi di cautela della modalità "green house mode". Questa scelta è stata operata poiché in talune circostanze anche lo spazio antistante le strutture può essere considerato o adibito a luogo di riposo e relax. La scelta di una singola finestra o di una facciata in alcune condizioni potrebbe risultare riduttiva allo scopo di una vera valutazione d'impatto.
- Posizioni geografiche delle turbine eoliche e loro caratteristiche dimensionali**  
Gli aerogeneratori di progetto con le loro caratteristiche dimensionali e tecnologiche
- Nessun ostacolo naturale o artificiale è stato modellato.**



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## 5. I RISULTATI DEL CALCOLO DELL'EVOLUZIONE DELL'OMBRA

Come sopra accennato, nella procedura "Worst case" il fenomeno di shadow/flickering viene calcolato non tenendo conto di una serie di fattori, i cui dati allo stato dell'arte per il sito in questione non sono disponibili. Se fossero considerati tali fattori si potrebbe calcolare il fenomeno di shadow/flickering con la metodologia ("real case"), nel qual caso, da quanto riportato nella letteratura specialistica secondo altri casi simili, si avrebbero risultati indicanti una riduzione del fenomeno ad 1/3 dei valori.

Cautelativamente assumiamo per effetto di tali fattori una riduzione del fenomeno del flickering di 1/2.

Dalle simulazioni effettuate, i cui risultati sono riportati nella **Tab. 1**, tenendo conto del fattore di riduzione, si evince che gli aerogeneratori di progetto generano maggiormente il fenomeno di shadow/flickering sui seguenti recettori considerando solo quelli di categoria catastale più interessante per il fenomeno:

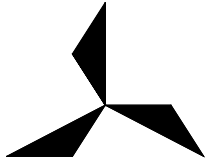
### **"R3, R10, R11, R12"**

Per tali recettori si ha un massimo di ore di ombra calcolato superiore a 30 ore/anno e, in particolare, per l'R10 superiore al limite meno restrittivo di 100 ore /anno.

**Per tali recettori che superano le 30 ore/anno di ombreggiamento nel "real case", si dovrà pertanto intervenire con misure di mitigazione previo accordi con i proprietari. Le misure di compensazione riguardano essenzialmente l'impianto di essenze arbustive tali da filtrare l'ombra e quindi ridurre le ore di ombra all'anno incidenti sul recettore.**

E' solo il caso di precisare che i recettori R10, R11 e in parte anche R12, sono già circondati di essenze arboree di alto fusto, le quali andranno, in fase di progettazione esecutiva, solamente verificare, con misure di ombreggiamento all'interno delle aree di pertinenza circostanti, ed eventualmente integrate con altre essenze simili impiantate in punti ben precisi da calcolarsi.

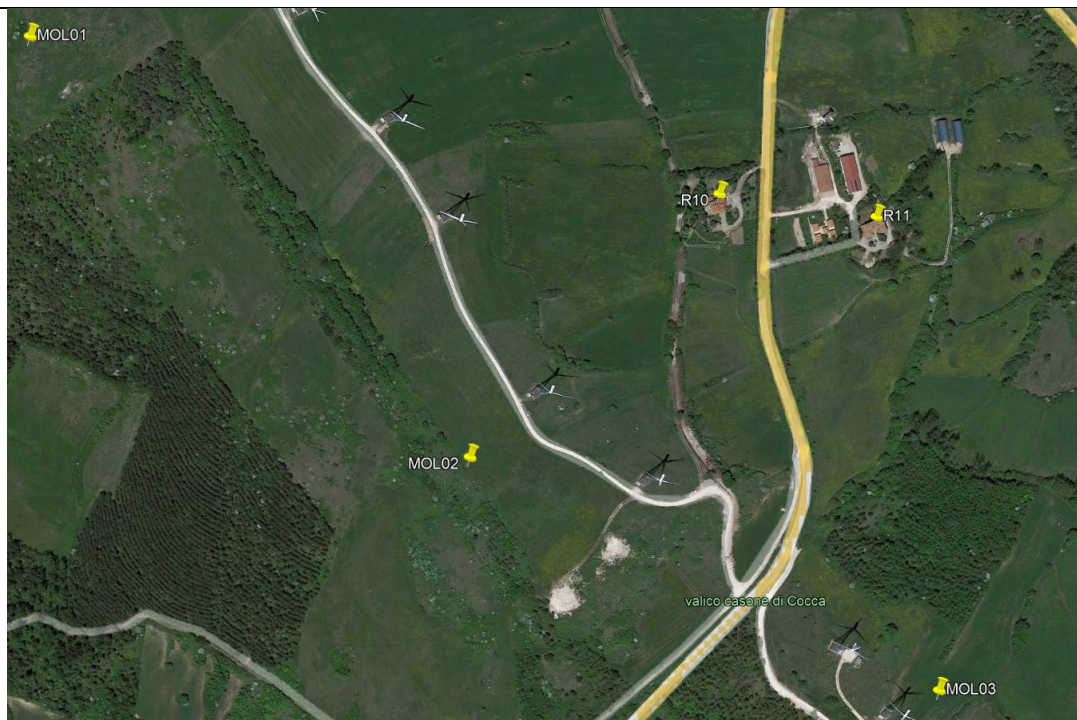
Si riportano qui di seguito degli screen shot estratti da google relativi a questi recettori più sensibili rispetto al fenomeno del flickering.



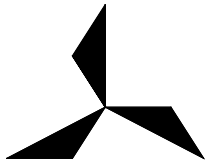
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**Recettori R3. Maggiormente ombreggiati dall'aerogeneratore FVF01**



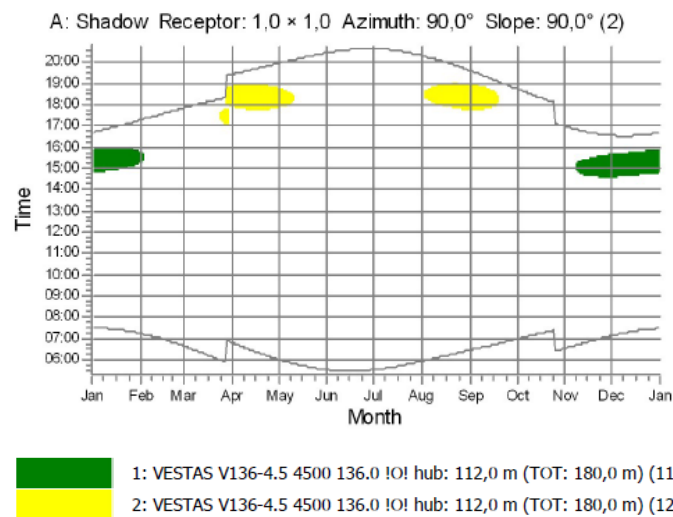
**Recettori R10, R11, R12. Maggiormente ombreggiati dagli aerogeneratori MOL01, MOL02, MOL03**



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E' stato elaborato un calendario dell'ombra riportato in appendice (rif. Appendice Calendar), che riporta in maniera grafica giorno per giorno, per tutto l'anno, la durata giornaliera del fenomeno, l'orario di inizio e di fine del fenomeno, nelle condizioni di caso reale. Dalla lettura del "Calendar" si legge che il fenomeno dell'ombreggiamento, si esplica sui recettori con intensità maggiore nel periodo compreso tra Gennaio/Febbraio, Novembre/Dicembre nelle prime ore del pomeriggio e Aprile/Maggio, Agosto/Ottobre nelle tarde ore pomeridiane. Nella figura che segue è riportato a titolo di esempio il grafico "calendar" di un recettore: le macchie individuano i momenti di shadow, la posizione nel grafico individua tempo e durata del fenomeno, il colore della macchia individua la turbina che causa il fenomeno.

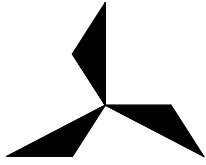


L'allegato 2 riporta il dettaglio analitico di quanto espresso dal grafico precedente con gli specifici orari di inizio e di fine del fenomeno. A seguire è altresì riportata la sintesi grafica annuale (come mostra l'immagine precedente) dell'apporto di ombreggiamento a carico di ogni recettore ed il/gli aerogeneratore/i responsabile/i del fenomeno.

È stata inoltre elaborata una mappa (report Map, Allegato 3) in cui vengono riportate, con diverse gradazioni di colore, le zone soggette ad una determinata durata del fenomeno dell'ombreggiamento oltre all'estensione areale nella quale il fenomeno risulta significativo.

Il fenomeno dell'ombreggiamento interessa marginalmente tratti di strade comunali e/o private per un numero di ore all'anno molto limitato e peraltro solo per alcuni tratti. E' da evidenziare tuttavia che occorre tener conto della possibile presenza di vegetazione capace di offrire un effetto "barriera" ai recettori e/o alle strade limitrofe. Inoltre, la percezione dell'impianto dalla strada risulterebbe essere "in movimento" e quindi legata alla breve permanenza delle automobili in transito, per cui il fastidio indotto sarebbe temporalmente molto limitato.





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## 6. CONCLUSIONI E RACCOMANDAZIONI

In conclusione, si può affermare che i risultati ottenuti dell'elaborazione evidenziano, pur considerando le condizioni più sfavorevoli, che le turbine di progetto generano effetti di shadow flickering i cui **impatti risultano essere nulli per la maggior parte dei recettori individuati, piuttosto modesti per gli altri e un po' più importanti per i recettori R3, R10, R11, R12 per i quali in sede di progettazione esecutiva si dovrà procedere con misure in campo di ombreggiamento per verificare l'effetto attenuante della vegetazione ad essi circostante già presente ed eventualmente integrarla in modo da limitare il fenomeno del flickering al di sotto sia del limite più ampio di 100 ore/anno che di quello più restrittivo di 30 ore/anno**

In ogni caso è comunque da rimarcare l'effetto di sovrastima dovuto al grado di cautela utilizzato per la simulazione che non tiene in conto di tutte le possibili fonti di attenuazione dell'effetto cui ogni recettore è (o può essere) soggetto quali presenza di alberi, ostacoli, siepi e quant'altro possa attenuare il fenomeno dell'evoluzione giornaliera dell'ombra.

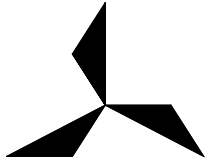
## 7. ELENCO ALLEGATI

Di seguito vengono riportati i risultati dello Shadow Flicker elaborati con il software *WindPro*

1. Main result: quadro sintetico dei risultati di calcolo;
2. Calendar: analisi giornaliera dell'effetto "flickering" ricevuto da ogni recettore;
3. Calendar, graphical: grafico dell'analisi giornaliera dell'effetto "flickering" ricevuto da ogni recettore;
4. Calendar per WTG: analisi giornaliera dell'effetto "flickering" indotto da ogni aerogeneratore sui recettori;
5. Map: mappa delle aree soggette ad ombreggiamento.

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Project:

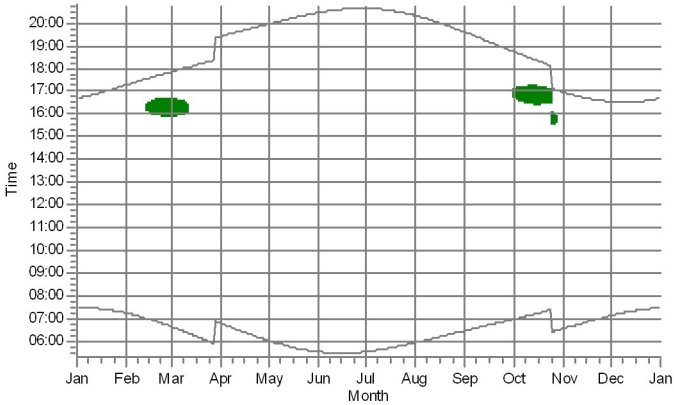
Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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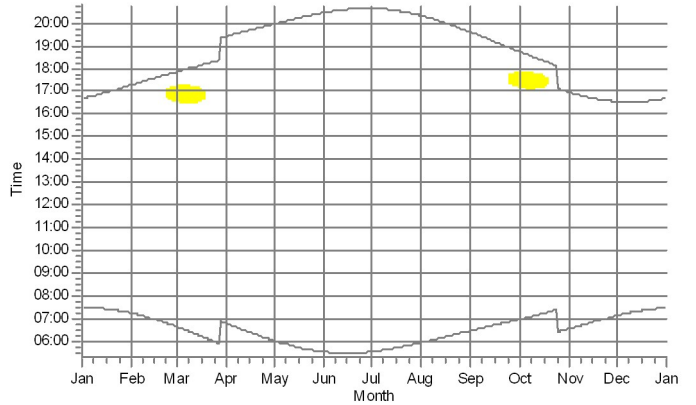
Vega sas  
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IT-71100 Foggia  
+39 0881 756251  
VEGA / info@studiovega.org  
Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG, graphical

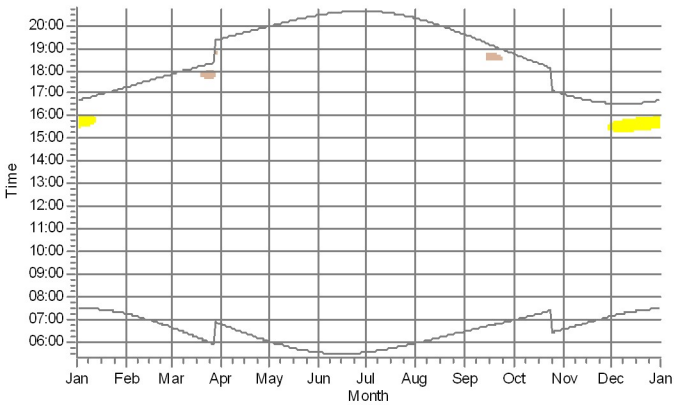
1: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



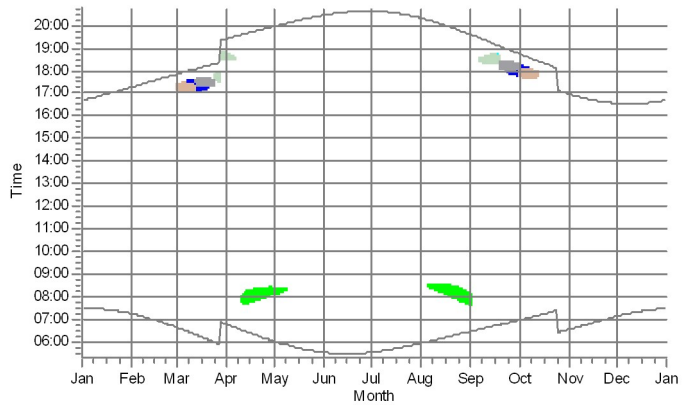
2: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



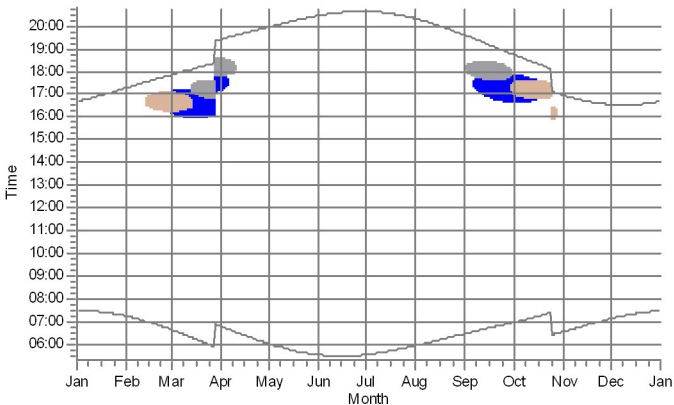
3: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



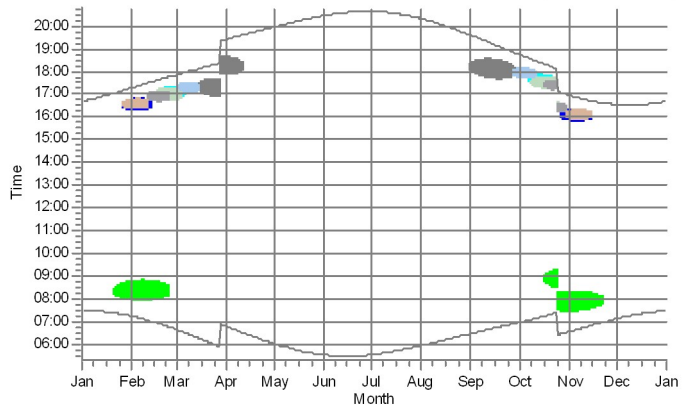
4: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



5: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



6: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



### Shadow receptors

- A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (1)
- B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (2)
- C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (3)
- D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (4)
- I: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (9)

- M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (13)
- N: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (14)
- O: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (15)
- P: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (16)
- Q: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (17)

Project:

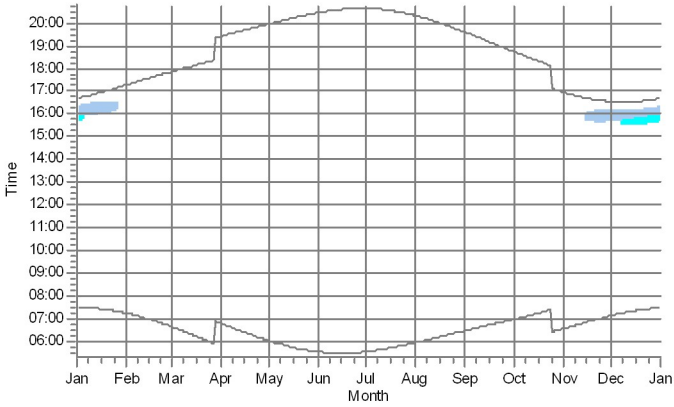
Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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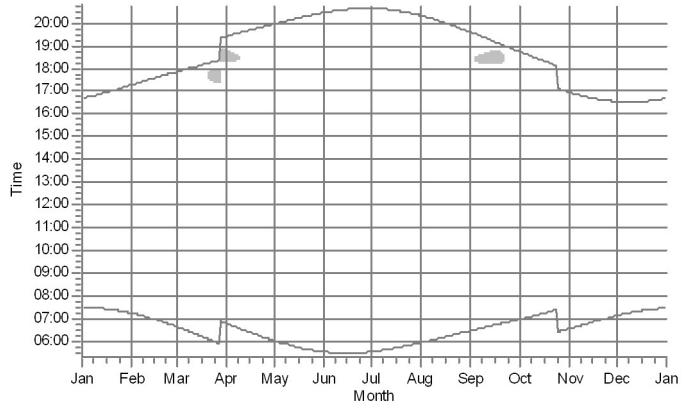
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Calculated:  
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## SHADOW - Calendar per WTG, graphical

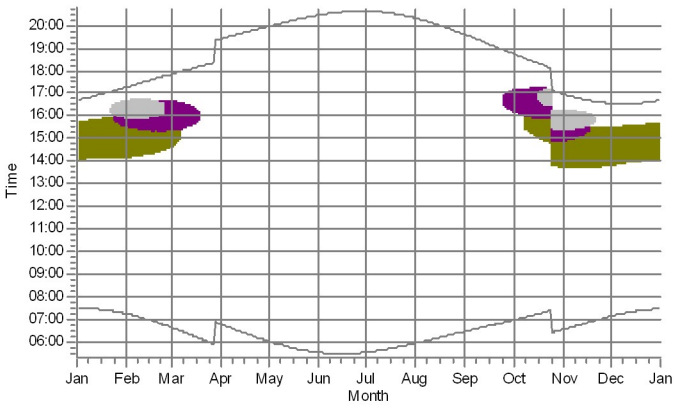
7: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



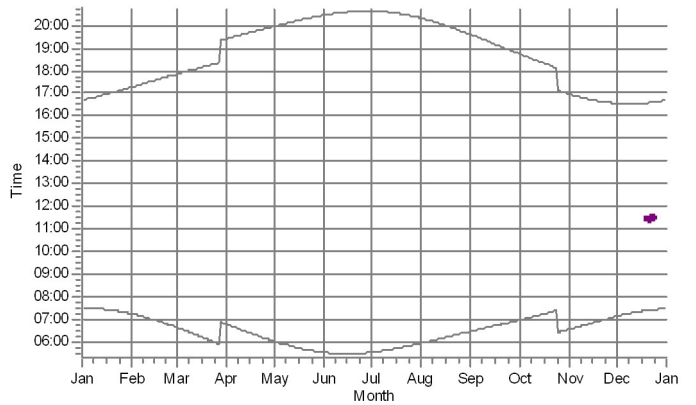
8: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



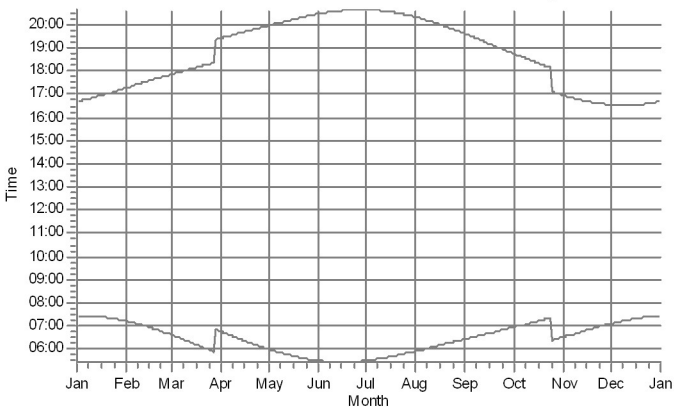
9: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



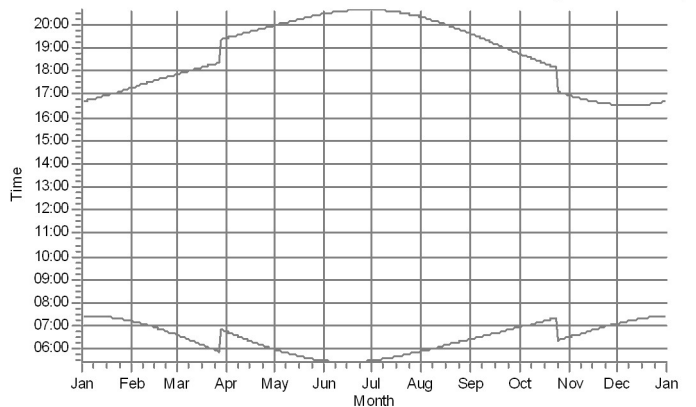
10: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



11: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



12: GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m)



Shadow receptors

- J: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (10)
- K: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (11)
- L: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (12)

- M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (13)
- O: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (15)

Project:

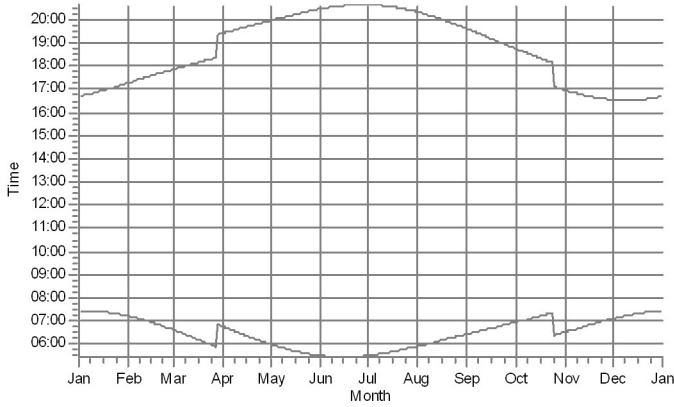
Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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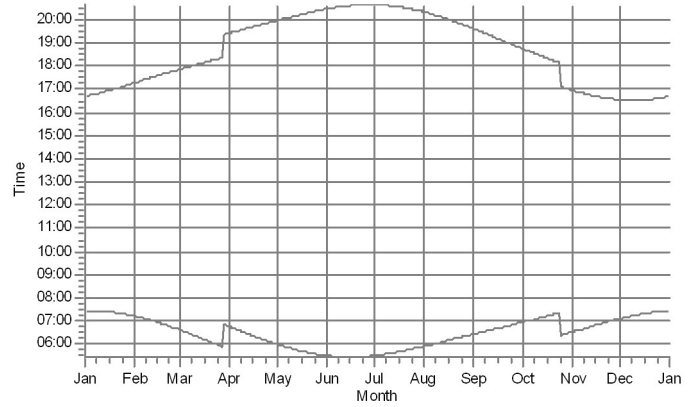
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Calculated:  
07/08/2023 20:12/3.5.584

### SHADOW - Calendar per WTG, graphical

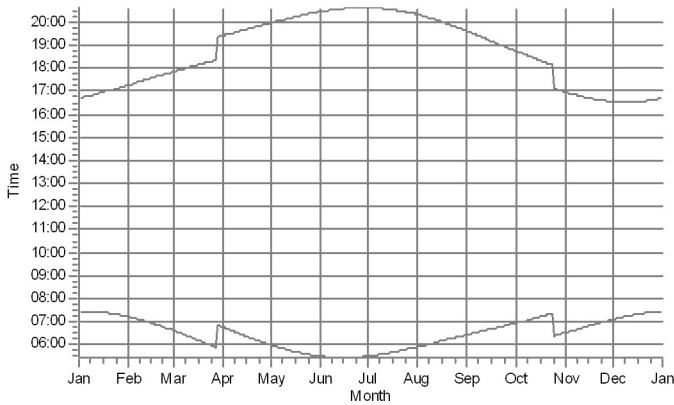
13: GE WIND ENERGY GE 158 6600 158.0 !O!hub: 101,0 m (TOT: 180,0 m)



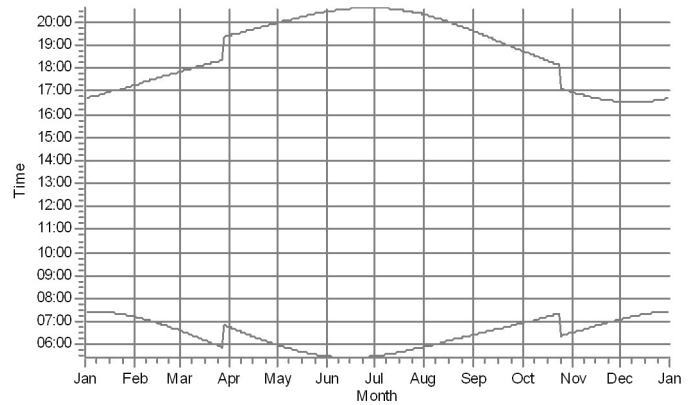
14: GE WIND ENERGY GE 158 6600 158.0 !O!hub: 101,0 m (TOT: 180,0 m)



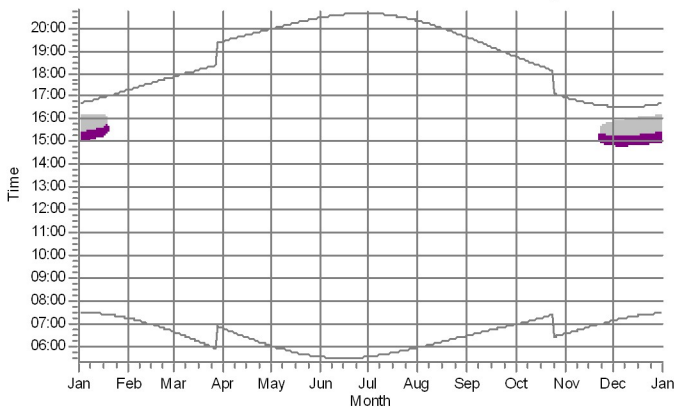
15: GE WIND ENERGY GE 158 6600 158.0 !O!hub: 101,0 m (TOT: 180,0 m)




16: GE WIND ENERGY GE 158 6600 158.0 !O!hub: 101,0 m (TOT: 180,0 m)




17: GE WIND ENERGY GE 158 6600 158.0 !O!hub: 101,0 m (TOT: 180,0 m)



Shadow receptors

 K: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 0,0° (11)

 L: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 0,0° (12)

## Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 1 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (1)

## Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:42	07:13 17:16	06:37 15:57-16:37/40 17:51	06:46 19:25	06:00 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:57 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 15:57-16:36/39 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	16:49-17:00/11	06:32 16:56
3	07:27 16:43	07:11 17:19	06:34 15:58-16:36/38 17:53	06:42 19:27	05:57 20:00	05:29 20:29	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	16:45-17:03/18	06:34 16:55
4	07:27 16:44	07:10 17:20	06:32 15:58-16:35/37 17:54	06:41 19:28	05:56 20:01	05:29 20:29	05:32 20:38	05:58 20:16	06:29 19:31	07:00 18:39	16:42-17:05/23	06:35 16:54
5	07:27 16:45	07:09 17:21	06:31 15:59-16:34/35 17:55	06:39 19:29	05:54 20:02	05:29 20:30	05:33 20:38	05:59 20:14	06:30 19:29	07:01 18:38	16:39-17:06/27	06:36 16:52
6	07:27 16:46	07:08 17:22	06:29 15:59-16:33/34 17:56	06:37 19:30	05:53 20:03	05:28 20:31	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	16:37-17:07/30	06:37 16:51
7	07:27 16:47	07:07 17:24	06:28 16:00-16:31/31 17:58	06:36 19:32	05:52 20:04	05:28 20:31	05:34 20:37	06:01 20:12	06:32 19:26	07:03 18:34	16:36-17:08/32	06:38 16:50
8	07:27 16:48	07:06 17:25	06:26 16:02-16:30/28 17:59	06:34 19:33	05:51 20:05	05:28 20:32	05:35 20:37	06:02 20:11	06:33 19:24	07:04 18:33	16:34-17:09/35	06:40 16:49
9	07:27 16:49	07:05 17:26	06:24 16:03-16:28/25 18:00	06:33 19:34	05:50 20:06	05:28 20:33	05:35 20:36	06:03 20:10	06:34 19:22	07:05 18:31	16:33-17:09/36	06:41 16:48
10	07:27 16:50	07:04 17:27	06:23 16:05-16:26/21 18:01	06:31 19:35	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:30	16:32-17:09/37	06:42 16:47
11	07:26 16:51	07:02 17:29	06:21 16:08-16:23/15 18:02	06:29 19:36	05:47 20:08	05:27 20:34	05:37 20:35	06:05 20:07	06:36 19:19	07:07 18:28	16:32-17:10/38	06:43 16:46
12	07:26 16:52	07:01 17:30	06:19 18:03	06:28 19:37	05:46 20:09	05:27 20:34	05:37 20:35	06:06 20:06	06:37 19:17	07:08 18:26	16:31-17:10/39	06:45 16:45
13	07:26 16:53	07:00 17:31	06:18 18:04	06:26 19:38	05:45 20:10	05:27 20:35	05:38 20:35	06:07 20:04	06:38 19:15	07:09 18:25	16:30-17:10/40	06:46 16:44
14	07:26 16:54	06:59 16:12-16:23/11 17:32	06:16 18:05	06:25 19:39	05:44 20:11	05:27 20:35	05:39 20:34	06:08 20:03	06:39 19:14	07:11 18:23	16:30-17:10/40	06:47 16:43
15	07:25 16:55	06:57 16:09-16:27/18 17:34	06:14 18:07	06:23 19:40	05:43 20:12	05:27 20:36	05:40 20:33	06:09 20:01	06:40 19:12	07:12 18:22	16:29-17:09/40	06:48 16:42
16	07:25 16:57	06:56 16:06-16:29/23 17:35	06:13 18:08	06:21 19:41	05:42 20:13	05:27 20:36	05:41 20:33	06:10 20:00	06:41 19:10	07:13 18:20	16:29-17:09/40	06:49 16:41
17	07:24 16:58	06:55 16:05-16:31/26 17:36	06:11 18:09	06:20 19:42	05:41 20:14	05:27 20:36	05:41 20:32	06:11 19:59	06:42 19:08	07:14 18:18	16:29-17:08/39	06:51 16:41
18	07:24 16:59	06:53 16:03-16:33/30 17:37	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:37	05:42 20:32	06:12 19:57	06:43 19:07	07:15 18:17	16:30-17:08/38	06:52 16:40
19	07:23 17:00	06:52 16:02-16:34/32 17:39	06:08 18:11	06:17 19:44	05:39 20:16	05:27 20:37	05:43 20:31	06:13 19:56	06:44 19:05	07:16 18:15	16:30-17:08/38	06:53 16:39
20	07:23 17:01	06:50 16:01-16:35/34 17:40	06:06 18:12	06:15 19:46	05:38 20:17	05:27 20:37	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	16:30-17:07/37	06:54 16:38
21	07:22 17:02	06:49 15:59-16:35/36 17:41	06:04 18:13	06:14 19:47	05:38 20:18	05:27 20:38	05:45 20:29	06:15 19:53	06:46 19:02	07:18 18:12	16:30-17:05/35	06:55 16:38
22	07:22 17:04	06:48 15:59-16:36/37 17:42	06:03 18:14	06:12 19:48	05:37 20:19	05:28 20:38	05:46 20:29	06:16 19:51	06:47 19:00	07:20 18:11	16:31-17:04/33	06:56 16:37
23	07:21 17:05	06:46 15:58-16:36/38 17:43	06:01 18:15	06:11 19:49	05:36 20:20	05:28 20:38	05:46 20:28	06:17 19:50	06:48 18:58	07:21 18:09	16:32-17:04/32	06:58 16:36
24	07:20 17:06	06:45 15:58-16:37/39 17:45	05:59 18:16	06:09 19:50	05:35 20:21	05:28 20:38	05:47 20:27	06:18 19:48	06:49 18:56	07:22 18:08	16:33-17:02/29	06:59 16:36
25	07:19 17:07	06:43 15:57-16:37/40 17:46	05:58 18:18	06:08 19:51	05:35 20:21	05:28 20:38	05:48 20:26	06:19 19:47	06:50 18:55	07:23 17:07	15:35-16:00/25	07:00 16:35
26	07:19 17:09	06:42 15:57-16:37/40 17:47	05:56 18:19	06:06 19:52	05:34 20:22	05:29 20:38	05:49 20:25	06:20 19:45	06:51 18:53	07:24 17:05	15:36-15:58/22	07:01 16:35
27	07:18 17:10	06:40 15:57-16:37/40 17:48	05:54 18:20	06:05 19:53	05:33 20:23	05:29 20:38	05:50 20:24	06:21 19:44	06:52 18:51	07:25 17:04	15:39-15:56/17	07:02 16:34
28	07:17 17:11	06:39 15:57-16:37/40 17:49	05:53 18:21	06:04 19:54	05:33 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:50	07:26 17:03	15:43-15:51/8	07:03 16:34
29	07:16 17:12	06:39 15:57-16:37/40 17:49	05:53 18:21	06:04 19:54	05:33 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:50	07:26 17:03	15:43-15:51/8	07:03 16:34
30	07:15 17:14	06:39 15:57-16:37/40 17:49	05:53 18:21	06:04 19:54	05:33 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:50	07:26 17:03	15:43-15:51/8	07:03 16:34
31	07:14 17:15	06:39 15:57-16:37/40 17:49	05:53 18:21	06:04 19:54	05:33 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:50	07:26 17:03	15:43-15:51/8	07:03 16:34
Potential sun hours	296	297	369	399	449	453	460	429	375	345	297	287
Sum of minutes with flicker	0	484	343	0	0	0	0	0	0	839	0	0

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

## SHADOW - Calendar per WTG

WTG: 2 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (2)

### Assumptions for shadow calculations

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

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

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

- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:42	07:13 17:16	06:37 17:51	16:37-17:08/31 19:25	06:46 19:57	06:00 20:27	05:30 20:38	05:31 20:19	05:55 19:35	06:26 18:44	06:57 16:57	17:14-17:46/32 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	16:35-17:09/34 19:26	06:44 19:58	05:58 20:28	05:30 20:38	05:31 20:18	05:56 19:34	06:27 18:43	06:58 16:56	17:12-17:46/34 16:32
3	07:27 16:43	07:11 17:19	06:34 17:53	16:35-17:10/35 19:27	06:42 20:00	05:57 20:29	05:32 20:38	05:57 20:17	06:28 19:32	06:28 18:41	06:59 16:55	17:12-17:47/35 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	16:34-17:10/36 19:28	06:41 20:01	05:56 20:29	05:32 20:38	05:58 20:16	06:29 19:31	06:29 18:39	07:00 16:54	17:11-17:47/36 16:32
5	07:27 16:45	07:09 17:21	06:31 17:55	16:34-17:10/36 19:29	06:39 20:02	05:54 20:30	05:33 20:38	05:59 20:14	06:30 19:29	06:30 18:38	07:01 16:52	17:10-17:46/36 16:32
6	07:27 16:46	07:08 17:22	06:29 17:56	16:33-17:10/37 19:30	06:37 20:03	05:53 20:31	05:33 20:37	06:00 20:13	06:31 19:27	06:31 18:36	07:02 16:51	17:09-17:46/37 16:32
7	07:27 16:47	07:07 17:24	06:28 17:58	16:33-17:09/36 19:32	06:36 20:04	05:52 20:31	05:34 20:37	06:01 20:12	06:32 19:26	06:32 18:34	07:03 16:50	17:09-17:46/37 16:31
8	07:27 16:48	07:06 17:25	06:26 17:59	16:33-17:10/37 19:33	06:34 20:05	05:51 20:32	05:35 20:37	06:02 20:11	06:33 19:24	06:33 18:33	07:04 16:49	17:09-17:45/36 16:31
9	07:27 16:49	07:05 17:26	06:24 18:00	16:33-17:09/36 19:34	06:33 20:06	05:50 20:33	05:35 20:36	06:03 20:10	06:34 19:22	06:34 18:31	07:05 16:48	17:09-17:44/35 16:31
10	07:27 16:50	07:04 17:27	06:23 18:01	16:33-17:08/35 19:35	06:31 20:07	05:48 20:33	05:36 20:36	06:04 20:08	06:35 19:20	06:35 18:30	07:06 16:47	17:09-17:44/35 16:31
11	07:26 16:51	07:02 17:29	06:21 18:02	16:34-17:08/34 19:36	06:29 20:08	05:47 20:34	05:37 20:35	06:05 20:07	06:36 19:19	06:36 18:28	07:07 16:46	17:10-17:44/34 16:31
12	07:26 16:52	07:01 17:30	06:19 18:03	16:34-17:07/33 19:37	06:28 20:09	05:46 20:34	05:37 20:35	06:06 20:06	06:37 19:17	06:37 18:26	07:08 16:45	17:10-17:43/33 16:32
13	07:26 16:53	07:00 17:31	06:18 18:04	16:34-17:06/32 19:38	06:26 20:10	05:45 20:35	05:38 20:35	06:07 20:04	06:38 19:15	06:38 18:25	07:09 16:44	17:11-17:41/30 16:32
14	07:26 16:54	06:59 17:32	06:16 18:05	16:35-17:05/30 19:39	06:25 20:11	05:44 20:35	05:39 20:34	06:08 20:03	06:39 19:14	06:39 18:23	07:11 16:43	17:11-17:40/29 16:32
15	07:25 16:55	06:57 17:34	06:14 18:07	16:36-17:03/27 19:40	06:23 20:12	05:43 20:36	05:40 20:33	06:09 20:01	06:40 19:12	06:40 18:22	07:12 16:42	17:12-17:38/26 16:32
16	07:25 16:57	06:56 17:35	06:13 18:08	16:37-17:01/24 19:41	06:21 20:13	05:42 20:36	05:41 20:33	06:10 20:00	06:41 19:10	06:41 18:20	07:13 16:41	17:14-17:36/22 16:32
17	07:24 16:58	06:55 17:36	06:11 18:09	16:40-16:59/19 19:42	06:20 20:14	05:41 20:36	05:41 20:32	06:11 19:59	06:42 19:08	06:42 18:18	07:14 16:41	17:16-17:33/17 16:33
18	07:24 16:59	06:53 17:37	06:09 18:10	16:42-16:56/14 19:43	06:18 20:15	05:40 20:37	05:42 20:31	06:12 19:57	06:43 19:07	06:43 18:17	07:15 16:40	17:20-17:30/10 16:33
19	07:23 17:00	06:52 17:39	06:08 18:11	19:44	06:17 19:44	05:39 20:16	05:43 20:31	06:13 19:56	06:44 19:05	06:44 18:15	07:16 16:39	17:20-17:30/10 16:33
20	07:23 17:01	06:50 17:40	06:06 18:12	19:46	06:15 19:46	05:38 20:17	05:44 20:30	06:14 19:54	06:45 19:03	06:45 18:14	07:17 16:38	17:17-17:43/32 16:34
21	07:22 17:02	06:49 17:41	06:04 18:13	19:47	06:14 19:47	05:38 20:18	05:45 20:29	06:15 19:53	06:46 19:02	06:46 18:12	07:18 16:38	17:18-17:44/32 16:34
22	07:21 17:04	06:48 17:42	06:03 18:14	19:48	06:12 19:48	05:37 20:19	05:46 20:29	06:16 19:51	06:47 19:00	06:47 18:11	07:19 16:37	17:19-17:43/31 16:35
23	07:21 17:05	06:46 17:43	06:01 18:15	19:49	06:11 19:49	05:36 20:20	05:46 20:28	06:17 19:50	06:48 18:58	06:48 18:09	07:20 16:36	17:20-17:43/31 16:35
24	07:20 17:06	06:45 17:45	05:59 18:16	16:47-17:00/13 19:50	06:09 20:21	05:35 20:38	05:47 20:27	06:18 19:48	06:49 18:56	06:49 18:08	07:22 16:36	17:21-17:43/31 16:36
25	07:19 17:07	06:43 17:46	05:58 18:18	16:43-17:03/20 19:51	06:08 20:21	05:35 20:38	05:48 20:26	06:19 19:47	06:50 18:55	06:50 18:09	07:24 16:35	17:22-17:45/29 16:36
26	07:19 17:09	06:42 17:47	05:56 18:19	16:42-17:05/23 19:52	06:06 20:22	05:34 20:38	05:49 20:25	06:20 19:45	06:51 18:53	06:51 18:09	07:25 16:35	17:23-17:41/18 16:37
27	07:18 17:10	06:40 17:48	05:54 18:20	16:39-17:06/27 19:53	06:05 20:23	05:33 20:38	05:50 20:24	06:21 19:44	06:52 18:51	06:52 18:09	07:26 16:34	17:24-17:43/22 16:38
28	07:17 17:11	06:39 17:49	05:53 18:21	16:38-17:08/30 19:54	06:04 20:24	05:33 20:38	05:51 20:23	06:22 19:42	06:53 18:50	06:53 18:17	07:27 16:34	17:24-17:44/26 16:38
29	07:16 17:12		06:51 19:22	19:55	06:02 19:55	05:32 20:25	05:52 20:38	06:23 19:40	06:54 18:48	06:54 18:00	07:28 16:33	17:16-17:45/29 16:39
30	07:15 17:14		06:49 19:23	19:56	06:01 19:56	05:31 20:26	05:53 20:38	06:24 19:39	06:56 18:46	06:56 18:00	07:29 16:33	17:15-17:46/31 16:40
31	07:14 17:15		06:47 19:24		06:47 19:24	05:31 20:26	05:54 20:20	06:25 19:37	06:30 18:40	06:30 16:59	07:30 16:40	17:15-17:46/31 16:40
	Potential sun hours	296	297	369	399	449	453	460	429	375	345	297
	Sum of minutes with flicker	0	113	566	0	0	0	0	0	137	554	0

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

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

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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### SHADOW - Calendar per WTG

WTG: 3 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (3)  
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:  
The sun is shining all the day, from sunrise to sunset  
The rotor plane is always perpendicular to the line from the WTG to the sun  
The WTG is always operating

Table with columns for months (January to December) and rows for days (1 to 31). Each cell contains sun rise and set times (hh:mm) and flicker/minutes with flicker data.

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

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





Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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## SHADOW - Calendar per WTG

WTG: 4 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (4)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	
1	07:27 16:42	07:13 17:16	06:37 17:51	17:13-17:19/6 19:25	06:46 19:25	18:30-18:43/13 19:57	06:00 20:27
2	07:27 16:42	07:12 17:17	06:35 17:52	17:10-17:21/11 19:26	06:44 19:26	18:30-18:42/12 19:58	05:58 20:28
3	07:27 16:43	07:11 17:19	06:34 17:53	17:08-17:23/15 19:27	06:42 19:27	18:30-18:39/9 19:59	05:57 20:29
4	07:27 16:44	07:10 17:20	06:32 17:54	17:07-17:24/17 19:28	06:41 19:28	18:30-18:37/7 19:56	05:56 20:29
5	07:27 16:45	07:09 17:21	06:31 17:55	17:07-17:25/18 19:29	06:39 19:29	18:31-18:36/5 20:02	05:54 20:30
6	07:27 16:46	07:08 17:22	06:29 17:56	17:06-17:25/19 19:30	06:37 19:30	18:32-18:33/1 20:03	05:53 20:31
7	07:27 16:47	07:07 17:24	06:28 17:57	17:05-17:27/22 19:32	06:36 19:32	05:52 20:04	08:17-08:19/2 20:31
8	07:27 16:48	07:06 17:25	06:26 17:59	17:06-17:30/24 19:33	06:34 19:33	05:51 20:05	08:18-08:19/1 20:32
9	07:27 16:49	07:05 17:26	06:24 18:00	17:05-17:30/25 19:34	06:33 19:34	05:50 20:06	05:28 20:33
10	07:27 16:50	07:04 17:27	06:23 18:01	17:06-17:31/25 19:35	06:31 19:35	05:48 20:07	05:27 20:33
11	07:26 16:51	07:02 17:29	06:21 18:02	17:07-17:32/25 19:36	06:29 19:36	07:46-07:58/12 20:08	05:47 20:34
12	07:26 16:52	07:01 17:30	06:19 18:03	17:08-17:32/24 19:37	06:28 19:37	07:41-08:03/22 20:09	05:46 20:34
13	07:26 16:53	07:00 17:31	06:18 18:04	17:08-17:31/23 19:38	06:26 19:38	07:43-08:07/24 20:10	05:45 20:35
14	07:26 16:54	06:58 17:32	06:16 18:05	17:09-17:36/27 19:39	06:25 19:39	07:44-08:09/25 20:11	05:44 20:35
15	07:25 16:55	06:57 17:34	06:14 18:07	17:09-17:37/28 19:40	06:23 19:40	07:46-08:11/25 20:12	05:43 20:36
16	07:25 16:57	06:56 17:35	06:13 18:08	17:09-17:38/29 19:41	06:21 19:41	07:47-08:13/26 20:13	05:42 20:36
17	07:24 16:58	06:55 17:36	06:11 18:09	17:10-17:39/29 19:42	06:20 19:42	07:48-08:14/26 20:14	05:41 20:36
18	07:24 16:59	06:53 17:37	06:09 18:10	17:11-17:39/28 19:43	06:18 19:43	07:49-08:15/26 20:15	05:40 20:37
19	07:23 17:00	06:52 17:39	06:08 18:11	17:12-17:38/26 19:44	06:17 19:44	07:51-08:17/26 20:16	05:39 20:37
20	07:23 17:01	06:50 17:40	06:06 18:12	17:16-17:39/23 19:46	06:15 19:46	07:52-08:17/25 20:17	05:38 20:37
21	07:22 17:02	06:49 17:41	06:04 18:13	17:20-17:38/18 19:47	06:14 19:47	07:54-08:18/24 20:18	05:38 20:38
22	07:21 17:04	06:47 17:42	06:03 18:14	17:20-17:36/16 19:48	06:12 19:48	07:55-08:18/23 20:19	05:37 20:38
23	07:21 17:05	06:46 17:43	06:01 18:15	17:21-17:34/13 19:49	06:11 19:49	07:57-08:19/22 20:20	05:36 20:38
24	07:20 17:06	06:45 17:45	05:59 18:16	17:23-17:33/10 19:50	06:09 19:50	07:58-08:19/21 20:20	05:35 20:38
25	07:19 17:07	06:43 17:46	05:58 18:17	17:40-17:49/9 19:51	06:08 19:51	08:00-08:20/20 20:21	05:35 20:38
26	07:19 17:09	06:42 17:47	05:56 18:19	17:36-17:51/15 19:52	06:06 19:52	08:01-08:20/19 20:22	05:34 20:38
27	07:18 17:10	06:40 17:48	05:54 18:20	17:35-17:53/18 19:53	06:05 19:53	08:02-08:20/18 20:23	05:33 20:38
28	07:17 17:11	06:39 17:49	05:52 18:21	17:33-17:52/19 19:54	06:04 19:54	08:04-08:20/16 20:24	05:33 20:38
29	07:16 17:12		06:51 19:22	18:32-18:50/18 19:55	06:02 19:55	08:06-08:21/15 20:25	05:32 20:38
30	07:15 17:14		06:49 19:23	18:32-18:48/16 19:56	06:01 19:56	08:06-08:20/14 20:26	05:31 20:38
31	07:14 17:15		06:47 19:24	18:31-18:46/15 19:56		05:31 20:26	
Potential sun hours	297	297	369	399	449	453	0
Sum of minutes with flicker	0	0	611	476	54	0	0

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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## SHADOW - Calendar per WTG

WTG: 4 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (4)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:31 20:38	05:55 20:19	06:26 07:45-07:57/12 19:35	06:57 17:49-18:11/22 18:44	06:31 16:57	07:06 16:33
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 17:46-18:11/25 18:43	06:32 16:56	07:07 16:32
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 17:45-18:10/25 18:41	06:34 16:55	07:09 16:32
4	05:32 20:38	05:58 20:16	06:29 19:30	07:00 17:43-18:09/26 18:39	06:35 16:54	07:10 16:32
5	05:33 20:38	05:59 08:27-08:29/2 20:14	06:30 19:29	07:01 17:42-18:07/25 18:38	06:36 16:52	07:11 16:32
6	05:33 20:37	06:00 08:26-08:29/3 20:13	06:31 18:28-18:29/1 19:27	07:02 17:42-18:05/23 18:36	06:37 16:51	07:11 16:32
7	05:34 20:37	06:01 08:24-08:29/5 20:12	06:32 18:26-18:31/5 19:25	07:03 17:41-18:02/21 18:34	06:38 16:50	07:12 16:31
8	05:35 20:37	06:02 08:23-08:29/6 20:11	06:33 18:25-18:32/7 19:24	07:04 17:41-18:00/19 18:33	06:40 16:49	07:13 16:31
9	05:35 20:36	06:03 08:21-08:29/8 20:09	06:34 18:24-18:33/9 19:22	07:05 17:41-17:59/18 18:31	06:41 16:48	07:14 16:31
10	05:36 20:36	06:04 08:20-08:29/9 20:08	06:35 18:24-18:35/11 19:20	07:06 17:42-17:58/16 18:29	06:42 16:47	07:15 16:31
11	05:37 20:35	06:05 08:18-08:29/11 20:07	06:36 18:23-18:36/13 19:19	07:07 17:42-17:56/14 18:28	06:43 16:46	07:16 16:31
12	05:37 20:35	06:06 08:16-08:29/13 20:06	06:37 18:23-18:38/15 19:17	07:08 17:45-17:55/10 18:26	06:44 16:45	07:17 16:32
13	05:38 20:34	06:07 08:15-08:29/14 20:04	06:38 18:23-18:39/16 19:15	07:09 18:25	06:46 16:44	07:18 16:32
14	05:39 20:34	06:08 08:13-08:28/15 20:03	06:39 18:23-18:40/17 19:14	07:10 18:23	06:47 16:43	07:18 16:32
15	05:40 20:33	06:09 08:11-08:28/17 20:01	06:40 18:22-18:41/19 19:12	07:12 18:22	06:48 16:42	07:19 16:32
16	05:41 20:33	06:10 08:10-08:27/17 20:00	06:41 18:23-18:42/19 19:10	07:13 18:20	06:49 16:41	07:20 16:32
17	05:41 20:32	06:11 08:08-08:27/19 19:59	06:42 18:24-18:40/16 19:08	07:14 18:18	06:50 16:41	07:21 16:33
18	05:42 20:31	06:12 08:06-08:26/20 19:57	06:43 18:26-18:38/12 19:07	07:15 18:17	06:52 16:40	07:21 16:33
19	05:43 20:31	06:13 08:03-08:24/21 19:56	06:44 18:10-18:18/8 19:05	07:16 18:15	06:53 16:39	07:22 16:33
20	05:44 20:30	06:14 08:01-08:24/23 19:54	06:45 18:08-18:20/12 19:03	07:17 18:14	06:54 16:38	07:22 16:34
21	05:45 20:29	06:15 08:00-08:23/23 19:53	06:46 18:06-18:21/15 19:02	07:18 18:12	06:55 16:38	07:23 16:34
22	05:46 20:28	06:16 07:58-08:22/24 19:51	06:47 18:05-18:22/17 19:00	07:19 18:11	06:56 16:37	07:24 16:35
23	05:46 20:28	06:17 07:56-08:21/25 19:50	06:48 18:04-18:22/18 18:58	07:21 18:09	06:58 16:36	07:24 16:35
24	05:47 20:27	06:18 07:54-08:19/25 19:48	06:49 17:56-18:22/26 18:56	07:22 18:08	06:59 16:36	07:24 16:36
25	05:48 20:26	06:19 07:52-08:18/26 19:47	06:50 17:54-18:21/27 18:55	06:23 17:07	07:00 16:35	07:25 16:36
26	05:49 20:25	06:20 07:50-08:16/26 19:45	06:51 17:52-18:21/29 18:53	06:24 17:05	07:01 16:35	07:25 16:37
27	05:50 20:24	06:21 07:48-08:14/26 19:43	06:52 17:50-18:20/30 18:51	06:25 17:04	07:02 16:34	07:26 16:38
28	05:51 20:23	06:22 07:46-08:12/26 19:42	06:53 17:50-18:18/28 18:50	06:26 17:03	07:03 16:34	07:26 16:38
29	05:52 20:22	06:23 07:44-08:10/26 19:40	06:54 17:50-18:18/28 18:48	06:28 17:01	07:04 16:33	07:26 16:39
30	05:53 20:21	06:24 07:42-08:07/25 19:39	06:56 17:49-18:15/26 18:46	06:29 17:00	07:05 16:33	07:27 16:40
31	05:54 20:20	06:25 07:40-08:03/23 19:37		06:30 16:59		07:27 16:40
Potential sun hours	460	429	375	345	297	287
Sum of minutes with flicker	0	478	436	244	0	0

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

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



Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 6 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (6)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:27 16:42	07:13 16:22-16:43/21 17:16 08:01-08:43/42	06:37 16:49-17:17/28 17:51	06:46 17:55-18:37/42 19:25	06:00 19:57	05:30 20:27
2	07:27 16:42	07:12 16:22-16:44/22 17:17 08:00-08:42/42	06:35 16:50-17:16/26 17:52	06:44 17:56-18:36/40 19:26	05:58 19:58	05:30 20:28
3	07:27 16:43	07:11 16:22-16:45/23 17:19 08:00-08:43/43	06:34 16:52-17:24/32 17:53	06:42 17:56-18:35/39 19:27	05:57 19:59	05:29 20:29
4	07:27 16:44	07:10 16:22-16:45/23 17:20 08:00-08:44/44	06:32 16:54-17:26/32 17:54	06:41 17:56-18:34/38 19:28	05:56 20:01	05:29 20:29
5	07:27 16:45	07:09 16:22-16:45/23 17:21 08:00-08:44/44	06:31 16:58-17:28/30 17:55	06:39 17:57-18:33/36 19:29	05:54 20:02	05:29 20:30
6	07:27 16:46	07:08 16:22-16:46/24 17:22 08:00-08:45/45	06:29 17:00-17:28/28 17:56	06:37 17:58-18:32/34 19:30	05:53 20:03	05:28 20:31
7	07:27 16:47	07:07 16:23-16:46/23 17:24 08:00-08:45/45	06:28 17:08-17:28/20 17:57	06:36 17:58-18:30/32 19:32	05:52 20:04	05:28 20:31
8	07:27 16:48	07:06 16:23-16:46/23 17:25 08:00-08:46/46	06:26 17:08-17:29/21 17:59	06:34 18:00-18:29/29 19:33	05:51 20:05	05:28 20:32
9	07:27 16:49	07:05 16:23-16:44/21 17:26 07:59-08:45/46	06:24 17:07-17:29/22 18:00	06:33 18:02-18:26/24 19:34	05:50 20:06	05:28 20:33
10	07:27 16:50	07:03 16:24-16:44/20 17:27 07:59-08:45/46	06:23 17:07-17:28/21 18:01	06:31 18:03-18:23/20 19:35	05:48 20:07	05:27 20:33
11	07:26 16:51	07:02 16:26-16:43/17 17:29 08:00-08:45/45	06:21 17:08-17:28/20 18:02	06:29 18:07-18:20/13 19:36	05:47 20:08	05:27 20:34
12	07:26 16:52	07:01 16:50-16:59/9 16:27-16:42/15 17:30 08:00-08:45/45	06:19 17:08-17:27/19 18:03	06:28 19:37	05:46 20:09	05:27 20:34
13	07:26 16:53	07:00 16:48-17:00/12 16:29-16:39/10 17:31 08:00-08:44/44	06:18 17:08-17:25/17 18:04	06:26 19:38	05:45 20:10	05:27 20:35
14	07:25 16:54	06:58 16:47-17:02/15 17:32 08:01-08:44/43	06:16 17:10-17:24/14 18:05	06:25 19:39	05:44 20:11	05:27 20:35
15	07:25 16:55	06:57 16:46-17:03/17 17:34 08:01-08:44/43	06:14 17:12-17:24/12 18:07	06:23 19:40	05:43 20:12	05:27 20:36
16	07:25 16:57	06:56 16:45-17:03/18 17:35 08:01-08:42/41	06:13 17:12-17:29/17 18:08	06:21 19:41	05:42 20:13	05:27 20:36
17	07:24 16:58	06:55 16:45-17:07/22 17:36 08:02-08:42/40	06:11 17:09-17:32/23 18:09	06:20 19:42	05:41 20:14	05:27 20:36
18	07:24 16:59	06:53 16:44-17:08/24 17:37 08:03-08:41/38	06:09 17:06-17:34/28 18:10	06:18 19:43	05:40 20:15	05:27 20:37
19	07:23 17:00	06:52 16:44-17:10/26 17:39 08:04-08:40/36	06:08 17:04-17:35/31 18:11	06:17 19:44	05:39 20:16	05:27 20:37
20	07:23 17:01	06:50 16:45-17:11/26 17:40 08:05-08:39/34	06:06 17:03-17:37/34 18:12	06:15 19:46	05:38 20:17	05:27 20:37
21	07:22 08:13-08:25/12 17:02	06:49 16:45-17:12/27 17:41 08:06-08:37/31	06:04 17:01-17:37/36 18:13	06:14 19:47	05:38 20:18	05:27 20:38
22	07:21 08:10-08:28/18 17:04	06:47 16:46-17:15/29 17:42 08:08-08:35/27	06:03 17:00-17:38/38 18:14	06:12 19:48	05:37 20:19	05:28 20:38
23	07:21 08:09-08:31/22 17:05	06:46 16:47-17:16/29 17:43 08:10-08:32/22	06:01 16:59-17:39/40 18:15	06:11 19:49	05:36 20:20	05:28 20:38
24	07:20 08:07-08:33/26 17:06	06:45 16:48-17:17/29 17:45 08:13-08:29/16	05:59 16:58-17:39/41 18:16	06:09 19:50	05:35 20:20	05:28 20:38
25	07:19 08:06-08:34/28 17:07	06:43 16:47-17:17/30 17:46	05:58 16:57-17:39/42 18:17	06:08 19:51	05:35 20:21	05:28 20:38
26	07:19 08:05-08:36/31 17:09	06:42 16:48-17:18/30 17:47	05:56 16:56-17:39/43 18:19	06:06 19:52	05:34 20:22	05:29 20:38
27	07:18 16:27-16:37/10 17:10 08:04-08:37/33	06:40 16:47-17:17/30 17:48	05:54 16:56-17:39/43 18:20	06:05 19:53	05:33 20:23	05:29 20:38
28	07:17 16:25-16:39/14 17:11 08:03-08:38/35	06:39 16:49-17:18/29 17:49	05:52 16:56-17:39/43 18:21	06:04 19:54	05:33 20:24	05:29 20:38
29	07:16 16:24-16:40/16 17:12 08:02-08:39/37		06:51 17:55-18:38/43 19:22	06:02 19:55	05:32 20:25	05:30 20:38
30	07:15 16:23-16:42/19 17:14 08:02-08:41/39		06:49 17:56-18:38/42 19:23	06:01 19:56	05:31 20:26	05:30 20:38
31	07:14 16:23-16:43/20 17:15 08:02-08:42/40		06:47 17:55-18:38/43 19:24		05:31 20:26	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	400	1615	929	347	0	0

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

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

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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07/08/2023 20:12/3.5.584

### SHADOW - Calendar per WTG

WTG: 6 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (6)

#### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:31 20:38	05:55 20:19	06:26 18:06-18:19/13 19:35	06:57 17:48-18:06/18 18:44	06:31 15:54-16:14/20 16:57 07:29-08:15/46	07:06 16:33
2	05:31 20:38	05:56 20:18	06:27 18:02-18:22/20 19:34	06:58 17:47-18:06/19 18:43	06:32 15:53-16:14/21 16:56 07:29-08:15/46	07:07 16:32
3	05:32 20:38	05:57 20:17	06:28 18:00-18:24/24 19:32	06:59 17:46-18:06/20 18:41	06:34 15:52-16:14/22 16:55 07:29-08:14/45	07:08 16:32
4	05:32 20:38	05:58 20:16	06:29 17:57-18:26/29 19:30	07:00 17:45-18:06/21 18:39	06:35 15:52-16:16/24 16:54 07:29-08:15/46	07:09 16:32
5	05:33 20:37	05:59 20:14	06:30 17:56-18:27/31 19:29	07:01 17:45-18:06/21 18:38	06:36 15:52-16:15/23 16:52 07:29-08:15/46	07:10 16:32
6	05:33 20:37	06:00 20:13	06:31 17:54-18:28/34 19:27	07:02 17:45-18:05/20 18:36	06:37 15:52-16:15/23 16:51 07:29-08:14/45	07:11 16:32
7	05:34 20:37	06:01 20:12	06:32 17:53-18:28/35 19:25	07:03 17:45-18:04/19 18:34 17:38-17:44/6	06:38 15:53-16:16/23 16:50 07:31-08:15/44	07:12 16:31
8	05:35 20:37	06:02 20:11	06:33 17:51-18:29/38 19:24	07:04 17:34-18:03/29 18:33	06:40 15:53-16:15/22 16:49 07:31-08:14/43	07:13 16:31
9	05:35 20:36	06:03 20:09	06:34 17:50-18:29/39 19:22	07:05 17:32-18:02/30 18:31	06:41 15:53-16:15/22 16:48 07:31-08:13/42	07:14 16:31
10	05:36 20:36	06:04 20:08	06:35 17:49-18:30/41 19:20	07:06 17:27-18:00/33 18:29	06:42 15:53-16:14/21 16:47 07:32-08:14/42	07:15 16:31
11	05:37 20:35	06:05 20:07	06:36 17:48-18:30/42 19:19	07:07 17:50-17:56/6 18:28 17:24-17:49/25	06:43 15:55-16:14/19 16:46 07:33-08:13/40	07:16 16:31
12	05:37 20:35	06:06 20:06	06:37 17:48-18:30/42 19:17	07:08 17:23-17:51/28 18:26	06:44 15:55-16:13/18 16:45 07:33-08:12/39	07:17 16:32
13	05:38 20:34	06:07 20:04	06:38 17:47-18:30/43 19:15	07:09 17:22-17:51/29 18:25	06:46 15:56-16:12/16 16:44 07:34-08:11/37	07:18 16:32
14	05:39 20:34	06:08 20:03	06:39 17:46-18:29/43 19:14	07:10 17:21-17:50/29 18:23	06:47 15:58-16:12/14 16:43 07:36-08:11/35	07:18 16:32
15	05:40 20:33	06:09 20:01	06:40 17:46-18:29/43 19:12	07:12 17:20-17:50/30 18:22	06:48 16:00-16:10/10 16:42 07:37-08:10/33	07:19 16:32
16	05:41 20:33	06:10 20:00	06:41 17:45-18:28/43 19:10	07:13 17:19-17:49/30 18:20	06:49 07:38-08:09/31 16:41	07:20 16:32
17	05:41 20:32	06:11 19:59	06:42 17:44-18:27/43 19:08	07:14 17:18-17:48/30 18:18 08:47-08:57/10	06:50 07:40-08:08/28 16:41	07:21 16:33
18	05:42 20:31	06:12 19:57	06:43 17:44-18:26/42 19:07	07:15 17:19-17:48/29 18:17 08:43-09:02/19	06:52 07:41-08:07/26 16:40	07:21 16:33
19	05:43 20:31	06:13 19:56	06:44 17:44-18:25/41 19:05	07:16 17:18-17:47/29 18:15 08:41-09:04/23	06:53 07:43-08:05/22 16:39	07:22 16:33
20	05:44 20:30	06:14 19:54	06:45 17:45-18:25/40 19:03	07:17 17:16-17:45/29 18:14 08:38-09:06/28	06:54 07:45-08:03/18 16:38	07:22 16:34
21	05:45 20:29	06:15 19:53	06:46 17:45-18:23/38 19:02	07:18 17:15-17:42/27 18:12 08:36-09:08/32	06:55 07:49-08:02/13 16:38	07:23 16:34
22	05:46 20:28	06:16 19:51	06:47 17:45-18:22/37 19:00	07:19 17:14-17:41/27 18:11 08:35-09:09/34	06:56 16:00-16:10/10 16:37	07:24 16:35
23	05:46 20:28	06:17 19:50	06:48 17:46-18:21/35 18:58	07:21 17:15-17:40/25 18:09 08:34-09:11/37	06:58 16:00-16:10/10 16:36	07:24 16:35
24	05:47 20:27	06:18 19:48	06:49 17:47-18:19/32 18:56	07:22 17:15-17:39/24 18:08 08:33-09:11/38	06:59 16:00-16:10/10 16:36	07:24 16:36
25	05:48 20:26	06:19 19:47	06:50 17:48-18:17/29 18:55	06:23 16:14-16:36/22 17:07 07:32-08:12/40	07:00 16:00-16:10/10 16:35	07:25 16:36
26	05:49 20:25	06:20 19:45	06:51 17:50-18:15/25 18:53	06:24 16:14-16:33/19 17:05 07:31-08:12/41	07:01 16:00-16:10/10 16:35	07:25 16:37
27	05:50 20:24	06:21 19:43	06:52 17:53-18:13/20 18:51	06:25 16:15-16:32/17 17:04 07:31-08:14/43	07:02 16:00-16:10/10 16:34	07:26 16:38
28	05:51 20:23	06:22 19:42	06:53 17:54-18:08/14 18:50	06:26 16:17-16:31/14 16:02-16:06/4 17:03 07:30-08:14/44	07:03 16:00-16:10/10 16:34	07:26 16:38
29	05:52 20:22	06:23 19:40	06:54 17:51-18:04/13 18:48	06:28 16:18-16:30/12 15:58-16:10/12 17:01 07:29-08:14/45	07:04 16:00-16:10/10 16:33	07:26 16:39
30	05:53 20:21	06:24 19:39	06:55 17:49-18:05/16 18:46	06:29 16:20-16:27/7 15:56-16:11/15 17:00 07:29-08:14/45	07:05 16:00-16:10/10 16:33	07:26 16:40
31	05:54 20:20	06:25 19:37		06:30 15:55-16:13/18 16:59 07:29-08:15/46		07:27 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	0	0	985	1298	1065	0

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

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

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 7 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (7)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:27 16:01-16:16/15 16:42 15:46-15:58/12	07:13 17:16	06:37 17:51	06:46 19:25	06:00 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:57 18:44	06:31 16:57	07:06 15:45-16:07/22 16:33	
2	07:27 16:01-16:17/16 16:42 15:47-15:58/11	07:12 17:17	06:35 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	07:07 15:45-16:07/22 16:32	
3	07:27 16:01-16:18/17 16:43 15:48-15:57/9	07:11 17:19	06:34 17:53	06:42 19:27	05:57 19:59	05:29 20:29	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:34 16:55	07:08 15:46-16:06/20 16:32	
4	07:27 16:02-16:19/17 16:44 15:50-15:56/6	07:10 17:20	06:32 17:54	06:41 19:28	05:56 20:00	05:29 20:29	05:32 20:38	05:58 20:16	06:29 19:30	07:00 18:39	06:35 16:54	07:09 15:46-16:06/20 16:32	
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11	07:26 16:03-16:25/22 16:51	07:02 17:29	06:21 18:02	06:29 19:36	05:47 20:08	05:27 20:34	05:37 20:35	06:05 20:07	06:36 19:19	07:07 18:28	06:43 16:46	07:16 15:51-16:06/15 16:31	
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15	07:25 16:04-16:28/24 16:55	06:57 17:34	06:14 18:07	06:23 19:40	05:43 20:12	05:27 20:36	05:40 20:33	06:09 20:01	06:40 19:12	07:12 18:22	06:48 16:42	07:19 15:54-16:06/12 16:32	
16	07:25 16:05-16:28/23 16:57	06:56 17:35	06:13 18:08	06:21 19:41	05:42 20:13	05:27 20:36	05:41 20:33	06:10 20:00	06:41 19:10	07:13 18:20	06:49 16:41	07:20 15:55-16:07/12 16:32	
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18	07:24 16:06-16:29/23 16:59	06:53 17:37	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:37	05:42 20:31	06:12 19:57	06:43 19:07	07:15 18:17	06:52 15:44-16:01/16 16:40	07:22 15:56-16:07/11 16:33	
19	07:23 16:06-16:28/22 17:00	06:52 17:39	06:08 18:11	06:17 19:44	05:39 20:16	05:27 20:37	05:43 20:31	06:13 19:56	06:44 19:05	07:16 18:15	06:53 15:44-16:02/18 16:39	07:22 15:56-16:07/11 16:33	
20	07:23 16:07-16:29/22 17:01	06:50 17:40	06:06 18:12	06:15 19:45	05:38 20:17	05:27 20:37	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	06:54 15:44-16:03/19 16:38	07:22 15:57-16:08/11 16:34	
21	07:22 16:08-16:29/21 17:02	06:49 17:41	06:04 18:13	06:14 19:47	05:38 20:18	05:27 20:37	05:45 20:29	06:15 19:53	06:46 19:02	07:18 18:12	06:55 15:43-16:04/21 16:38	07:23 15:57-16:08/11 16:34	
22	07:21 16:09-16:28/19 17:04	06:47 17:42	06:03 18:14	06:12 19:48	05:37 20:19	05:28 20:38	05:46 20:28	06:16 19:51	06:47 19:00	07:19 18:11	06:56 15:43-16:05/22 16:37	07:23 15:58-16:09/11 16:35	
23	07:21 16:09-16:27/18 17:05	06:46 17:43	06:01 18:15	06:11 19:49	05:36 20:20	05:28 20:38	05:46 20:28	06:17 19:50	06:48 18:58	07:21 18:09	06:57 15:43-16:06/23 16:36	07:24 15:58-16:09/11 16:35	
24	07:20 16:11-16:27/16 17:06	06:45 17:45	05:59 18:16	06:09 19:50	05:35 20:20	05:28 20:38	05:47 20:27	06:18 19:48	06:49 18:56	07:22 18:08	06:59 15:43-16:06/23 16:36	07:24 15:59-16:10/11 16:36	
25	07:19 16:13-16:26/13 17:07	06:43 17:46	05:58 18:17	06:08 19:51	05:35 20:21	05:28 20:38	05:48 20:26	06:19 19:47	06:50 18:55	07:23 17:07	07:00 15:43-16:06/23 16:35	07:25 15:59-16:10/11 16:36	
26	07:19 16:15-16:24/9 17:09	06:42 17:47	05:56 18:19	06:06 19:52	05:34 20:22	05:29 20:38	05:49 20:25	06:20 19:45	06:51 18:53	07:24 17:05	07:01 15:43-16:06/23 16:35	07:25 15:59-16:10/11 16:37	
27	07:18 17:10	06:40 17:48	05:54 18:20	06:05 19:53	05:33 20:23	05:29 20:38	05:50 20:24	06:21 19:43	06:52 18:51	07:25 17:04	07:02 15:44-16:08/24 16:34	07:26 16:00-16:12/12 16:38	
28	07:17 17:11	06:39 17:49	05:52 18:21	06:04 19:54	05:33 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:50	07:26 17:03	07:03 15:44-16:08/24 16:34	07:26 16:00-16:12/12 16:38	
29	07:16 17:12		06:51 19:22	06:02 19:55	05:32 20:25	05:30 20:38	05:52 20:22	06:23 19:40	06:54 18:48	07:27 17:01	07:04 15:44-16:08/24 16:33	07:26 16:00-16:13/13 16:39	
30	07:15 17:14		06:49 19:23	06:01 19:56	05:31 20:26	05:30 20:38	05:53 20:21	06:24 19:39	06:55 18:46	07:28 17:00	07:05 15:44-16:08/24 16:33	07:26 16:00-16:13/13 16:40	
31	07:14 17:15		06:47 19:24		05:31 20:26		05:54 20:20	06:25 19:37		07:29 16:59		07:27 16:00-16:14/14 16:40	
	Potential sun hours Sum of minutes with flicker	297 549	297 0	369 0	399 0	449 0	453 0	460 0	428 0	375 0	345 0	297 306	287 807

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

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

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 8 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (8)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:27 16:42	07:13 17:16	06:37 17:51	06:46 19:25	18:23-18:43/20 19:57	06:00 20:27	05:30 20:38	05:55 20:19	06:26 19:35	06:57 18:44	06:31 16:57	07:06 16:33		
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	18:24-18:42/18 19:58	05:58 20:28	05:30 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	07:07 16:32		
3	07:27 16:43	07:11 17:19	06:34 17:53	06:42 19:27	18:23-18:39/16 19:59	05:57 20:29	05:29 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:34 16:55	07:08 16:32		
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	18:23-18:37/14 20:00	05:56 20:29	05:29 20:38	05:58 20:16	06:29 19:30	18:24-18:26/2 18:39	07:00 16:54	06:35 16:32		
5	07:27 16:45	07:09 17:21	06:31 17:55	06:39 19:29	18:24-18:36/12 20:02	05:54 20:30	05:29 20:37	05:59 20:14	06:30 19:29	18:22-18:28/6 18:38	07:01 16:52	06:36 16:32		
6	07:27 16:46	07:08 17:22	06:29 17:56	06:37 19:30	18:24-18:33/9 20:03	05:53 20:31	05:28 20:37	06:00 20:13	06:31 19:27	18:21-18:29/8 18:36	07:02 16:51	06:37 16:32		
7	07:27 16:47	07:07 17:24	06:27 17:57	06:36 19:31	18:25-18:31/6 20:04	05:52 20:31	05:28 20:37	06:01 20:12	06:32 19:25	18:19-18:31/12 18:34	07:03 16:50	06:38 16:31		
8	07:27 16:48	07:06 17:25	06:26 17:59	06:34 19:33	18:27-18:29/2 20:05	05:51 20:32	05:28 20:37	06:02 20:11	06:33 19:24	18:18-18:32/14 18:33	07:04 16:49	07:13 16:31		
9	07:27 16:49	07:05 17:26	06:24 18:00	06:33 19:34	05:50 20:06	05:28 20:33	05:35 20:36	06:03 20:09	06:34 19:22	18:18-18:33/15 18:31	07:05 16:48	07:14 16:31		
10	07:27 16:50	07:03 17:27	06:23 18:01	06:31 19:35	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	18:17-18:35/18 18:29	07:06 16:47	07:15 16:31		
11	07:26 16:51	07:02 17:29	06:21 18:02	06:29 19:36	05:47 20:08	05:27 20:34	05:37 20:35	06:05 20:07	06:36 19:19	18:16-18:36/20 18:28	07:07 16:46	07:16 16:31		
12	07:26 16:52	07:01 17:30	06:19 18:03	06:28 19:37	05:46 20:09	05:27 20:34	05:38 20:35	06:06 20:05	06:37 19:17	18:16-18:38/22 18:26	07:08 16:45	07:17 16:32		
13	07:26 16:53	07:00 17:31	06:18 18:04	06:26 19:38	05:45 20:10	05:27 20:35	05:38 20:34	06:07 20:04	06:38 19:15	18:16-18:39/23 18:25	07:09 16:44	07:18 16:32		
14	07:25 16:54	06:58 17:32	06:16 18:05	06:25 19:39	05:44 20:11	05:27 20:35	05:39 20:34	06:08 20:03	06:39 19:14	18:16-18:40/24 18:23	07:10 16:43	07:18 16:32		
15	07:25 16:55	06:57 17:33	06:14 18:07	06:23 19:40	05:43 20:12	05:27 20:36	05:40 20:33	06:09 20:01	06:40 19:12	18:15-18:41/26 18:22	07:12 16:42	07:19 16:32		
16	07:25 16:57	06:56 17:35	06:13 18:08	06:21 19:41	05:42 20:13	05:27 20:36	05:41 20:33	06:10 20:00	06:41 19:10	18:15-18:42/27 18:20	07:13 16:41	07:20 16:32		
17	07:24 16:58	06:54 17:36	06:11 18:09	06:20 19:42	05:41 20:14	05:27 20:36	05:41 20:32	06:11 19:59	06:42 19:08	18:15-18:42/27 18:18	07:14 16:41	07:20 16:33		
18	07:24 16:59	06:53 17:37	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:37	05:42 20:31	06:12 19:57	06:43 19:07	18:16-18:41/25 18:17	07:15 16:40	07:21 16:33		
19	07:23 17:00	06:52 17:39	06:08 18:11	06:17 19:44	05:39 20:16	05:27 20:37	05:43 20:31	06:13 19:56	06:44 19:05	18:17-18:39/22 18:15	07:16 16:39	07:22 16:33		
20	07:23 17:01	06:50 17:40	06:06 18:12	06:15 19:45	05:39 20:17	05:27 20:37	05:44 20:30	06:14 19:54	06:45 19:03	18:19-18:37/18 18:14	07:17 16:38	07:22 16:34		
21	07:22 17:02	06:49 17:41	06:04 18:13	06:14 19:47	05:38 20:18	05:27 20:37	05:45 20:29	06:15 19:53	06:46 19:02	18:21-18:34/13 18:12	07:18 16:38	07:23 16:34		
22	07:21 17:04	06:47 17:42	06:03 18:14	17:37-17:47/10 19:48	06:12 19:48	05:37 20:19	05:28 20:38	06:16 19:51	06:47 19:00	07:19 18:11	06:56 16:37	07:23 16:35		
23	07:21 17:05	06:46 17:43	06:01 18:15	17:33-17:50/17 19:49	06:11 19:49	05:36 20:20	05:28 20:38	06:17 19:50	06:48 18:58	07:21 18:09	06:57 16:36	07:24 16:35		
24	07:20 17:06	06:45 17:45	05:59 18:16	17:31-17:52/21 19:50	06:09 19:50	05:35 20:20	05:28 20:38	06:18 20:27	06:49 19:48	07:22 18:08	06:59 16:36	07:24 16:36		
25	07:19 17:07	06:43 17:46	05:58 18:17	17:29-17:53/24 19:51	06:08 19:51	05:35 20:21	05:28 20:38	06:19 20:26	06:50 19:47	07:23 18:55	07:00 16:35	07:25 16:36		
26	07:19 17:09	06:42 17:47	05:56 18:19	17:27-17:54/27 19:52	06:06 19:52	05:34 20:22	05:29 20:38	06:20 20:25	06:51 19:45	17:07 18:53	07:01 16:35	07:25 16:37		
27	07:18 17:10	06:40 17:48	05:54 18:20	17:27-17:54/27 19:53	06:05 19:53	05:33 20:23	05:29 20:38	06:21 19:43	06:52 18:51	17:05 18:51	07:02 16:34	07:26 16:38		
28	07:17 17:11	06:39 17:49	05:52 18:21	17:26-17:52/26 19:54	06:04 19:54	05:33 20:24	05:29 20:38	06:22 19:42	06:53 18:50	17:04 18:50	07:03 16:34	07:26 16:38		
29	07:16 17:12	06:37 17:48	05:50 18:24	18:24-18:50/26 19:55	06:02 19:55	05:32 20:25	05:28 20:38	06:23 19:40	06:54 18:48	17:03 18:48	07:04 16:33	07:26 16:39		
30	07:15 17:14	06:49 19:23	18:25-18:48/23 19:56	06:01 19:56	05:31 20:26	05:30 20:38	05:53 20:21	06:24 19:39	06:55 18:46	06:29 17:00	07:05 16:33	07:26 16:40		
31	07:14 17:15	06:47 19:24	18:24-18:46/22 19:56	06:00 19:56	05:30 20:26	05:29 20:38	05:54 20:20	06:25 19:37	06:54 18:46	17:00 16:59	07:27 16:41			
	Potential sun hours	297	297	369	399	449	453	460	428	375	322	345	297	287
	Sum of minutes with flicker	0	0	223	97	0	0	0	0	0	322	345	0	0

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

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 9 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (9)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:27 14:08-15:39/91 16:42	07:13 14:12-16:37/145 17:16	06:37 14:42-16:37/115 17:51	06:46 19:25	06:00 19:57	05:30 20:27
2	07:27 14:08-15:40/92 16:42	07:12 14:13-16:37/144 17:17	06:35 14:44-16:36/112 17:52	06:44 19:26	05:58 19:58	05:30 20:28
3	07:27 14:08-15:40/92 16:43	07:11 14:13-16:38/145 17:19	06:34 14:48-16:36/108 17:53	06:42 19:27	05:57 19:59	05:29 20:29
4	07:27 14:08-15:40/92 16:44	07:10 14:14-16:39/145 17:20	06:32 14:51-16:35/104 17:54	06:41 19:28	05:56 20:00	05:29 20:29
5	07:27 14:08-15:41/93 16:45	07:09 14:14-16:40/146 17:21	06:31 15:28-16:34/66 17:55	06:39 19:29	05:54 20:02	05:29 20:30
6	07:27 14:08-15:41/93 16:46	07:08 14:15-16:40/145 17:22	06:29 15:28-16:33/65 17:56	06:37 19:30	05:53 20:03	05:28 20:31
7	07:27 14:09-15:42/93 16:47	07:07 14:15-16:41/146 17:24	06:27 15:28-16:32/64 17:57	06:36 19:31	05:52 20:04	05:28 20:31
8	07:27 14:09-15:43/94 16:48	07:06 14:16-16:41/145 17:25	06:26 15:30-16:31/61 17:59	06:34 19:33	05:51 20:05	05:28 20:32
9	07:27 14:09-15:44/95 16:49	07:05 14:16-16:41/145 17:26	06:24 15:31-16:30/59 18:00	06:33 19:34	05:50 20:06	05:28 20:32
10	07:27 14:09-15:44/95 16:50	07:03 14:17-16:41/144 17:27	06:23 15:32-16:28/56 18:01	06:31 19:35	05:48 20:07	05:27 20:33
11	07:26 14:09-15:45/96 16:51	07:02 14:18-16:41/143 17:29	06:21 15:34-16:27/53 18:02	06:29 19:36	05:47 20:08	05:27 20:34
12	07:26 14:10-15:46/96 16:52	07:01 14:19-16:41/142 17:30	06:19 15:35-16:25/50 18:03	06:28 19:37	05:46 20:09	05:27 20:34
13	07:26 14:10-15:46/97 16:53	07:00 14:19-16:40/141 17:31	06:18 15:36-16:23/47 18:04	06:26 19:38	05:45 20:10	05:27 20:35
14	07:25 14:10-15:47/97 16:54	06:58 14:20-16:40/140 17:32	06:16 15:39-16:21/42 18:05	06:24 19:39	05:44 20:11	05:27 20:35
15	07:25 14:09-15:47/98 16:55	06:57 14:21-16:40/139 17:34	06:14 15:41-16:19/38 18:06	06:23 19:40	05:43 20:12	05:27 20:35
16	07:25 14:10-15:48/98 16:57	06:56 14:21-16:39/138 17:35	06:13 15:43-16:15/32 18:08	06:21 19:41	05:42 20:13	05:27 20:36
17	07:24 14:10-15:48/98 16:58	06:54 14:23-16:39/136 17:36	06:11 15:47-16:12/25 18:09	06:20 19:42	05:41 20:14	05:27 20:36
18	07:24 14:10-15:50/100 16:59	06:53 14:23-16:38/135 17:37	06:09 15:52-16:07/15 18:10	06:18 19:43	05:40 20:15	05:27 20:37
19	07:23 14:10-15:50/100 17:00	06:52 14:25-16:39/134 17:39	06:08 18:11	06:17 19:44	05:39 20:16	05:27 20:37
20	07:23 14:11-15:51/100 17:01	06:50 14:26-16:39/133 17:40	06:06 18:12	06:15 19:45	05:38 20:17	05:27 20:37
21	07:22 14:11-15:51/100 17:02	06:49 14:27-16:39/132 17:41	06:04 18:13	06:14 19:47	05:38 20:18	05:27 20:37
22	07:21 16:13-16:18/5 17:04	06:47 14:29-16:39/130 17:42	06:03 18:14	06:12 19:48	05:37 20:19	05:28 20:38
23	07:21 16:08-16:22/14 17:05	06:46 14:30-16:39/129 17:43	06:01 18:15	06:11 19:49	05:36 20:19	05:28 20:38
24	07:20 16:07-16:26/19 17:06	06:45 14:32-16:39/127 17:45	05:59 18:16	06:09 19:50	05:35 20:20	05:28 20:38
25	07:19 14:11-16:28/137 17:07	06:43 14:33-16:38/125 17:46	05:58 18:17	06:08 19:51	05:35 20:21	05:28 20:38
26	07:18 14:11-16:30/139 17:09	06:42 14:36-16:38/122 17:47	05:56 18:19	06:06 19:52	05:34 20:22	05:29 20:38
27	07:18 14:11-16:31/140 17:10	06:40 14:37-16:38/121 17:48	05:54 18:20	06:05 19:53	05:33 20:23	05:29 20:38
28	07:17 14:11-16:32/141 17:11	06:38 14:40-16:38/118 17:49	05:52 18:21	06:04 19:54	05:33 20:24	05:29 20:38
29	07:16 14:12-16:34/142 17:12		06:51 19:22	06:02 19:55	05:32 20:25	05:30 20:38
30	07:15 14:12-16:35/143 17:14		06:49 19:23	06:01 19:56	05:31 20:26	05:30 20:38
31	07:14 14:12-16:36/144 17:15		06:47 19:24		05:31 20:26	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	3338	3835	1154	0	0	0

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

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



Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 9 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (9)

### Assumptions for shadow calculations

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

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

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

The WTG is always operating

	July	August	September	October	November	December
1	05:31 20:38	05:55 20:19	06:26 19:35	06:57 16:15-17:04/49 18:44	06:31 13:46-16:11/145 16:57	07:06 13:51-15:27/96 16:33
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 16:13-17:05/52 18:43	06:32 13:46-16:10/144 16:56	07:07 13:52-15:27/95 16:32
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 16:11-17:06/55 18:41	06:34 13:45-16:10/145 16:55	07:08 13:52-15:27/95 16:32
4	05:32 20:38	05:58 20:15	06:29 19:30	07:00 16:09-17:07/58 18:39	06:35 13:45-16:10/145 16:54	07:09 13:53-15:27/94 16:32
5	05:33 20:37	05:59 20:14	06:30 19:29	07:01 16:07-17:07/60 18:38	06:36 13:44-16:10/146 16:52	07:10 13:54-15:27/93 16:32
6	05:33 20:37	06:00 20:13	06:31 19:27	07:02 16:06-17:08/62 18:36	06:37 13:44-16:09/145 16:51	07:11 13:54-15:28/94 16:32
7	05:34 20:37	06:01 20:12	06:32 19:25	07:03 16:04-17:08/64 18:34	06:38 13:44-16:10/146 16:50	07:12 13:55-15:28/93 16:31
8	05:35 20:37	06:02 20:11	06:33 19:24	07:04 16:03-17:09/66 18:33 15:34-15:56/22	06:40 13:44-16:09/145 16:49	07:13 13:56-15:28/92 16:31
9	05:35 20:36	06:03 20:09	06:34 19:22	07:05 16:01-17:09/68 18:31 15:28-16:00/32	06:41 13:44-16:08/144 16:48	07:14 13:56-15:28/92 16:31
10	05:36 20:36	06:04 20:08	06:35 19:20	07:06 15:24-17:09/105 18:29	06:42 13:43-16:07/144 16:47	07:15 13:57-15:29/92 16:31
11	05:37 20:35	06:05 20:07	06:36 19:19	07:07 15:20-17:09/109 18:28	06:43 13:44-16:08/144 16:46	07:16 13:58-15:29/91 16:31
12	05:37 20:35	06:06 20:05	06:37 19:17	07:08 15:17-17:10/113 18:26	06:44 13:44-16:07/143 16:45	07:17 13:59-15:29/90 16:32
13	05:38 20:34	06:07 20:04	06:38 19:15	07:09 15:14-17:10/116 18:25	06:46 13:43-16:05/142 16:44	07:18 13:59-15:29/90 16:32
14	05:39 20:34	06:08 20:03	06:39 19:14	07:10 15:11-17:10/119 18:23	06:47 13:44-16:05/141 16:43	07:18 13:59-15:30/91 16:32
15	05:40 20:33	06:09 20:01	06:40 19:12	07:12 15:09-17:10/121 18:22	06:48 13:44-16:04/140 16:42	07:19 14:00-15:30/90 16:32
16	05:41 20:33	06:10 20:00	06:41 19:10	07:13 15:06-17:10/124 18:20	06:49 13:44-16:03/139 16:41	07:20 14:00-15:30/90 16:32
17	05:41 20:32	06:11 19:59	06:42 19:08	07:14 15:04-17:10/126 18:18	06:50 13:44-16:01/137 16:41	07:20 14:01-15:30/89 16:33
18	05:42 20:31	06:12 19:57	06:43 19:07	07:15 15:03-17:10/127 18:17	06:52 15:41-16:00/19 16:40 13:45-15:27/102	07:21 14:02-15:31/89 16:33
19	05:43 20:31	06:13 19:56	06:44 19:05	07:16 15:01-17:10/129 18:15	06:53 15:43-15:57/14 16:39 13:45-15:26/101	07:22 14:02-15:31/89 16:33
20	05:44 20:30	06:14 19:54	06:45 19:03	07:17 14:59-17:10/131 18:14	06:54 15:48-15:53/5 16:38 13:45-15:26/101	07:22 14:03-15:32/89 16:34
21	05:45 20:29	06:15 19:53	06:46 19:01	07:18 14:57-17:09/132 18:12	06:55 13:46-15:26/100 16:38	07:23 14:03-15:32/89 16:34
22	05:46 20:28	06:16 19:51	06:47 19:00	07:19 14:56-17:09/133 18:11	06:56 13:47-15:27/100 16:37	07:23 14:04-15:33/89 16:35
23	05:46 20:28	06:17 19:50	06:48 18:58	07:21 14:55-17:09/134 18:09	06:57 13:47-15:27/100 16:36	07:24 14:04-15:33/89 16:35
24	05:47 20:27	06:18 19:48	06:49 18:56	07:22 14:53-17:09/136 18:08	06:59 13:47-15:27/100 16:36	07:24 14:05-15:34/89 16:36
25	05:48 20:26	06:19 19:47	06:50 18:55	06:23 13:52-16:09/137 17:07	07:00 13:48-15:26/98 16:35	07:25 14:05-15:34/89 16:36
26	05:49 20:25	06:20 19:45	06:51 18:53	06:24 13:51-16:09/138 17:05	07:01 13:48-15:26/98 16:35	07:25 14:05-15:34/89 16:37
27	05:50 20:24	06:21 19:43	06:52 18:51	06:25 13:49-16:09/140 17:04	07:02 13:49-15:27/98 16:34	07:26 14:06-15:36/90 16:38
28	05:51 20:23	06:22 19:42	06:53 18:49	06:26 13:49-16:10/141 17:03	07:03 13:50-15:27/97 16:34	07:26 14:06-15:36/90 16:38
29	05:52 20:22	06:23 19:40	06:54 18:48	06:28 13:48-16:10/142 17:01	07:04 13:50-15:27/97 16:33	07:26 14:06-15:36/90 16:39
30	05:53 20:21	06:24 19:39	06:55 18:46	06:29 13:47-16:10/143 17:00	07:05 13:51-15:27/96 16:33	07:26 14:06-15:37/91 16:40
31	05:54 20:20	06:25 19:37		06:30 13:47-16:11/144 16:59		07:27 14:07-15:37/90 16:41
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	0	0	185	3428	3761	2819

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

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

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

Licensed user:

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 10 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (10)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:42	07:13 17:16	06:37 17:50	06:46 19:25	06:00 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	07:07 16:32
3	07:27 16:43	07:11 17:19	06:34 17:53	06:42 19:27	05:57 19:59	05:29 20:29	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:34 16:55	07:08 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	05:56 20:00	05:29 20:29	05:32 20:38	05:58 20:15	06:29 19:30	07:00 18:39	06:35 16:54	07:09 16:32
5	07:27 16:45	07:09 17:21	06:31 17:55	06:39 19:29	05:54 20:01	05:29 20:30	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	06:36 16:52	07:10 16:32
6	07:27 16:46	07:08 17:22	06:29 17:56	06:37 19:30	05:53 20:03	05:28 20:31	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	06:37 16:51	07:11 16:32
7	07:27 16:47	07:07 17:24	06:27 17:57	06:36 19:31	05:52 20:04	05:28 20:31	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	06:38 16:50	07:12 16:31
8	07:27 16:48	07:06 17:25	06:26 17:59	06:34 19:33	05:51 20:05	05:28 20:32	05:35 20:36	06:02 20:11	06:33 19:24	07:04 18:33	06:40 16:49	07:13 16:31
9	07:27 16:49	07:05 17:26	06:24 18:00	06:33 19:34	05:50 20:06	05:28 20:32	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	06:41 16:48	07:14 16:31
10	07:27 16:50	07:03 17:27	06:23 18:01	06:31 19:35	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	06:42 16:47	07:15 16:31
11	07:26 16:51	07:02 17:29	06:21 18:02	06:29 19:36	05:47 20:08	05:27 20:34	05:37 20:35	06:05 20:07	06:36 19:19	07:07 18:28	06:43 16:46	07:16 16:31
12	07:26 16:52	07:01 17:30	06:19 18:03	06:28 19:37	05:46 20:09	05:27 20:34	05:37 20:35	06:06 20:05	06:37 19:17	07:08 18:26	06:44 16:45	07:17 16:32
13	07:26 16:53	07:00 17:31	06:18 18:04	06:26 19:38	05:45 20:10	05:27 20:35	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:25	06:46 16:44	07:17 16:32
14	07:25 16:54	06:58 17:32	06:16 18:05	06:24 19:39	05:44 20:11	05:27 20:35	05:39 20:34	06:08 20:03	06:39 19:14	07:10 18:23	06:47 16:43	07:18 16:32
15	07:25 16:55	06:57 17:34	06:14 18:06	06:23 19:40	05:43 20:12	05:27 20:35	05:40 20:33	06:09 20:01	06:40 19:12	07:12 18:21	06:48 16:42	07:19 16:32
16	07:25 16:57	06:56 17:35	06:13 18:08	06:21 19:41	05:42 20:13	05:27 20:36	05:41 20:33	06:10 20:00	06:41 19:10	07:13 18:20	06:49 16:41	07:20 16:32
17	07:24 16:58	06:54 17:36	06:11 18:09	06:20 19:42	05:41 20:14	05:27 20:36	05:41 20:32	06:11 19:58	06:42 19:08	07:14 18:18	06:50 16:41	07:20 16:33
18	07:24 16:59	06:53 17:37	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:37	05:42 20:31	06:12 19:57	06:43 19:07	07:15 18:17	06:52 16:40	07:21 16:33
19	07:23 17:00	06:52 17:39	06:08 18:11	06:17 19:44	05:39 20:16	05:27 20:37	05:43 20:31	06:13 19:56	06:44 19:05	07:16 18:15	06:53 16:39	07:22 11:22-11:28/6 16:33
20	07:23 17:01	06:50 17:40	06:06 18:12	06:15 19:45	05:38 20:17	05:27 20:37	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	06:54 16:38	07:23 11:22-11:30/8 16:34
21	07:22 17:02	06:49 17:41	06:04 18:13	06:14 19:46	05:38 20:18	05:27 20:37	05:45 20:29	06:15 19:53	06:46 19:01	07:18 18:12	06:55 16:38	07:23 11:21-11:31/10 16:34
22	07:21 17:04	06:47 17:42	06:03 18:14	06:12 19:48	05:37 20:19	05:28 20:38	05:46 20:28	06:16 19:51	06:47 19:00	07:19 18:11	06:56 16:37	07:23 11:22-11:32/10 16:35
23	07:21 17:05	06:46 17:43	06:01 18:15	06:11 19:49	05:36 20:19	05:28 20:38	05:46 20:28	06:17 19:50	06:48 18:58	07:21 18:09	06:57 16:36	07:24 11:23-11:32/9 16:35
24	07:20 17:06	06:44 17:45	05:59 18:16	06:09 19:50	05:35 20:20	05:28 20:38	05:47 20:27	06:18 19:48	06:49 18:56	07:22 18:08	06:59 16:36	07:24 11:25-11:32/7 16:36
25	07:19 17:07	06:43 17:46	05:58 18:17	06:08 19:51	05:35 20:21	05:28 20:38	05:48 20:26	06:19 19:47	06:50 18:55	06:23 17:07	07:00 16:35	07:25 11:27-11:30/3 16:36
26	07:18 17:09	06:42 17:47	05:56 18:19	06:06 19:52	05:34 20:22	05:29 20:38	05:49 20:25	06:20 19:45	06:51 18:53	06:24 17:05	07:01 16:35	07:25 16:37
27	07:18 17:10	06:40 17:48	05:54 18:20	06:05 19:53	05:33 20:23	05:29 20:38	05:50 20:24	06:21 19:43	06:52 18:51	06:25 17:04	07:02 16:34	07:26 16:38
28	07:17 17:11	06:38 17:49	05:52 18:21	06:04 19:54	05:33 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:49	06:26 17:03	07:03 16:34	07:26 16:38
29	07:16 17:12		06:51 19:22	06:02 19:55	05:32 20:25	05:30 20:38	05:52 20:22	06:23 19:40	06:54 18:48	06:28 17:01	07:04 16:33	07:26 16:39
30	07:15 17:14		06:49 19:23	06:01 19:56	05:31 20:25	05:30 20:38	05:53 20:21	06:24 19:39	06:55 18:46	06:29 17:00	07:05 16:33	07:26 16:40
31	07:14 17:15		06:47 19:24		05:31 20:26		05:54 20:20	06:25 19:37		06:30 16:59		07:27 16:40
Potential sun hours												
	297	297	369	399	449	453	460	428	375	345	297	287
Sum of minutes with flicker												
	0	0	0	0	0	0	0	0	0	0	0	53

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

### SHADOW - Calendar per WTG

WTG: 11 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (11)

#### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:42	07:13 17:16	06:37 17:50	06:46 19:25	06:00 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	07:07 16:32
3	07:27 16:43	07:11 17:19	06:34 17:53	06:42 19:27	05:57 19:59	05:29 20:29	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:33 16:55	07:08 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	05:56 20:00	05:29 20:29	05:32 20:38	05:58 20:15	06:29 19:30	07:00 18:39	06:35 16:54	07:09 16:32
5	07:27 16:45	07:09 17:21	06:31 17:55	06:39 19:29	05:54 20:01	05:29 20:30	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	06:36 16:52	07:10 16:32
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27	07:18 17:10	06:40 17:48	05:54 18:20	06:05 19:53	05:33 20:23	05:29 20:38	05:50 20:24	06:21 19:43	06:52 18:51	07:25 17:04	07:02 16:34	07:26 16:38
28	07:17 17:11	06:38 17:49	05:52 18:21	06:04 19:54	05:33 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:49	07:26 17:03	07:03 16:34	07:26 16:38
29	07:16 17:12		06:51 19:22	06:02 19:55	05:32 20:25	05:30 20:38	05:52 20:22	06:23 19:40	06:54 18:48	07:27 17:01	07:04 16:33	07:26 16:39
30	07:15 17:14		06:49 19:23	06:01 19:56	05:31 20:25	05:30 20:38	05:53 20:21	06:24 19:39	06:55 18:46	07:28 17:00	07:05 16:33	07:26 16:40
31	07:14 17:15		06:47 19:24		05:31 20:26		05:54 20:20	06:25 19:37		06:30 16:59		07:27 16:41
Potential sun hours	297	297	369	399	449	453	460	428	375	345	297	287
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
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## SHADOW - Calendar per WTG

WTG: 12 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (12)

### Assumptions for shadow calculations

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

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

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

- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:42	07:13 17:16	06:37 17:50	06:46 19:25	06:00 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	07:07 16:32
3	07:27 16:43	07:11 17:19	06:34 17:53	06:42 19:27	05:57 19:59	05:29 20:28	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:33 16:55	07:08 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	05:56 20:00	05:29 20:29	05:32 20:38	05:58 20:15	06:29 19:30	07:00 18:39	06:35 16:54	07:09 16:32
5	07:27 16:45	07:09 17:21	06:31 17:55	06:39 19:29	05:54 20:01	05:29 20:30	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	06:36 16:52	07:10 16:32
6	07:27 16:46	07:08 17:22	06:29 17:56	06:37 19:30	05:53 20:03	05:28 20:31	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	06:37 16:51	07:11 16:32
7	07:27 16:47	07:07 17:24	06:27 17:57	06:36 19:31	05:52 20:04	05:28 20:31	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	06:38 16:50	07:12 16:31
8	07:27 16:48	07:06 17:25	06:26 17:59	06:34 19:32	05:51 20:05	05:28 20:32	05:35 20:36	06:02 20:11	06:33 19:24	07:04 18:33	06:39 16:49	07:13 16:31
9	07:27 16:49	07:05 17:26	06:24 18:00	06:32 19:34	05:50 20:06	05:28 20:32	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	06:41 16:48	07:14 16:31
10	07:26 16:50	07:03 17:27	06:23 18:01	06:31 19:35	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	06:42 16:47	07:15 16:31
11	07:26 16:51	07:02 17:29	06:21 18:02	06:29 19:36	05:47 20:08	05:27 20:34	05:37 20:35	06:05 20:07	06:36 19:19	07:07 18:28	06:43 16:46	07:16 16:31
12	07:26 16:52	07:01 17:30	06:19 18:03	06:28 19:37	05:46 20:09	05:27 20:34	05:37 20:35	06:06 20:05	06:37 19:17	07:08 18:26	06:44 16:45	07:17 16:32
13	07:26 16:53	07:00 17:31	06:18 18:04	06:26 19:38	05:45 20:10	05:27 20:35	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:25	06:46 16:44	07:17 16:32
14	07:25 16:54	06:58 17:32	06:16 18:05	06:24 19:39	05:44 20:11	05:27 20:35	05:39 20:34	06:08 20:03	06:39 19:13	07:10 18:23	06:47 16:43	07:18 16:32
15	07:25 16:55	06:57 17:34	06:14 18:06	06:23 19:40	05:43 20:12	05:27 20:35	05:40 20:33	06:09 20:01	06:40 19:12	07:11 18:21	06:48 16:42	07:19 16:32
16	07:25 16:57	06:56 17:35	06:13 18:08	06:21 19:41	05:42 20:13	05:27 20:36	05:41 20:33	06:10 20:00	06:41 19:10	07:13 18:20	06:49 16:41	07:20 16:32
17	07:24 16:58	06:54 17:36	06:11 18:09	06:20 19:42	05:41 20:14	05:27 20:36	05:41 20:32	06:11 19:58	06:42 19:08	07:14 18:18	06:50 16:41	07:20 16:33
18	07:24 16:59	06:53 17:37	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:37	05:42 20:31	06:12 19:57	06:43 19:07	07:15 18:17	06:52 16:40	07:21 16:33
19	07:23 17:00	06:52 17:39	06:08 18:11	06:17 19:44	05:39 20:16	05:27 20:37	05:43 20:31	06:13 19:56	06:44 19:05	07:16 18:15	06:53 16:39	07:22 16:33
20	07:23 17:01	06:50 17:40	06:06 18:12	06:15 19:45	05:38 20:17	05:27 20:37	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	06:54 16:38	07:22 16:34
21	07:22 17:02	06:49 17:41	06:04 18:13	06:14 19:46	05:38 20:18	05:27 20:37	05:45 20:29	06:15 19:53	06:46 19:01	07:18 18:12	06:55 16:38	07:23 16:34
22	07:21 17:04	06:47 17:42	06:03 18:14	06:12 19:48	05:37 20:19	05:28 20:38	05:46 20:28	06:16 19:51	06:47 19:00	07:19 18:11	06:56 16:37	07:23 16:35
23	07:21 17:05	06:46 17:43	06:01 18:15	06:11 19:49	05:36 20:19	05:28 20:38	05:46 20:27	06:17 19:50	06:48 18:58	07:21 18:09	06:57 16:36	07:24 16:35
24	07:20 17:06	06:44 17:45	05:59 18:16	06:09 19:50	05:35 20:20	05:28 20:38	05:47 20:27	06:18 19:48	06:49 18:56	07:22 18:08	06:59 16:36	07:24 16:36
25	07:19 17:07	06:43 17:46	05:57 18:17	06:08 19:51	05:35 20:21	05:28 20:38	05:48 20:26	06:19 19:46	06:50 18:55	07:23 17:07	07:00 16:35	07:25 16:36
26	07:18 17:09	06:41 17:47	05:56 18:18	06:06 19:52	05:34 20:22	05:29 20:38	05:49 20:25	06:20 19:45	06:51 18:53	07:24 17:05	07:01 16:35	07:25 16:37
27	07:18 17:10	06:40 17:48	05:54 18:20	06:05 19:53	05:33 20:23	05:29 20:38	05:50 20:24	06:21 19:43	06:52 18:51	07:25 17:04	07:02 16:34	07:25 16:38
28	07:17 17:11	06:38 17:49	05:52 18:21	06:04 19:54	05:33 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:49	07:26 17:02	07:03 16:34	07:26 16:38
29	07:16 17:12		06:51 19:22	06:02 19:55	05:32 20:25	05:30 20:38	05:52 20:22	06:23 19:40	06:54 18:48	07:27 17:01	07:04 16:33	07:26 16:39
30	07:15 17:14		06:49 19:23	06:01 19:56	05:31 20:25	05:30 20:38	05:53 20:21	06:24 19:39	06:55 18:46	07:28 17:00	07:05 16:33	07:26 16:40
31	07:14 17:15		06:47 19:24		05:31 20:26		05:54 20:20	06:25 19:37		06:30 16:59		07:27 16:41
Potential sun hours	297	297	369	399	449	453	460	428	375	345	297	287
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

### SHADOW - Calendar per WTG

WTG: 13 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (13)

#### Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:41	07:13 17:16	06:37 17:50	06:46 19:25	05:59 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:57 18:43	06:32 16:56	07:07 16:32
3	07:27 16:43	07:11 17:18	06:34 17:53	06:42 19:27	05:57 19:59	05:29 20:28	05:32 20:38	05:57 20:16	06:28 19:32	06:58 18:41	06:33 16:55	07:08 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	05:56 20:00	05:29 20:29	05:32 20:37	05:58 20:15	06:29 19:30	06:59 18:39	06:35 16:54	07:09 16:32
5	07:27 16:45	07:09 17:21	06:31 17:55	06:39 19:29	05:54 20:01	05:29 20:30	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	06:36 16:52	07:10 16:32
6	07:27 16:46	07:08 17:22	06:29 17:56	06:37 19:30	05:53 20:02	05:28 20:30	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	06:37 16:51	07:11 16:31
7	07:27 16:47	07:07 17:24	06:27 17:57	06:36 19:31	05:52 20:03	05:28 20:31	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	06:38 16:50	07:12 16:31
8	07:27 16:48	07:06 17:25	06:26 17:58	06:34 19:32	05:51 20:04	05:28 20:32	05:35 20:36	06:02 20:10	06:33 19:24	07:04 18:33	06:39 16:49	07:13 16:31
9	07:27 16:49	07:04 17:26	06:24 18:00	06:32 19:33	05:50 20:06	05:28 20:32	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	06:41 16:48	07:14 16:31
10	07:26 16:50	07:03 17:27	06:22 18:01	06:31 19:35	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	06:42 16:47	07:15 16:31
11	07:26 16:51	07:02 17:29	06:21 18:02	06:29 19:36	05:47 20:08	05:27 20:33	05:37 20:35	06:05 20:07	06:36 19:18	07:07 18:28	06:43 16:46	07:16 16:31
12	07:26 16:52	07:01 17:30	06:19 18:03	06:28 19:37	05:46 20:09	05:27 20:34	05:37 20:35	06:06 20:05	06:37 19:17	07:08 18:26	06:44 16:45	07:17 16:31
13	07:26 16:53	07:00 17:31	06:18 18:04	06:26 19:38	05:45 20:10	05:27 20:34	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:25	06:45 16:44	07:17 16:32
14	07:25 16:54	06:58 17:32	06:16 18:05	06:24 19:39	05:44 20:11	05:27 20:35	05:39 20:34	06:08 20:03	06:39 19:13	07:10 18:23	06:47 16:43	07:18 16:32
15	07:25 16:55	06:57 17:34	06:14 18:06	06:23 19:40	05:43 20:12	05:27 20:35	05:40 20:33	06:09 20:01	06:40 19:12	07:11 18:21	06:48 16:42	07:19 16:32
16	07:24 16:57	06:56 17:35	06:13 18:07	06:21 19:41	05:42 20:13	05:27 20:36	05:40 20:32	06:10 20:00	06:41 19:10	07:12 18:20	06:49 16:41	07:20 16:32
17	07:24 16:58	06:54 17:36	06:11 18:09	06:20 19:42	05:41 20:14	05:27 20:36	05:41 20:32	06:11 19:58	06:42 19:08	07:14 18:18	06:50 16:40	07:20 16:33
18	07:23 16:59	06:53 17:37	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:36	05:42 20:31	06:12 19:57	06:43 19:07	07:15 18:17	06:51 16:40	07:21 16:33
19	07:23 17:00	06:52 17:38	06:07 18:11	06:17 19:44	05:39 20:16	05:27 20:37	05:43 20:30	06:13 19:11	06:44 19:05	07:16 18:15	06:53 16:39	07:22 16:33
20	07:22 17:01	06:50 17:40	06:06 18:12	06:15 19:45	05:38 20:16	05:27 20:37	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	06:54 16:38	07:22 16:34
21	07:22 17:02	06:49 17:41	06:04 18:13	06:14 19:46	05:38 20:17	05:27 20:37	05:45 20:29	06:15 19:52	06:46 19:01	07:18 18:12	06:55 16:37	07:23 16:34
22	07:21 17:04	06:47 17:42	06:02 18:14	06:12 19:47	05:37 20:18	05:28 20:37	05:46 20:28	06:16 19:51	06:47 19:00	07:19 18:11	06:56 16:37	07:23 16:35
23	07:20 17:05	06:46 17:43	06:01 18:15	06:11 19:48	05:36 20:19	05:28 20:38	05:46 20:27	06:17 19:49	06:48 18:58	07:20 18:09	06:57 16:36	07:24 16:35
24	07:20 17:06	06:44 17:44	05:59 18:16	06:09 19:50	05:35 20:20	05:28 20:38	05:47 20:26	06:18 19:48	06:49 18:56	07:22 18:08	06:58 16:36	07:24 16:36
25	07:19 17:07	06:43 17:46	05:57 18:17	06:08 19:51	05:34 20:21	05:28 20:38	05:48 20:26	06:19 19:46	06:50 18:54	07:23 17:07	07:00 16:35	07:25 16:36
26	07:18 17:08	06:41 17:47	05:56 18:18	06:06 19:52	05:34 20:22	05:29 20:38	05:49 20:25	06:20 19:45	06:51 18:53	07:24 17:05	07:01 16:35	07:25 16:37
27	07:17 17:10	06:40 17:48	05:54 18:19	06:05 19:53	05:33 20:23	05:29 20:38	05:50 20:24	06:21 19:43	06:52 18:51	07:25 17:04	07:02 16:34	07:25 16:38
28	07:17 17:11	06:38 17:49	05:52 18:21	06:04 19:54	05:32 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:49	07:26 17:02	07:03 16:34	07:26 16:38
29	07:16 17:12		06:51 19:22	06:02 19:55	05:32 20:24	05:30 20:38	05:52 20:22	06:23 19:40	06:54 18:48	07:27 17:01	07:04 16:33	07:26 16:39
30	07:15 17:13		06:49 19:23	06:01 19:56	05:31 20:25	05:30 20:38	05:53 20:21	06:24 19:38	06:55 18:46	07:28 17:00	07:05 16:33	07:26 16:40
31	07:14 17:15		06:47 19:24		05:31 20:26		05:54 20:20	06:25 19:37		06:30 16:58		07:26 16:40
Potential sun hours	297	297	369	399	449	453	460	428	375	345	297	287
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

### SHADOW - Calendar per WTG

WTG: 14 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (14)

#### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:41	07:13 17:16	06:37 17:50	06:46 19:25	05:59 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:57 18:43	06:32 16:56	07:07 16:32
3	07:27 16:43	07:11 17:18	06:34 17:53	06:42 19:27	05:57 19:59	05:29 20:28	05:32 20:38	05:57 20:16	06:28 19:32	06:58 18:41	06:33 16:55	07:08 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	05:56 20:00	05:29 20:29	05:32 20:37	05:58 20:15	06:29 19:30	06:59 18:39	06:35 16:54	07:09 16:32
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10	07:26 16:50	07:03 17:27	06:22 18:01	06:31 19:34	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	06:42 16:47	07:15 16:31
11	07:26 16:51	07:02 17:29	06:21 18:02	06:29 19:36	05:47 20:08	05:27 20:33	05:37 20:35	06:05 20:07	06:36 19:18	07:07 18:28	06:43 16:46	07:16 16:31
12	07:26 16:52	07:01 17:30	06:19 18:03	06:28 19:37	05:46 20:09	05:27 20:34	05:37 20:35	06:06 20:05	06:37 19:17	07:08 18:26	06:44 16:45	07:16 16:31
13	07:26 16:53	07:00 17:31	06:17 18:04	06:26 19:38	05:45 20:10	05:27 20:34	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:25	06:45 16:44	07:17 16:32
14	07:25 16:54	06:58 17:32	06:16 18:05	06:24 19:39	05:44 20:11	05:27 20:35	05:39 20:34	06:08 20:03	06:39 19:13	07:10 18:23	06:47 16:43	07:18 16:32
15	07:25 16:55	06:57 17:34	06:14 18:06	06:23 19:40	05:43 20:12	05:27 20:35	05:40 20:33	06:09 20:01	06:40 19:12	07:11 18:21	06:48 16:42	07:19 16:32
16	07:24 16:56	06:56 17:35	06:13 18:07	06:21 19:41	05:42 20:13	05:27 20:36	05:40 20:32	06:10 20:00	06:41 19:10	07:12 18:20	06:49 16:41	07:20 16:32
17	07:24 16:58	06:54 17:36	06:11 18:09	06:20 19:42	05:41 20:14	05:27 20:36	05:41 20:32	06:11 19:58	06:42 19:08	07:14 18:18	06:50 16:40	07:20 16:33
18	07:23 16:59	06:53 17:37	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:36	05:42 20:31	06:12 19:57	06:43 19:06	07:15 18:17	06:51 16:40	07:21 16:33
19	07:23 17:00	06:51 17:38	06:07 18:11	06:17 19:44	05:39 20:16	05:27 20:37	05:43 20:30	06:13 19:11	06:44 19:05	07:16 18:15	06:53 16:39	07:21 16:33
20	07:22 17:01	06:50 17:40	06:06 18:12	06:15 19:45	05:38 20:16	05:27 20:37	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	06:54 16:38	07:22 16:34
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31	07:14 17:15		06:47 19:24		05:31 20:26		05:54 20:20	06:25 19:37		06:30 16:58		07:26 16:40
Potential sun hours	297	297	369	399	449	453	460	428	375	345	297	287
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 15 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (15)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:42	07:13 17:16	06:37 17:50	06:46 19:25	05:59 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:57 18:43	06:32 16:56	07:07 16:32
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27	07:17 17:10	06:40 17:48	05:54 18:19	06:05 19:53	05:33 20:23	05:29 20:38	05:50 20:24	06:21 19:43	06:52 18:51	07:25 17:04	07:02 16:34	07:25 16:38
28	07:17 17:11	06:38 17:49	05:52 18:21	06:04 19:54	05:33 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:49	07:26 17:02	07:03 16:34	07:26 16:38
29	07:16 17:12		06:51 19:22	06:02 19:55	05:32 20:24	05:30 20:38	05:52 20:22	06:23 19:40	06:54 18:48	07:27 17:01	07:04 16:33	07:26 16:39
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31	07:14 17:15		06:47 19:24		05:31 20:26		05:54 20:20	06:25 19:37		06:30 16:58		07:26 16:40
Potential sun hours	297	297	369	399	449	453	460	428	375	345	297	287
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 16 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (16)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:27 16:41	07:13 17:16	06:37 17:50	06:46 19:25	05:59 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33	
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19	07:23 17:00	06:51 17:38	06:07 18:11	06:17 19:44	05:39 20:15	05:27 20:37	05:43 20:30	06:13 19:11	06:44 19:05	07:16 18:15	06:52 16:39	07:21 16:33	
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Potential sun hours		297	297	369	399	449	453	460	428	375	345	297	287
Sum of minutes with flicker		0	0	0	0	0	0	0	0	0	0	0	0

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

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



Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar per WTG

WTG: 17 - GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (17)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 15:03-16:04/61	07:13 06:37	06:46 06:00	05:30 05:31	05:55 06:26	06:57 06:31	07:06 14:54-15:48/54					
2	07:27 15:05-16:06/61	07:12 06:35	06:44 05:58	05:30 05:31	05:56 06:27	06:58 06:32	07:07 14:54-15:49/55					
3	07:27 15:05-16:06/61	07:11 06:34	06:42 05:57	05:29 05:32	05:57 06:28	06:59 06:34	07:08 14:54-15:50/56					
4	07:27 15:05-16:05/60	07:10 06:32	06:41 05:56	05:29 05:32	05:58 06:29	07:00 06:35	07:09 14:53-15:50/57					
5	07:27 15:06-16:05/59	07:09 06:31	06:39 05:54	05:29 05:33	05:59 06:30	07:01 06:36	07:10 14:53-15:51/58					
6	07:27 15:07-16:06/59	07:08 06:29	06:37 05:53	05:28 05:34	06:00 06:31	07:02 06:37	07:11 14:53-15:52/59					
7	07:27 15:08-16:06/58	07:07 06:27	06:36 05:52	05:28 05:34	06:01 06:32	07:03 06:38	07:12 14:53-15:53/60					
8	07:27 15:09-16:06/57	07:06 06:26	06:34 05:51	05:28 05:35	06:02 06:33	07:04 06:40	07:13 14:53-15:53/60					
9	07:27 15:11-16:07/56	07:05 06:24	06:33 05:50	05:28 05:35	06:03 06:34	07:05 06:41	07:14 14:53-15:54/61					
10	07:27 15:11-16:06/55	07:03 06:23	06:31 05:48	05:27 05:36	06:04 06:35	07:06 06:42	07:15 14:54-15:55/61					
11	07:26 15:12-16:06/54	07:02 06:21	06:29 05:47	05:27 05:37	06:05 06:36	07:07 06:43	07:16 14:54-15:55/61					
12	07:26 15:14-16:06/52	07:01 06:19	06:28 05:46	05:27 05:38	06:06 06:37	07:08 06:44	07:17 14:54-15:56/62					
13	07:26 15:15-16:05/50	07:00 06:18	06:26 05:45	05:27 05:38	06:07 06:38	07:09 06:46	07:18 14:54-15:56/62					
14	07:25 15:17-16:05/48	06:58 06:16	06:25 05:44	05:27 05:39	06:08 06:39	07:10 06:47	07:18 14:54-15:57/63					
15	07:25 15:18-16:04/46	06:57 06:14	06:23 05:43	05:27 05:40	06:09 06:40	07:12 06:48	07:19 14:55-15:58/63					
16	07:25 15:45-16:04/19	06:56 06:13	06:21 05:42	05:27 05:41	06:10 06:41	07:13 06:49	07:20 14:54-15:57/63					
17	07:24 15:47-16:02/15	06:54 06:11	06:20 05:41	05:27 05:41	06:11 06:42	07:14 06:50	07:20 14:55-15:58/63					
18	07:24 15:50-16:01/11	06:53 06:09	06:18 05:40	05:27 05:42	06:12 06:43	07:15 06:52	07:21 14:56-15:59/63					
19	07:23 15:29-15:37/8	06:52 06:08	06:17 05:39	05:27 05:43	06:13 06:44	07:16 06:53	07:22 14:56-15:59/63					
20	07:23 17:01	06:50 06:06	06:15 05:39	05:27 05:44	06:14 06:45	07:17 06:54	07:22 14:57-16:00/63					
21	07:22 17:02	06:49 06:04	06:14 05:38	05:27 05:45	06:15 06:46	07:18 06:55	07:23 14:57-16:00/63					
22	07:21 17:04	06:47 06:03	06:12 05:37	05:28 05:46	06:16 06:47	07:19 06:56	07:23 14:58-16:01/63					
23	07:21 17:05	06:46 06:01	06:11 05:36	05:28 05:47	06:17 06:48	07:21 06:57	07:24 14:58-16:01/63					
24	07:20 17:06	06:45 05:59	06:09 05:35	05:28 05:47	06:18 06:49	07:22 06:59	07:24 14:59-16:02/63					
25	07:19 17:07	06:43 05:58	06:08 05:35	05:28 05:48	06:19 06:50	07:23 07:00	07:25 14:59-16:02/63					
26	07:18 17:09	06:42 05:56	06:06 05:34	05:29 05:49	06:20 06:51	07:24 07:01	07:25 14:59-16:02/63					
27	07:18 17:10	06:40 05:54	06:05 05:33	05:29 05:50	06:21 06:52	07:25 07:02	07:26 15:00-16:03/63					
28	07:17 17:11	06:38 05:52	06:04 05:33	05:29 05:51	06:22 06:53	07:26 07:03	07:26 15:01-16:03/62					
29	07:16 17:12	06:37 05:51	06:03 05:32	05:30 05:52	06:23 06:54	07:27 07:04	07:26 15:01-16:04/63					
30	07:15 17:14	06:36 05:50	06:02 05:31	05:30 05:53	06:24 06:55	07:28 07:05	07:26 15:02-16:04/62					
31	07:14 17:15	06:35 05:49	06:01 05:30	05:30 05:54	06:25 06:56	07:29 07:06	07:27 15:02-16:04/62					
Potential sun hours	297	297	369	399	449	453	460	428	375	345	297	287
Sum of minutes with flicker	951	0	0	0	0	0	0	0	0	0	307	1897

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

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

Project:

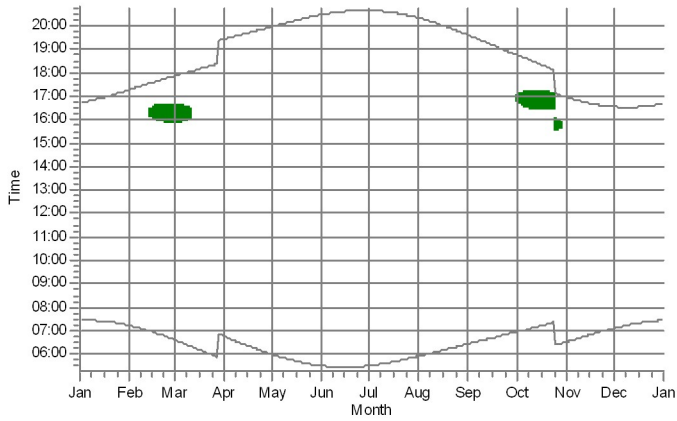
Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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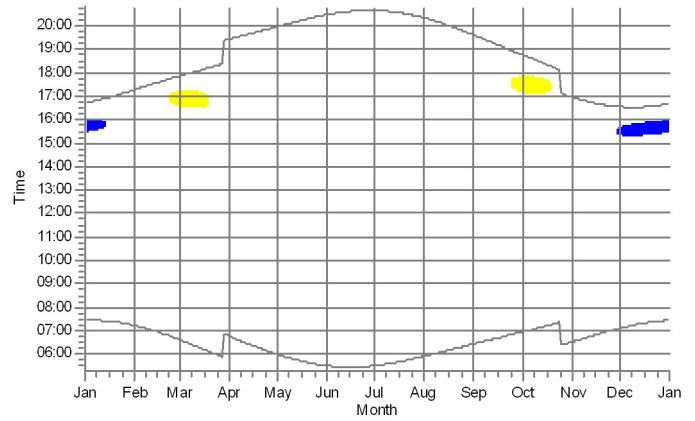
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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar, graphical

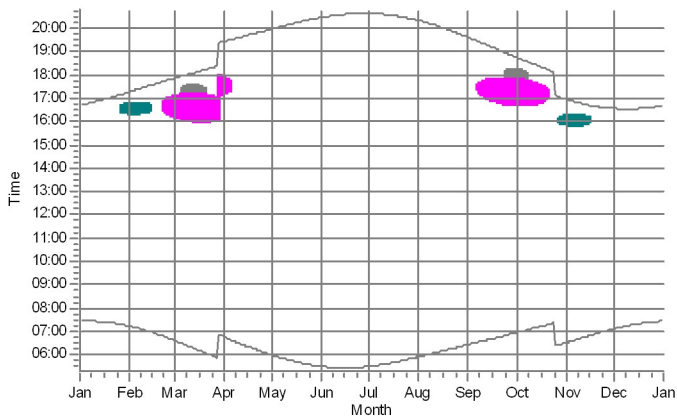
A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (1)



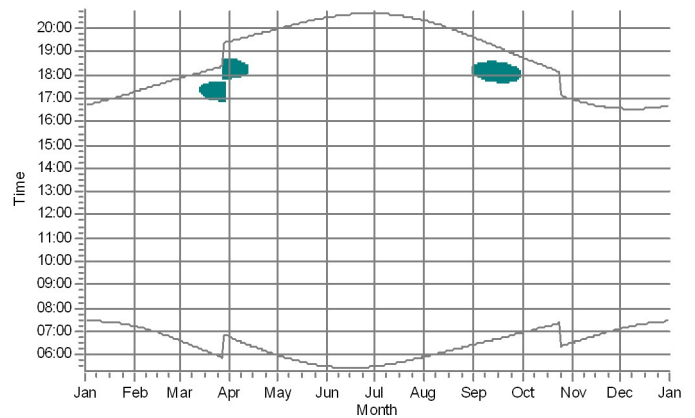
B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (2)



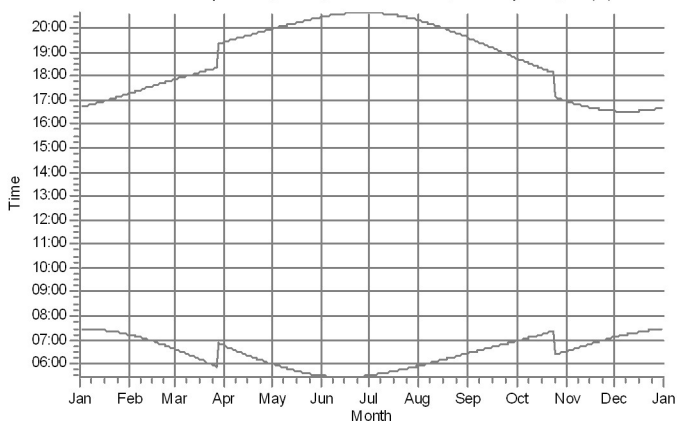
C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (3)



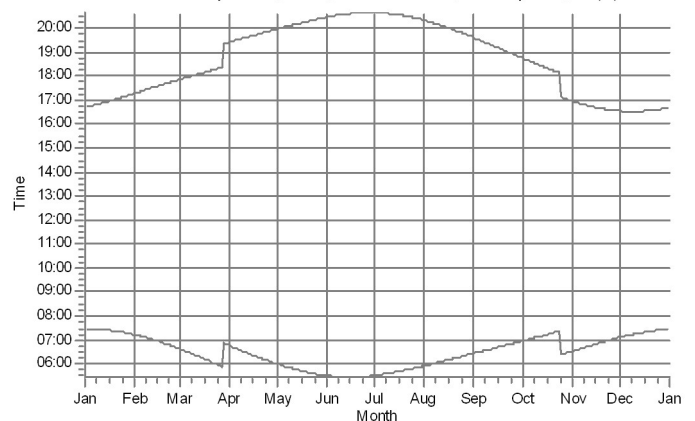
D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (4)



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



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



WTGs

- 1: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (1)
- 2: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (2)
- 3: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (3)

- 4: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (4)
- 5: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (5)
- 6: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (6)

Project:

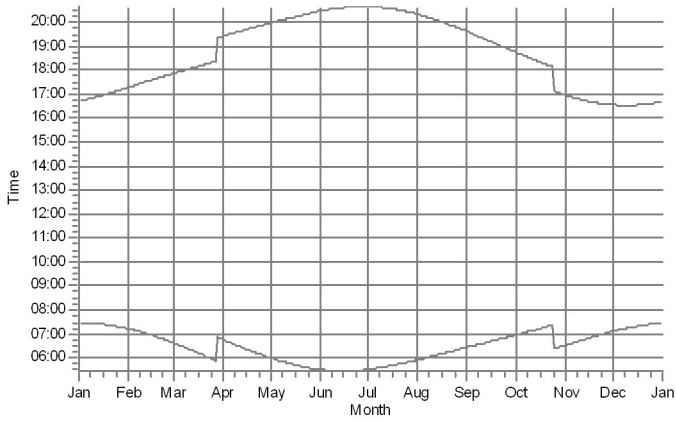
Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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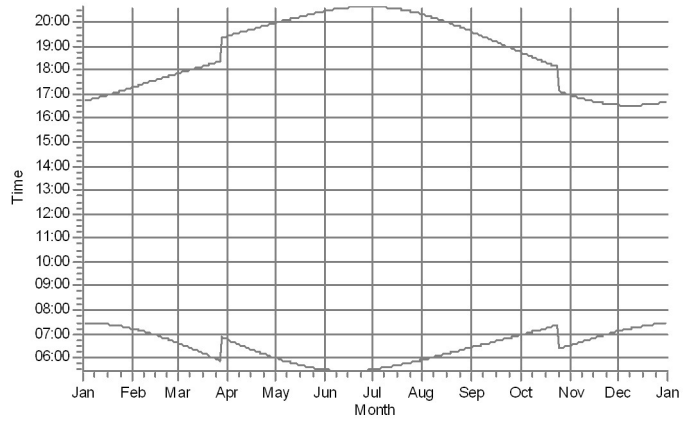
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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar, graphical

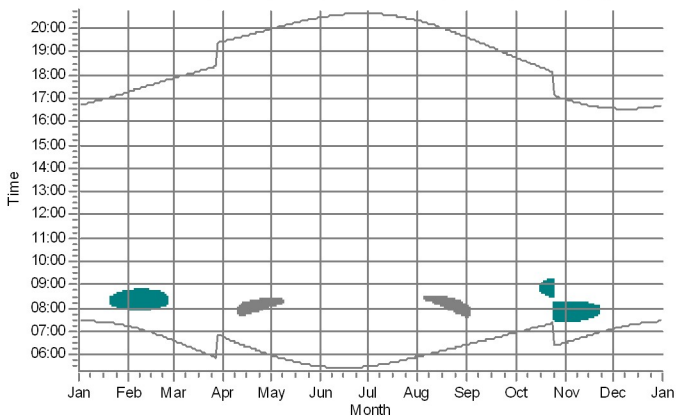
G: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (7)



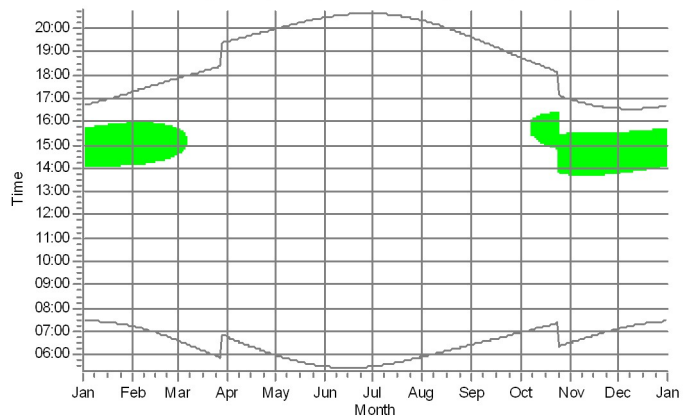
H: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (8)



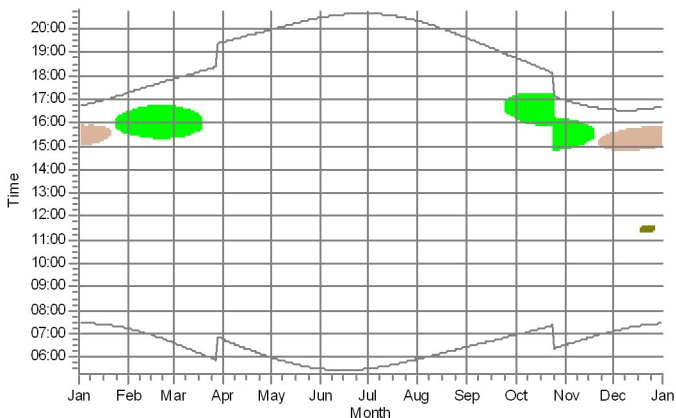
I: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (9)



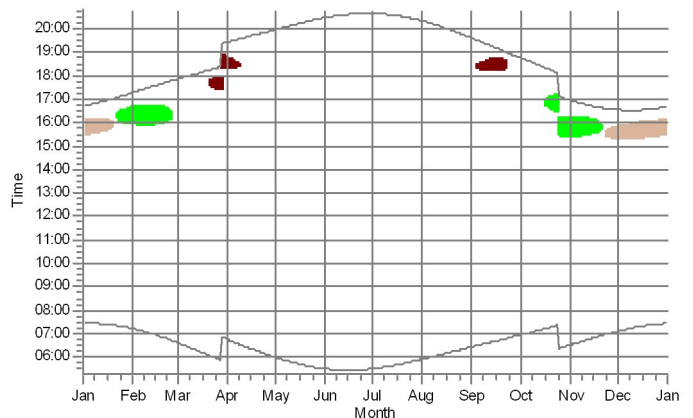
J: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (10)



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



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



WTGs

- 4: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (4)
- 6: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (6)
- 8: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (8)

- 9: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (9)
- 10: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (10)
- 17: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (17)

Project:

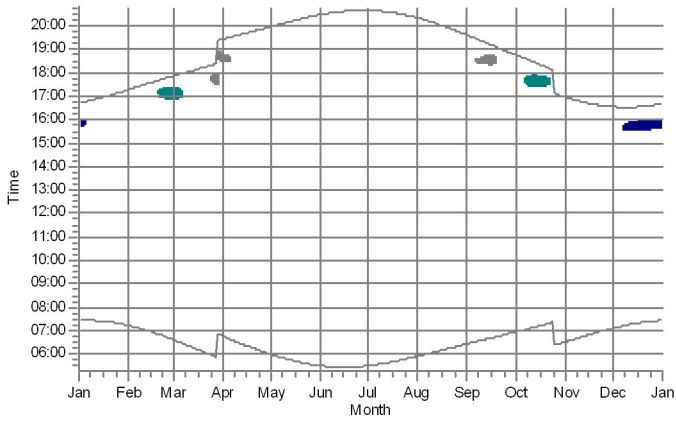
Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

Licensed user:

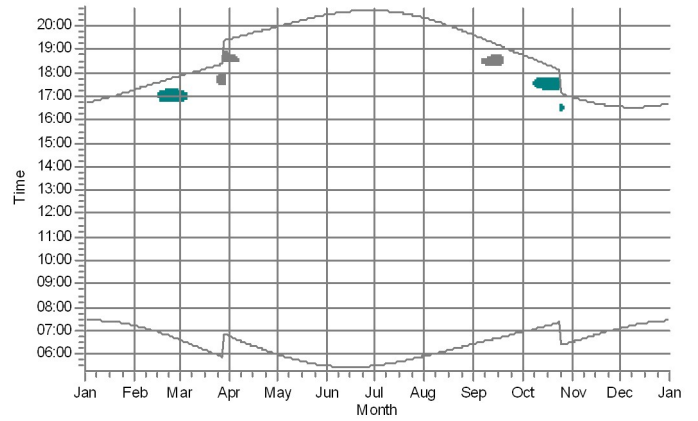
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VEGA / info@studiovega.org  
Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar, graphical

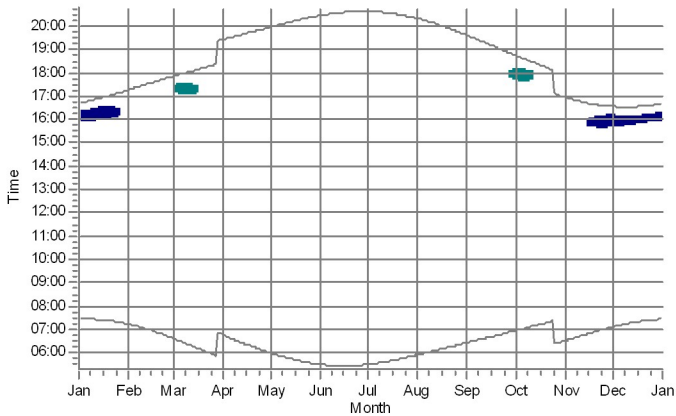
M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (13)



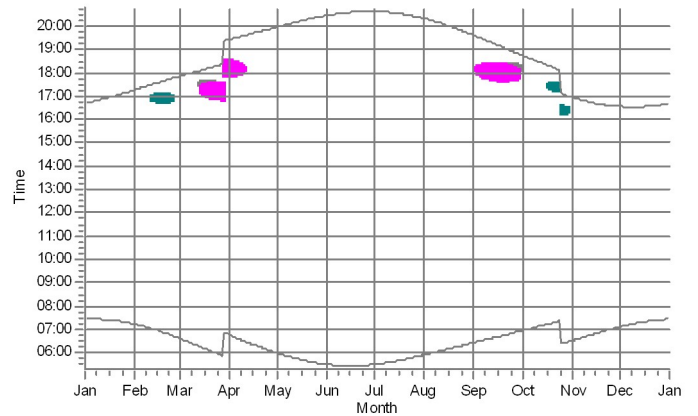
N: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (14)



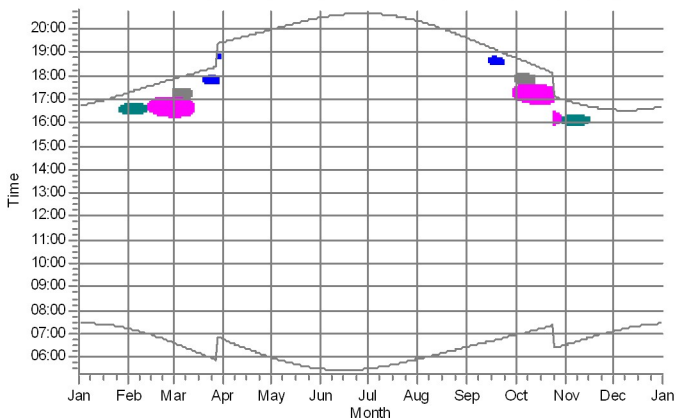
O: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (15)



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



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



WTGs

- 3: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (3)
- 4: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (4)
- 5: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (5)

- 6: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (6)
- 7: GE WIND ENERGY GE 158 6600 158.0 IOI hub: 101,0 m (TOT: 180,0 m) (7)

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:
07/08/2023 20:12/3.5.584

SHADOW - Calendar

Shadow receptor: A - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 0,0° (1)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

Table with columns for months (January to December) and rows for days (1 to 31). Each cell contains sunrise and sunset times in HH:MM format, sometimes with a number in parentheses. Summary rows at the bottom show 'Potential sun hours' and 'Total, worst case' for each month and overall.

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

Matrix with 4 columns: Day in month, Sun rise (hh:mm) / Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker / Last time (hh:mm) with flicker, (WTG causing flicker first time) / (WTG causing flicker last time)

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June		
1	07:27 16:41	15:33 (3) 15:55 (3)	07:13 17:16	06:37 17:50	16:37 (2) 17:08 (2)	06:46 19:25	05:59 19:57	05:30 20:27
2	07:27 16:42	15:33 (3) 15:55 (3)	07:12 17:17	06:35 17:52	16:35 (2) 17:09 (2)	06:44 19:26	05:58 19:58	05:30 20:28
3	07:27 16:43	15:34 (3) 15:55 (3)	07:11 17:19	06:34 17:53	16:35 (2) 17:10 (2)	06:42 19:27	05:57 19:59	05:29 20:29
4	07:27 16:44	15:35 (3) 15:55 (3)	07:10 17:20	06:32 17:54	16:34 (2) 17:10 (2)	06:41 19:28	05:56 20:01	05:29 20:29
5	07:27 16:45	15:36 (3) 15:56 (3)	07:09 17:21	06:31 17:55	16:34 (2) 17:10 (2)	06:39 19:29	05:54 20:02	05:29 20:30
6	07:27 16:46	15:36 (3) 15:55 (3)	07:08 17:22	06:29 17:56	16:33 (2) 17:10 (2)	06:37 19:30	05:53 20:03	05:28 20:31
7	07:27 16:47	15:37 (3) 15:55 (3)	07:07 17:24	06:28 17:57	16:33 (2) 17:09 (2)	06:36 19:32	05:52 20:04	05:28 20:31
8	07:27 16:48	15:38 (3) 15:55 (3)	07:06 17:25	06:26 17:59	16:33 (2) 17:10 (2)	06:34 19:33	05:51 20:05	05:28 20:32
9	07:27 16:49	15:40 (3) 15:54 (3)	07:05 17:26	06:24 18:00	16:33 (2) 17:09 (2)	06:33 19:34	05:50 20:06	05:27 20:33
10	07:27 16:50	15:42 (3) 15:54 (3)	07:03 17:27	06:23 18:01	16:33 (2) 17:08 (2)	06:31 19:35	05:48 20:07	05:27 20:33
11	07:26 16:51	15:43 (3) 15:52 (3)	07:02 17:29	06:21 18:02	16:34 (2) 17:08 (2)	06:29 19:36	05:47 20:08	05:27 20:34
12	07:26 16:52	15:46 (3) 15:50 (3)	07:01 17:30	06:19 18:03	16:34 (2) 17:07 (2)	06:28 19:37	05:46 20:09	05:27 20:34
13	07:26 16:53	07:00 17:31	07:00 17:31	06:18 18:04	16:34 (2) 17:06 (2)	06:26 19:38	05:45 20:10	05:27 20:35
14	07:26 16:54	06:58 17:32	06:58 17:32	06:16 18:05	16:35 (2) 17:05 (2)	06:24 19:39	05:44 20:11	05:27 20:35
15	07:25 16:55	06:57 17:34	06:57 17:34	06:14 18:06	16:36 (2) 17:03 (2)	06:23 19:40	05:43 20:12	05:27 20:36
16	07:25 16:57	06:56 17:35	06:56 17:35	06:13 18:08	16:37 (2) 17:01 (2)	06:21 19:41	05:42 20:13	05:27 20:36
17	07:24 16:58	06:55 17:36	06:55 17:36	06:11 18:09	16:40 (2) 16:59 (2)	06:20 19:42	05:41 20:14	05:27 20:36
18	07:24 16:59	06:53 17:37	06:53 17:37	06:09 18:10	16:42 (2) 16:56 (2)	06:18 19:43	05:40 20:15	05:27 20:37
19	07:23 17:00	06:52 17:39	06:52 17:39	06:08 18:11	06:08 18:11	06:17 19:44	05:39 20:16	05:27 20:37
20	07:23 17:01	06:50 17:40	06:50 17:40	06:06 18:12	06:06 18:12	06:15 19:46	05:38 20:17	05:27 20:37
21	07:22 17:02	06:49 17:41	06:49 17:41	06:04 18:13	06:04 18:13	06:14 19:47	05:38 20:18	05:27 20:38
22	07:21 17:04	06:47 17:42	06:47 17:42	06:03 18:14	06:03 18:14	06:12 19:48	05:37 20:19	05:28 20:38
23	07:21 17:05	06:46 17:43	06:46 17:43	06:01 18:15	06:01 18:15	06:11 19:49	05:36 20:20	05:28 20:38
24	07:20 17:06	06:45 17:45	06:45 17:45	16:47 (2) 17:00 (2)	05:59 18:16	06:09 19:50	05:35 20:21	05:28 20:38
25	07:19 17:07	06:43 17:46	06:43 17:46	16:43 (2) 17:03 (2)	05:58 18:17	06:08 19:51	05:34 20:21	05:28 20:38
26	07:19 17:08	06:42 17:47	06:42 17:47	16:42 (2) 17:05 (2)	05:56 18:19	06:06 19:52	05:34 20:22	05:29 20:38
27	07:18 17:10	06:40 17:48	06:40 17:48	16:39 (2) 17:06 (2)	05:54 18:20	06:05 19:53	05:33 20:23	05:29 20:38
28	07:17 17:11	06:39 17:49	06:39 17:49	16:38 (2) 17:08 (2)	05:52 18:21	06:04 19:54	05:32 20:24	05:29 20:38
29	07:16 17:12			06:51 19:22	06:51 19:22	06:02 19:55	05:32 20:25	05:30 20:38
30	07:15 17:13			06:49 19:23	06:49 19:23	06:01 19:56	05:31 20:26	05:30 20:38
31	07:14 17:15			06:47 19:24	06:47 19:24		05:31 20:26	
Potential sun hours	296	297	369	399	449	453		
Total, worst case	198	113	566					

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December		
1	05:31 20:38	05:55 20:19	06:26 19:35	06:57 18:44	17:14 (2) 17:46 (2)	06:31 16:57	07:06 16:33	15:25 (3) 15:34 (3)
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	17:12 (2) 17:46 (2)	06:32 16:56	07:07 16:32	15:24 (3) 15:36 (3)
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	17:12 (2) 17:47 (2)	06:34 16:55	07:09 16:32	15:23 (3) 15:37 (3)
4	05:32 20:38	05:58 20:16	06:29 19:30	07:00 18:39	17:11 (2) 17:47 (2)	06:35 16:54	07:10 16:32	15:23 (3) 15:39 (3)
5	05:33 20:38	05:59 20:14	06:30 19:29	07:01 18:38	17:10 (2) 17:46 (2)	06:36 16:52	07:11 16:32	15:22 (3) 15:40 (3)
6	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	17:09 (2) 17:46 (2)	06:37 16:51	07:11 16:31	15:22 (3) 15:41 (3)
7	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	17:09 (2) 17:46 (2)	06:38 16:50	07:12 16:31	15:22 (3) 15:42 (3)
8	05:35 20:37	06:02 20:11	06:33 19:24	07:04 18:33	17:09 (2) 17:45 (2)	06:40 16:49	07:13 16:31	15:22 (3) 15:42 (3)
9	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	17:09 (2) 17:44 (2)	06:41 16:48	07:14 16:31	15:22 (3) 15:43 (3)
10	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	17:09 (2) 17:44 (2)	06:42 16:47	07:15 16:31	15:22 (3) 15:44 (3)
11	05:37 20:35	06:05 20:07	06:36 19:19	07:07 18:28	17:10 (2) 17:44 (2)	06:43 16:46	07:16 16:31	15:23 (3) 15:45 (3)
12	05:37 20:35	06:06 20:06	06:37 19:17	07:08 18:26	17:10 (2) 17:43 (2)	06:44 16:45	07:17 16:31	15:23 (3) 15:46 (3)
13	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:25	17:11 (2) 17:41 (2)	06:46 16:44	07:18 16:32	15:23 (3) 15:46 (3)
14	05:39 20:34	06:08 20:03	06:39 19:14	07:10 18:23	17:11 (2) 17:40 (2)	06:47 16:43	07:18 16:32	15:23 (3) 15:47 (3)
15	05:40 20:33	06:09 20:01	06:40 19:12	07:12 18:21	17:12 (2) 17:38 (2)	06:48 16:42	07:19 16:32	15:24 (3) 15:47 (3)
16	05:40 20:33	06:10 20:00	06:41 19:10	07:13 18:20	17:14 (2) 17:36 (2)	06:49 16:41	07:20 16:32	15:24 (3) 15:48 (3)
17	05:41 20:32	06:11 19:59	06:42 19:08	07:14 18:18	17:16 (2) 17:33 (2)	06:50 16:40	07:21 16:33	15:24 (3) 15:48 (3)
18	05:42 20:31	06:12 19:57	06:43 19:07	07:15 18:17	17:20 (2) 17:30 (2)	06:52 16:40	07:21 16:33	15:25 (3) 15:49 (3)
19	05:43 20:31	06:13 19:56	06:44 19:05	07:16 18:15		06:53 16:39	07:22 16:33	15:25 (3) 15:49 (3)
20	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14		06:54 16:38	07:22 16:34	15:26 (3) 15:50 (3)
21	05:45 20:29	06:15 19:53	06:46 19:02	07:18 18:12		06:55 16:38	07:23 16:34	15:26 (3) 15:51 (3)
22	05:46 20:28	06:16 19:51	06:47 19:00	07:19 18:11		06:56 16:37	07:24 16:35	15:26 (3) 15:51 (3)
23	05:46 20:28	06:17 19:50	06:48 18:58	07:21 18:09		06:58 16:36	07:24 16:35	15:26 (3) 15:51 (3)
24	05:47 20:27	06:18 19:48	06:49 18:56	07:22 18:08		06:59 16:36	07:25 16:36	15:28 (3) 15:52 (3)
25	05:48 20:26	06:19 19:47	06:50 18:55	07:23 (2) 17:07	17:26 (2) 17:37 (2)	07:00 16:35	07:25 16:36	15:28 (3) 15:52 (3)
26	05:49 20:25	06:20 19:45	06:51 18:53	07:24 (2) 17:05	17:23 (2) 17:41 (2)	07:01 16:35	07:25 16:37	15:29 (3) 15:53 (3)
27	05:50 20:24	06:21 19:43	06:52 18:51	07:25 (2) 17:04	17:21 (2) 17:43 (2)	07:02 16:34	07:26 16:37	15:29 (3) 15:53 (3)
28	05:51 20:23	06:22 19:42	06:53 18:50	07:26 (2) 17:02	17:18 (2) 17:44 (2)	07:03 16:34	07:26 16:38	15:30 (3) 15:53 (3)
29	05:52 20:22	06:23 19:40	06:54 18:48	07:28 (2) 17:01	17:16 (2) 17:45 (2)	07:04 16:33	07:26 16:39	15:30 (3) 15:54 (3)
30	05:53 20:21	06:24 19:39	06:55 18:46	07:29 (2) 17:00	17:15 (2) 17:46 (2)	07:05 16:33	15:28 (3) 15:31 (3)	15:30 (3) 16:40
31	05:54 20:20	06:25 19:37		06:30 16:59			07:27 16:40	15:32 (3) 15:55 (3)
Potential sun hours	460	429	375	345	297	287		
Total, worst case			137	554	3	671		

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

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

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

The WTG is always operating

	January	February	March	April	May	June
1	07:27 16:41	07:13 17:16	16:22 (6) 16:43 (6)	06:37 17:50	16:12 (5) 17:04 (5)	06:46 19:25
2	07:27 16:42	07:12 17:17	16:22 (6) 16:44 (6)	06:35 17:52	16:10 (5) 17:04 (5)	06:44 19:26
3	07:27 16:43	07:11 17:19	16:22 (6) 16:45 (6)	06:34 17:53	16:10 (5) 17:06 (5)	06:42 19:27
4	07:27 16:44	07:10 17:20	16:22 (6) 16:45 (6)	06:32 17:54	16:08 (5) 17:06 (5)	06:41 19:28
5	07:27 16:45	07:09 17:21	16:22 (6) 16:45 (6)	06:31 17:55	16:08 (5) 17:07 (5)	06:39 19:29
6	07:27 16:46	07:08 17:22	16:22 (6) 16:46 (6)	06:29 17:56	16:06 (5) 17:24 (4)	06:37 19:30
7	07:27 16:47	07:07 17:24	16:23 (6) 16:46 (6)	06:27 17:57	16:05 (5) 17:27 (4)	06:36 19:31
8	07:27 16:48	07:06 17:25	16:23 (6) 16:46 (6)	06:26 17:59	16:05 (5) 17:30 (4)	06:34 19:33
9	07:27 16:49	07:05 17:26	16:23 (6) 16:44 (6)	06:24 18:00	16:04 (5) 17:30 (4)	06:32 19:34
10	07:27 16:50	07:03 17:27	16:24 (6) 16:44 (6)	06:23 18:01	16:03 (5) 17:31 (4)	06:31 19:35
11	07:26 16:51	07:02 17:29	16:26 (6) 16:43 (6)	06:21 18:02	16:03 (5) 17:32 (4)	06:29 19:36
12	07:26 16:52	07:01 17:30	16:27 (6) 16:42 (6)	06:19 18:03	16:03 (5) 17:32 (4)	06:28 19:37
13	07:26 16:53	07:00 17:31	16:29 (6) 16:39 (6)	06:18 18:04	16:02 (5) 17:31 (4)	06:26 19:38
14	07:25 16:54	06:58 17:32	06:16 18:05	06:16 18:05	16:02 (5) 17:31 (4)	06:24 19:39
15	07:25 16:55	06:57 17:34	06:14 18:06	06:14 18:06	16:02 (5) 17:31 (4)	06:23 19:40
16	07:25 16:57	06:56 17:35	06:13 18:08	06:13 18:08	16:01 (5) 17:29 (4)	06:21 19:41
17	07:24 16:58	06:54 17:36	06:11 18:09	06:11 18:09	16:02 (5) 17:29 (4)	06:20 19:42
18	07:24 16:59	06:53 17:37	06:09 18:10	06:09 18:10	16:02 (5) 17:27 (4)	06:18 19:43
19	07:23 17:00	06:52 17:38	06:08 18:11	06:08 18:11	16:02 (5) 17:25 (4)	06:17 19:44
20	07:23 17:01	06:50 17:40	06:06 18:12	06:06 18:12	16:02 (5) 17:22 (4)	06:15 19:45
21	07:22 17:02	06:49 17:41	06:04 18:13	06:04 18:13	16:02 (5) 17:06 (5)	06:14 19:47
22	07:21 17:04	06:47 17:42	16:30 (5) 16:48 (5)	06:03 18:14	16:02 (5) 17:05 (5)	06:12 19:48
23	07:21 17:05	06:46 17:43	16:25 (5) 16:52 (5)	06:01 18:15	16:03 (5) 17:04 (5)	06:11 19:49
24	07:20 17:06	06:45 17:45	16:23 (5) 16:55 (5)	05:59 18:16	16:04 (5) 17:03 (5)	06:09 19:50
25	07:19 17:07	06:43 17:46	16:20 (5) 16:57 (5)	05:57 18:17	16:04 (5) 17:02 (5)	06:08 19:51
26	07:19 17:08	06:42 17:47	16:18 (5) 17:00 (5)	05:56 18:18	16:05 (5) 17:00 (5)	06:06 19:52
27	07:18 17:10	16:27 (6) 16:37 (6)	06:40 17:48	16:15 (5) 17:01 (5)	05:54 18:20	06:05 19:53
28	07:17 17:11	16:25 (6) 16:39 (6)	06:38 17:49	16:14 (5) 17:03 (5)	05:52 18:21	06:04 19:54
29	07:16 17:12	16:24 (6) 16:40 (6)	06:51 19:22	06:51 19:22	17:08 (5) 17:56 (5)	06:02 19:55
30	07:15 17:13	16:23 (6) 16:42 (6)	06:49 19:23	06:49 19:23	17:10 (5) 17:55 (5)	06:01 19:56
31	07:14 17:15	16:23 (6) 16:43 (6)	06:47 19:24	06:47 19:24	17:11 (5) 17:53 (5)	05:31 20:26
Potential sun hours	297	297	369	399	449	453
Total, worst case	79	516	2117	136	449	453

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

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

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

The WTG is always operating

	July	August	September	October	November	December		
1	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	16:42 (5) 18:11 (4)	06:31 16:57	15:54 (6) 16:14 (6)	07:06 16:33
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	16:42 (5) 18:11 (4)	06:32 16:56	15:53 (6) 16:14 (6)	07:07 16:32
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	16:42 (5) 18:10 (4)	06:34 16:55	15:52 (6) 16:14 (6)	07:08 16:32
4	05:32 20:38	05:58 20:16	06:29 19:30	07:00 18:39	16:42 (5) 18:09 (4)	06:35 16:54	15:52 (6) 16:16 (6)	07:09 16:32
5	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	16:42 (5) 18:07 (4)	06:36 16:52	15:52 (6) 16:15 (6)	07:10 16:32
6	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	16:42 (5) 18:05 (4)	06:37 16:51	15:52 (6) 16:15 (6)	07:11 16:31
7	05:34 20:37	06:01 20:12	06:32 19:25	17:21 (5) 17:32 (5)	07:03 18:34	06:38 16:50	15:53 (6) 16:16 (6)	07:12 16:31
8	05:35 20:37	06:02 20:11	06:33 19:24	17:15 (5) 17:37 (5)	07:04 18:33	06:40 17:43 (5)	15:53 (6) 16:15 (6)	07:13 16:31
9	05:35 20:36	06:03 20:09	06:34 19:22	17:11 (5) 17:40 (5)	07:05 18:31	06:41 17:41 (5)	15:53 (6) 16:15 (6)	07:14 16:31
10	05:36 20:36	06:04 20:08	06:35 19:20	17:08 (5) 17:42 (5)	07:06 18:29	06:42 17:40 (5)	15:53 (6) 16:14 (6)	07:15 16:31
11	05:37 20:35	06:05 20:07	06:36 19:19	17:05 (5) 17:44 (5)	07:07 18:28	06:43 17:39 (5)	15:55 (6) 16:14 (6)	07:16 16:31
12	05:37 20:35	06:06 20:05	06:37 19:17	17:03 (5) 17:45 (5)	07:08 18:26	06:44 17:38 (5)	15:55 (6) 16:13 (6)	07:17 16:31
13	05:38 20:34	06:07 20:04	06:38 19:15	17:01 (5) 17:46 (5)	07:09 18:25	06:46 17:36 (5)	15:56 (6) 16:12 (6)	07:18 16:32
14	05:39 20:34	06:08 20:03	06:39 19:14	16:59 (5) 17:47 (5)	07:10 18:23	06:47 17:35 (5)	15:58 (6) 16:12 (6)	07:18 16:32
15	05:40 20:33	06:09 20:01	06:40 19:12	16:56 (5) 17:47 (5)	07:12 18:21	06:48 17:33 (5)	16:00 (6) 16:10 (6)	07:19 16:32
16	05:40 20:33	06:10 20:00	06:41 19:10	16:55 (5) 17:48 (5)	07:13 18:20	06:49 17:30 (5)	16:10 (6) 16:41	07:20 16:32
17	05:41 20:32	06:11 19:59	06:42 19:08	16:53 (5) 17:49 (5)	07:14 18:18	06:50 17:28 (5)	16:41 16:40	07:20 16:33
18	05:42 20:31	06:12 19:57	06:43 19:07	16:52 (5) 17:49 (5)	07:15 18:17	06:52 17:26 (5)	16:42 16:40	07:21 16:33
19	05:43 20:31	06:13 19:56	06:44 19:05	16:50 (5) 17:49 (5)	07:16 18:15	06:53 17:22 (5)	16:43 16:39	07:22 16:33
20	05:44 20:30	06:14 19:54	06:45 19:03	16:49 (5) 17:50 (5)	07:17 18:14	06:54 17:16 (5)	16:39 16:38	07:22 16:34
21	05:45 20:29	06:15 19:53	06:46 19:01	16:48 (5) 17:50 (5)	07:18 18:12	06:55 16:37	16:38 16:34	07:23 16:34
22	05:45 20:28	06:16 19:51	06:47 19:00	16:47 (5) 17:50 (5)	07:19 18:11	06:56 16:37	16:37 16:35	07:23 16:35
23	05:46 20:28	06:17 19:50	06:48 18:58	16:46 (5) 17:50 (5)	07:21 18:09	06:57 16:36	16:36 16:35	07:24 16:35
24	05:47 20:27	06:18 19:48	06:49 18:56	16:45 (5) 18:07 (4)	07:22 18:08	06:59 16:36	16:35 16:36	07:24 16:36
25	05:48 20:26	06:19 19:47	06:50 18:55	16:44 (5) 18:09 (4)	06:23 17:07	07:00 16:35	16:34 16:35	07:25 16:36
26	05:49 20:25	06:20 19:45	06:51 18:53	16:44 (5) 18:10 (4)	06:24 17:05	07:01 16:35	16:34 16:37	07:25 16:37
27	05:50 20:24	06:21 19:43	06:52 18:51	16:43 (5) 18:11 (4)	06:25 17:04	07:02 16:34	16:33 16:37	07:26 16:37
28	05:51 20:23	06:22 19:42	06:53 18:49	16:43 (5) 18:12 (4)	06:26 17:02	07:03 16:02 (6)	16:34 16:34	07:26 16:38
29	05:52 20:22	06:23 19:40	06:54 18:48	16:43 (5) 18:12 (4)	06:28 17:01	07:04 16:10 (6)	16:35 16:33	07:26 16:39
30	05:53 20:21	06:24 19:39	06:55 18:46	16:42 (5) 18:12 (4)	06:29 17:00	07:05 16:11 (6)	16:36 16:33	07:26 16:40
31	05:54 20:20	06:25 19:37		06:30 16:59	17:00 16:13 (6)		16:33 16:40	07:27 16:40
Potential sun hours	460	429	375	345	297	298		287
Total, worst case			1392	1198		298		

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:27 16:42	07:13 17:16	06:37 17:50	06:46 19:25	17:55 (6) 18:37 (6)	06:00 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	18:06 (6) 18:19 (6)	06:57 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	17:56 (6) 18:36 (6)	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	18:02 (6) 18:22 (6)	06:58 18:43	06:32 16:56	07:07 16:32
3	07:27 16:43	07:11 17:19	06:34 17:53	06:42 19:27	17:56 (6) 18:35 (6)	05:57 19:59	05:29 20:29	05:32 20:38	05:57 20:17	06:28 19:32	18:00 (6) 18:24 (6)	06:59 18:41	06:34 16:55	07:08 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	17:56 (6) 18:34 (6)	05:56 20:00	05:29 20:29	05:32 20:38	05:58 20:16	06:29 19:30	17:57 (6) 18:26 (6)	07:00 18:39	06:35 16:54	07:09 16:32
5	07:27 16:45	07:09 17:21	06:31 17:55	06:39 19:29	17:57 (6) 18:33 (6)	05:54 20:02	05:29 20:30	05:33 20:37	05:59 20:14	06:30 19:29	17:56 (6) 18:27 (6)	07:01 18:38	06:36 16:52	07:10 16:32
6	07:27 16:46	07:08 17:22	06:29 17:56	06:37 19:30	17:58 (6) 18:32 (6)	05:53 20:03	05:28 20:31	05:33 20:37	06:00 20:13	06:31 19:27	17:54 (6) 18:28 (6)	07:02 18:36	06:37 16:51	07:11 16:32
7	07:27 16:47	07:07 17:24	06:27 17:57	06:36 19:31	17:58 (6) 18:30 (6)	05:52 20:04	05:28 20:31	05:34 20:37	06:01 20:12	06:32 19:25	17:53 (6) 18:28 (6)	07:03 18:34	06:38 16:50	07:12 16:31
8	07:27 16:48	07:06 17:25	06:26 17:59	06:34 19:33	18:00 (6) 18:29 (6)	05:51 20:05	05:28 20:32	05:35 20:37	06:02 20:11	06:33 19:24	17:51 (6) 18:29 (6)	07:04 18:33	06:40 16:49	07:13 16:31
9	07:27 16:49	07:05 17:26	06:24 18:00	06:33 19:34	18:02 (6) 18:26 (6)	05:50 20:06	05:28 20:33	05:35 20:36	06:03 20:09	06:34 19:22	17:50 (6) 18:29 (6)	07:05 18:31	06:41 16:48	07:14 16:31
10	07:27 16:50	07:03 17:27	06:23 18:01	06:31 19:35	18:03 (6) 18:23 (6)	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	17:49 (6) 18:30 (6)	07:06 18:29	06:42 16:47	07:15 16:31
11	07:26 16:51	07:02 17:29	06:21 18:02	06:29 19:36	18:07 (6) 18:20 (6)	05:47 20:08	05:27 20:34	05:37 20:35	06:05 20:07	06:36 19:19	17:48 (6) 18:30 (6)	07:07 18:28	06:43 16:46	07:16 16:31
12	07:26 16:52	07:01 17:30	06:19 18:03	06:28 19:37	18:20 (6) 19:09	05:46 20:09	05:27 20:34	05:37 20:35	06:06 20:05	06:37 19:17	17:48 (6) 18:30 (6)	07:08 18:26	06:44 16:45	07:17 16:32
13	07:26 16:53	07:00 17:31	06:18 18:04	06:26 19:38	19:03 (6) 20:10	05:45 20:10	05:27 20:35	05:38 20:34	06:07 20:04	06:38 19:15	17:47 (6) 18:30 (6)	07:09 18:25	06:46 16:44	07:18 16:32
14	07:25 16:54	06:58 17:32	06:16 18:05	06:24 19:39	20:03 (6) 17:24 (6)	05:44 19:40	05:27 20:12	05:39 20:36	06:08 20:33	06:39 20:01	17:46 (6) 18:29 (6)	07:10 18:21	06:47 16:42	07:18 16:32
15	07:25 16:55	06:57 17:34	06:14 18:06	06:23 19:40	17:18 (6) 17:12 (6)	05:43 19:41	05:27 20:13	05:40 20:36	06:09 20:00	06:40 19:10	17:46 (6) 18:28 (6)	07:12 18:20	06:48 16:41	07:19 16:32
16	07:25 16:57	06:56 17:35	06:13 18:08	06:21 19:41	17:12 (6) 17:29 (6)	05:42 19:41	05:27 20:13	05:40 20:36	06:10 20:00	06:41 19:10	17:45 (6) 18:28 (6)	07:13 18:20	06:49 16:41	07:20 16:32
17	07:24 16:58	06:54 17:36	06:11 18:09	06:20 19:42	17:09 (6) 17:32 (6)	05:41 19:42	05:27 20:14	05:41 20:36	06:11 19:59	06:42 19:08	17:44 (6) 18:27 (6)	07:14 18:18	06:50 16:41	07:21 16:33
18	07:24 16:59	06:53 17:37	06:09 18:10	06:18 19:43	17:06 (6) 17:34 (6)	05:40 19:43	05:27 20:15	05:42 20:37	06:12 19:57	06:43 19:07	17:44 (6) 18:26 (6)	07:15 18:17	06:52 16:40	07:21 16:33
19	07:23 17:00	06:52 17:39	06:08 18:11	06:17 19:44	17:04 (6) 17:35 (6)	05:39 19:44	05:27 20:16	05:43 20:31	06:13 19:56	06:44 19:05	17:44 (6) 18:25 (6)	07:16 18:15	06:53 16:39	07:22 16:33
20	07:23 17:01	06:50 17:40	06:06 18:12	06:15 19:45	17:03 (6) 17:37 (6)	05:38 19:45	05:27 20:17	05:44 20:30	06:14 19:54	06:45 19:03	17:45 (6) 18:25 (6)	07:17 18:14	06:54 16:38	07:22 16:34
21	07:22 17:02	06:49 17:41	06:04 18:13	06:14 19:47	17:01 (6) 17:37 (6)	05:38 19:47	05:27 20:18	05:45 20:37	06:15 19:53	06:46 19:01	17:45 (6) 18:23 (6)	07:18 18:12	06:55 16:38	07:23 16:34
22	07:21 17:04	06:47 17:42	06:03 18:14	06:12 19:48	17:00 (6) 17:38 (6)	05:37 19:48	05:28 20:19	05:46 20:28	06:16 19:51	06:47 19:00	17:45 (6) 18:22 (6)	07:19 18:11	06:56 16:37	07:23 16:35
23	07:21 17:05	06:46 17:43	06:01 18:15	06:11 19:49	16:59 (6) 17:39 (6)	05:36 19:49	05:28 20:20	05:46 20:28	06:17 19:50	06:48 18:58	17:46 (6) 18:21 (6)	07:21 18:09	06:57 16:36	07:24 16:35
24	07:20 17:06	06:45 17:45	05:59 18:16	06:09 19:50	16:58 (6) 17:39 (6)	05:35 19:50	05:28 20:20	05:47 20:27	06:18 19:48	06:49 18:56	17:47 (6) 18:19 (6)	07:22 18:08	06:59 16:36	07:24 16:36
25	07:19 17:07	06:43 17:46	05:58 18:17	06:08 19:51	16:57 (6) 17:39 (6)	05:35 19:51	05:28 20:21	05:48 20:26	06:19 19:47	06:50 18:55	17:48 (6) 18:17 (6)	06:23 17:07	07:00 16:35	07:25 16:36
26	07:19 17:09	06:42 17:47	05:56 18:19	06:06 19:52	16:56 (6) 17:39 (6)	05:34 19:52	05:29 20:22	05:49 20:25	06:20 19:45	06:51 18:53	17:50 (6) 18:15 (6)	06:24 17:05	07:01 16:35	07:25 16:37
27	07:18 17:10	06:40 17:48	05:54 18:20	06:05 19:53	16:56 (6) 17:39 (6)	05:33 19:53	05:29 20:23	05:50 20:24	06:21 19:43	06:52 18:51	17:53 (6) 18:13 (6)	06:25 17:04	07:02 16:34	07:26 16:38
28	07:17 17:11	06:38 17:49	05:52 18:21	06:04 19:54	16:56 (6) 17:39 (6)	05:33 19:54	05:29 20:24	05:51 20:23	06:22 19:42	06:53 18:49	17:57 (6) 18:08 (6)	06:26 17:02	07:03 16:34	07:26 16:38
29	07:16 17:12	06:37 17:51	05:51 18:22	06:03 19:55	16:55 (6) 17:38 (6)	05:32 19:55	05:30 20:25	05:52 20:22	06:23 19:40	06:54 18:48	18:08 (6) 17:01	06:27 16:33	07:04 16:39	07:26 16:39
30	07:15 17:13	06:36 17:53	05:50 18:23	06:01 19:56	17:56 (6) 18:38 (6)	05:31 19:56	05:30 20:26	05:53 20:21	06:24 19:39	06:55 18:46	17:56 (6) 16:30	06:28 17:00	07:05 16:33	07:26 16:40
31	07:14 17:15	06:35 17:54	05:49 18:24	06:00 19:57	17:55 (6) 18:38 (6)	05:31 19:57	05:30 20:26	05:54 20:20	06:25 19:37	06:56 18:47	17:55 (6) 16:59	06:29 17:00	07:06 16:34	07:27 16:40
Potential sun hours	297	297	369	399	449	453	460	428	375	345	297	287		
Total, worst case			593	347					953					

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:41	07:13 17:16	06:37 17:50	06:46 19:25	05:59 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:32
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:57 18:43	06:32 16:56	07:07 16:32
3	07:27 16:43	07:11 17:18	06:34 17:53	06:42 19:27	05:57 19:59	05:29 20:28	05:32 20:38	05:57 20:16	06:28 19:32	06:58 18:41	06:33 16:55	07:08 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	05:56 20:00	05:29 20:29	05:32 20:37	05:58 20:15	06:29 19:30	06:59 18:39	06:35 16:53	07:09 16:32
5	07:27 16:45	07:09 17:21	06:30 17:55	06:39 19:29	05:54 20:01	05:29 20:30	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	06:36 16:52	07:10 16:32
6	07:27 16:46	07:08 17:22	06:29 17:56	06:37 19:30	05:53 20:02	05:28 20:30	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	06:37 16:51	07:11 16:31
7	07:27 16:47	07:07 17:23	06:27 17:57	06:36 19:31	05:52 20:03	05:28 20:31	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	06:38 16:50	07:12 16:31
8	07:27 16:48	07:06 17:25	06:26 17:58	06:34 19:32	05:51 20:04	05:28 20:32	05:35 20:36	06:02 20:10	06:33 19:24	07:04 18:33	06:39 16:49	07:13 16:31
9	07:27 16:49	07:04 17:26	06:24 18:00	06:32 19:33	05:49 20:06	05:27 20:32	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	06:41 16:48	07:14 16:31
10	07:26 16:50	07:03 17:27	06:22 18:01	06:31 19:35	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	06:42 16:47	07:15 16:31
11	07:26 16:51	07:02 17:29	06:21 18:02	06:29 19:36	05:47 20:08	05:27 20:33	05:37 20:35	06:05 20:07	06:36 19:18	07:07 18:28	06:43 16:46	07:16 16:31
12	07:26 16:52	07:01 17:30	06:19 18:03	06:28 19:37	05:46 20:09	05:27 20:34	05:37 20:35	06:06 20:05	06:37 19:17	07:08 18:26	06:44 16:45	07:17 16:31
13	07:26 16:53	07:00 17:31	06:17 18:04	06:26 19:38	05:45 20:10	05:27 20:34	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:24	06:45 16:44	07:17 16:32
14	07:25 16:54	06:58 17:32	06:16 18:05	06:24 19:39	05:44 20:11	05:27 20:35	05:39 20:34	06:08 20:03	06:39 19:13	07:10 18:23	06:47 16:43	07:18 16:32
15	07:25 16:55	06:57 17:33	06:14 18:06	06:23 19:40	05:43 20:12	05:27 20:35	05:40 20:33	06:09 20:01	06:40 19:12	07:11 18:21	06:48 16:42	07:19 16:32
16	07:24 16:56	06:56 17:35	06:13 18:07	06:21 19:41	05:42 20:13	05:27 20:36	05:40 20:32	06:10 20:00	06:41 19:10	07:12 18:20	06:49 16:41	07:20 16:32
17	07:24 16:58	06:54 17:36	06:11 18:09	06:20 19:42	05:41 20:14	05:27 20:36	05:41 20:32	06:11 19:58	06:42 19:08	07:14 18:18	06:50 16:40	07:20 16:32
18	07:23 16:59	06:53 17:37	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:36	05:42 20:31	06:12 19:57	06:43 19:06	07:15 18:17	06:51 16:40	07:21 16:33
19	07:23 17:00	06:52 17:38	06:07 18:11	06:17 19:44	05:39 20:16	05:27 20:37	05:43 20:30	06:13 19:55	06:44 19:05	07:16 18:15	06:53 16:39	07:22 16:33
20	07:22 17:01	06:50 17:40	06:06 18:12	06:15 19:45	05:38 20:17	05:27 20:37	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	06:54 16:38	07:22 16:34
21	07:22 17:02	06:49 17:41	06:04 18:13	06:14 19:46	05:37 20:17	05:27 20:37	05:45 20:29	06:15 19:52	06:46 19:01	07:18 18:12	06:55 16:37	07:23 16:34
22	07:21 17:04	06:47 17:42	06:02 18:14	06:12 19:47	05:37 20:18	05:27 20:37	05:45 20:28	06:16 19:51	06:47 19:00	07:19 18:11	06:56 16:37	07:23 16:35
23	07:21 17:05	06:46 17:43	06:01 18:15	06:11 19:48	05:36 20:19	05:28 20:38	05:46 20:27	06:17 19:49	06:48 18:58	07:20 18:09	06:57 16:36	07:24 16:35
24	07:20 17:06	06:44 17:44	05:59 18:16	06:09 19:50	05:35 20:20	05:28 20:38	05:47 20:27	06:18 19:48	06:49 18:56	07:22 18:08	06:58 16:36	07:24 16:36
25	07:19 17:07	06:43 17:46	05:57 18:17	06:08 19:51	05:34 20:21	05:28 20:38	05:48 20:26	06:19 19:46	06:50 18:54	07:23 17:06	07:00 16:35	07:25 16:36
26	07:18 17:08	06:41 17:47	05:56 18:18	06:06 19:52	05:34 20:22	05:29 20:38	05:49 20:25	06:20 19:45	06:51 18:53	07:24 17:05	07:01 16:34	07:25 16:37
27	07:18 17:10	06:40 17:48	05:54 18:19	06:05 19:53	05:33 20:23	05:29 20:38	05:50 20:24	06:21 19:43	06:52 18:51	07:25 17:04	07:02 16:34	07:25 16:37
28	07:17 17:11	06:38 17:49	05:52 18:21	06:03 19:54	05:32 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:49	07:26 17:02	07:03 16:34	07:26 16:38
29	07:16 17:12		06:51 19:22	06:02 19:55	05:32 20:25	05:30 20:38	05:52 20:22	06:23 19:40	06:54 18:48	07:27 17:01	07:04 16:33	07:26 16:39
30	07:15 17:13		06:49 19:23	06:01 19:56	05:31 20:25	05:30 20:38	05:53 20:21	06:24 19:38	06:55 18:46	07:28 17:00	07:05 16:33	07:26 16:40
31	07:14 17:15		06:47 19:24		05:31 20:26		05:54 20:20	06:25 19:37	06:30 16:58			07:26 16:40
Potential sun hours Total, worst case	297	297	369	399	449	453	460	428	375	345	297	287

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:42	07:13 17:16	06:37 17:50	06:46 19:25	06:00 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:57 18:43	06:32 16:56	07:07 16:32
3	07:27 16:43	07:11 17:19	06:34 17:53	06:42 19:27	05:57 19:59	05:30 20:28	05:32 20:38	05:57 20:16	06:28 19:32	06:59 18:41	06:33 16:55	07:08 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	05:56 20:00	05:29 20:29	05:32 20:37	05:58 20:15	06:29 19:30	07:00 18:39	06:35 16:54	07:09 16:32
5	07:27 16:45	07:09 17:21	06:31 17:55	06:39 19:29	05:54 20:01	05:29 20:30	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	06:36 16:52	07:10 16:32
6	07:27 16:46	07:08 17:22	06:29 17:56	06:37 19:30	05:53 20:02	05:28 20:30	05:34 20:37	06:00 20:13	06:31 19:27	07:02 18:36	06:37 16:51	07:11 16:32
7	07:27 16:47	07:07 17:24	06:27 17:57	06:36 19:31	05:52 20:03	05:28 20:31	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	06:38 16:50	07:12 16:31
8	07:27 16:48	07:06 17:25	06:26 17:59	06:34 19:32	05:51 20:04	05:28 20:32	05:35 20:36	06:02 20:10	06:33 19:24	07:04 18:33	06:39 16:49	07:13 16:31
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Potential sun hours Total, worst case	297	297	369	399	449	453	460	428	375	345	297	287

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

Vega sas  
Via delli Carri, 48  
IT-71100 Foggia  
+39 0881 756251  
VEGA / info@studiovega.org  
Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:42	07:13 17:16	06:37 17:50	06:46 19:25	05:59 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33
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Potential sun hours Total, worst case	297	297	369	399	449	453	460	428	375	345	297	287

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

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

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:26 16:41	07:13 17:16	06:37 17:50	06:46 19:25	05:59 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:32
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30	07:15 17:13		06:49 19:23	06:01 19:56	05:31 20:25	05:30 20:38	05:53 20:21	06:24 19:38	06:55 18:46	07:27 17:00	07:05 16:33	07:26 16:40
31	07:14 17:15		06:47 19:24		05:31 20:26		05:54 20:20	06:25 19:37	06:30 16:58			07:26 16:40
Potential sun hours Total, worst case	297	297	369	399	449	453	460	428	375	345	297	287

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:27 16:42	07:13 17:16	08:01 (6) 08:43 (6)	06:37 17:51	06:46 19:25	06:00 19:57
2	07:27 16:42	07:12 17:17	08:00 (6) 08:42 (6)	06:35 17:52	06:44 19:26	05:58 19:58
3	07:27 16:43	07:11 17:19	08:00 (6) 08:43 (6)	06:34 17:53	06:42 19:27	05:57 19:59
4	07:27 16:44	07:10 17:20	08:00 (6) 08:44 (6)	06:32 17:54	06:41 19:28	05:56 20:01
5	07:27 16:45	07:09 17:21	08:00 (6) 08:44 (6)	06:31 17:55	06:39 19:29	05:54 20:02
6	07:27 16:46	07:08 17:22	08:00 (6) 08:45 (6)	06:29 17:56	06:37 19:30	05:53 20:03
7	07:27 16:47	07:07 17:24	08:00 (6) 08:45 (6)	06:28 17:58	06:36 19:32	05:52 20:04
8	07:27 16:48	07:06 17:25	08:00 (6) 08:46 (6)	06:26 17:59	06:34 19:33	05:51 20:05
9	07:27 16:49	07:05 17:26	07:59 (6) 08:45 (6)	06:24 18:00	06:33 19:34	05:50 20:06
10	07:27 16:50	07:04 17:27	07:59 (6) 08:45 (6)	06:23 18:01	06:31 19:35	05:48 20:07
11	07:26 16:51	07:02 17:29	08:00 (6) 08:45 (6)	06:21 18:02	06:29 19:36	07:46 (4) 20:08
12	07:26 16:52	07:01 17:30	08:00 (6) 08:45 (6)	06:19 18:03	06:28 19:37	07:41 (4) 20:09
13	07:26 16:53	07:00 17:31	08:00 (6) 08:44 (6)	06:18 18:04	06:26 19:38	07:43 (4) 20:10
14	07:26 16:54	06:59 17:32	08:01 (6) 08:44 (6)	06:16 18:05	06:25 19:39	07:44 (4) 20:11
15	07:25 16:55	06:57 17:34	08:01 (6) 08:44 (6)	06:14 18:07	06:23 19:40	07:46 (4) 20:12
16	07:25 16:57	06:56 17:35	08:01 (6) 08:42 (6)	06:13 18:08	06:21 19:41	07:47 (4) 20:13
17	07:24 16:58	06:55 17:36	08:02 (6) 08:42 (6)	06:11 18:09	06:20 19:42	07:48 (4) 20:14
18	07:24 16:59	06:53 17:37	08:03 (6) 08:41 (6)	06:09 18:10	06:18 19:43	07:49 (4) 20:15
19	07:23 17:00	06:52 17:39	08:04 (6) 08:40 (6)	06:08 18:11	06:17 19:44	07:51 (4) 20:16
20	07:23 17:01	06:50 17:40	08:05 (6) 08:39 (6)	06:06 18:12	06:15 19:46	07:52 (4) 20:17
21	07:22 17:02	08:13 (6) 08:25 (6)	06:49 17:41	08:06 (6) 08:37 (6)	06:04 18:13	07:54 (4) 20:18
22	07:21 17:04	08:10 (6) 08:28 (6)	06:48 17:42	08:08 (6) 08:35 (6)	06:03 18:14	07:55 (4) 20:19
23	07:21 17:05	08:09 (6) 08:31 (6)	06:46 17:43	08:10 (6) 08:32 (6)	06:01 18:15	07:57 (4) 20:20
24	07:20 17:06	08:07 (6) 08:33 (6)	06:45 17:45	08:13 (6) 08:29 (6)	05:59 18:16	07:58 (4) 20:21
25	07:19 17:07	08:06 (6) 08:34 (6)	06:43 17:46	05:58 18:18	06:08 19:51	08:00 (4) 20:21
26	07:19 17:09	08:05 (6) 08:36 (6)	06:42 17:47	05:56 18:19	06:06 19:52	08:01 (4) 20:22
27	07:18 17:10	08:04 (6) 08:37 (6)	06:40 17:48	05:54 18:20	06:05 19:53	08:02 (4) 20:23
28	07:17 17:11	08:03 (6) 08:38 (6)	06:39 17:49	05:53 18:21	06:04 19:54	08:04 (4) 20:24
29	07:16 17:12	08:02 (6) 08:39 (6)	06:38 17:50	06:51 19:22	06:02 19:55	08:06 (4) 20:25
30	07:15 17:14	08:02 (6) 08:41 (6)	06:37 17:51	06:49 19:23	06:01 19:56	08:07 (4) 20:26
31	07:14 17:15	08:02 (6) 08:42 (6)	06:36 17:52	06:47 19:24	06:00 19:57	08:08 (4) 20:27
Potential sun hours	297	321	297	369	399	429
Total, worst case	321	398	429	449	54	453

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:31 20:38	05:55 20:19	06:26 19:35	07:45 (4) 18:44	06:57 16:57	07:29 (6) 16:33
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	07:29 (6) 16:32
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:34 16:55	07:29 (6) 16:32
4	05:32 20:38	05:58 20:16	06:29 19:31	07:00 18:39	06:35 16:54	07:29 (6) 16:32
5	05:33 20:38	05:59 20:14	08:27 (4) 08:29 (4)	06:30 19:29	07:01 18:38	06:36 16:53
6	05:33 20:37	06:00 20:13	08:26 (4) 08:29 (4)	06:31 19:27	07:02 18:36	06:37 16:51
7	05:34 20:37	06:01 20:12	08:24 (4) 08:29 (4)	06:32 19:26	07:03 18:34	06:38 16:50
8	05:35 20:37	06:02 20:11	08:23 (4) 08:29 (4)	06:33 19:24	07:04 18:33	06:40 16:49
9	05:35 20:36	06:03 20:09	08:21 (4) 08:29 (4)	06:34 19:22	07:05 18:31	06:41 16:48
10	05:36 20:36	06:04 20:08	08:20 (4) 08:29 (4)	06:35 19:20	07:06 18:30	06:42 16:47
11	05:37 20:35	06:05 20:07	08:18 (4) 08:29 (4)	06:36 19:19	07:07 18:28	06:43 16:46
12	05:37 20:35	06:06 20:06	08:16 (4) 08:29 (4)	06:37 19:17	07:08 18:26	06:44 16:45
13	05:38 20:34	06:07 20:04	08:15 (4) 08:29 (4)	06:38 19:15	07:09 18:25	06:46 16:44
14	05:39 20:34	06:08 20:03	08:13 (4) 08:28 (4)	06:39 19:14	07:11 18:23	06:47 16:43
15	05:40 20:33	06:09 20:01	08:11 (4) 08:28 (4)	06:40 19:12	07:12 18:22	06:48 16:42
16	05:41 20:33	06:10 20:00	08:10 (4) 08:27 (4)	06:41 19:10	07:13 18:20	06:49 16:41
17	05:41 20:32	06:11 19:59	08:08 (4) 08:27 (4)	06:42 19:08	07:14 18:18	06:51 16:41
18	05:42 20:31	06:12 19:57	08:06 (4) 08:26 (4)	06:43 19:07	07:15 18:17	06:52 16:40
19	05:43 20:31	06:13 19:56	08:03 (4) 08:24 (4)	06:44 19:05	07:16 18:15	06:53 16:39
20	05:44 20:30	06:14 19:54	08:01 (4) 08:24 (4)	06:45 19:03	07:17 18:14	06:54 16:38
21	05:45 20:29	06:15 19:53	08:00 (4) 08:23 (4)	06:46 19:02	07:18 18:12	06:55 16:38
22	05:46 20:28	06:16 19:51	07:58 (4) 08:22 (4)	06:47 19:00	07:20 18:11	06:56 16:37
23	05:46 20:28	06:17 19:50	07:56 (4) 08:21 (4)	06:48 18:58	07:21 18:10	06:58 16:36
24	05:47 20:27	06:18 19:48	07:54 (4) 08:19 (4)	06:49 18:56	07:22 18:08	06:59 16:36
25	05:48 20:26	06:19 19:47	07:52 (4) 08:18 (4)	06:50 18:55	06:23 17:07	07:00 16:35
26	05:49 20:25	06:20 19:45	07:50 (4) 08:16 (4)	06:51 18:53	06:24 17:05	07:01 16:35
27	05:50 20:24	06:21 19:43	07:48 (4) 08:14 (4)	06:52 18:51	06:25 17:04	07:02 16:34
28	05:51 20:23	06:22 19:42	07:46 (4) 08:12 (4)	06:53 18:50	06:26 17:03	07:03 16:34
29	05:52 20:22	06:23 19:40	07:44 (4) 08:10 (4)	06:54 18:48	06:28 17:01	07:04 16:33
30	05:53 20:21	06:24 19:39	07:42 (4) 08:07 (4)	06:56 18:46	06:29 17:00	07:05 16:33
31	05:54 20:20	06:25 19:37	07:40 (4) 08:03 (4)		06:30 16:59	07:29 (6) 16:32
Potential sun hours	460	429	375	345	297	287
Total, worst case		478	12	525	767	

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June			
1	07:27 16:42	14:08 (9) 15:39 (9)	07:13 17:16	14:12 (9) 15:54 (9)	06:37 17:51	14:42 (9) 19:25	06:00 19:57	05:30 20:27	
2	07:27 16:42	14:08 (9) 15:40 (9)	07:12 17:11	14:13 (9) 15:54 (9)	06:35 17:52	14:44 (9) 15:33 (9)	06:44 19:26	05:58 19:58	05:30 20:28
3	07:27 16:43	14:08 (9) 15:40 (9)	07:11 17:19	14:13 (9) 15:55 (9)	06:34 17:53	14:48 (9) 15:31 (9)	06:42 19:27	05:57 19:59	05:29 20:29
4	07:27 16:44	14:08 (9) 15:40 (9)	07:10 17:20	14:14 (9) 15:55 (9)	06:32 17:54	14:51 (9) 15:28 (9)	06:41 19:28	05:56 20:00	05:29 20:29
5	07:27 16:45	14:08 (9) 15:41 (9)	07:09 17:21	14:14 (9) 15:55 (9)	06:31 17:55	14:56 (9) 15:24 (9)	06:39 19:29	05:54 20:02	05:29 20:30
6	07:27 16:46	14:08 (9) 15:41 (9)	07:08 17:22	14:15 (9) 15:55 (9)	06:29 17:56	15:03 (9) 15:17 (9)	06:37 19:30	05:53 20:03	05:28 20:31
7	07:27 16:47	14:09 (9) 15:42 (9)	07:07 17:24	14:15 (9) 15:55 (9)	06:27 17:57		06:36 19:31	05:52 20:04	05:28 20:31
8	07:27 16:48	14:09 (9) 15:43 (9)	07:06 17:25	14:16 (9) 15:55 (9)	06:26 17:59		06:34 19:33	05:51 20:05	05:28 20:32
9	07:27 16:49	14:09 (9) 15:44 (9)	07:05 17:26	14:16 (9) 15:54 (9)	06:24 18:00		06:33 19:34	05:50 20:06	05:28 20:32
10	07:27 16:50	14:09 (9) 15:44 (9)	07:03 17:27	14:17 (9) 15:54 (9)	06:23 18:01		06:31 19:35	05:48 20:07	05:27 20:33
11	07:26 16:51	14:09 (9) 15:45 (9)	07:02 17:29	14:18 (9) 15:54 (9)	06:21 18:02		06:29 19:36	05:47 20:08	05:27 20:34
12	07:26 16:52	14:10 (9) 15:46 (9)	07:01 17:30	14:19 (9) 15:54 (9)	06:19 18:03		06:28 19:37	05:46 20:09	05:27 20:34
13	07:26 16:53	14:09 (9) 15:46 (9)	07:00 17:31	14:19 (9) 15:53 (9)	06:18 18:04		06:26 19:38	05:45 20:10	05:27 20:35
14	07:25 16:54	14:10 (9) 15:47 (9)	06:58 17:32	14:20 (9) 15:53 (9)	06:16 18:05		06:24 19:39	05:44 20:11	05:27 20:35
15	07:25 16:55	14:09 (9) 15:47 (9)	06:57 17:34	14:21 (9) 15:53 (9)	06:14 18:06		06:23 19:40	05:43 20:12	05:27 20:35
16	07:25 16:57	14:10 (9) 15:48 (9)	06:56 17:35	14:21 (9) 15:51 (9)	06:13 18:08		06:21 19:41	05:42 20:13	05:27 20:36
17	07:24 16:58	14:10 (9) 15:48 (9)	06:54 17:36	14:23 (9) 15:51 (9)	06:11 18:09		06:20 19:42	05:41 20:14	05:27 20:36
18	07:24 16:59	14:10 (9) 15:50 (9)	06:53 17:37	14:23 (9) 15:50 (9)	06:09 18:10		06:18 19:43	05:40 20:15	05:27 20:37
19	07:23 17:00	14:10 (9) 15:50 (9)	06:52 17:39	14:25 (9) 15:49 (9)	06:08 18:11		06:17 19:44	05:39 20:16	05:27 20:37
20	07:23 17:01	14:11 (9) 15:51 (9)	06:50 17:40	14:26 (9) 15:49 (9)	06:06 18:12		06:15 19:45	05:38 20:17	05:27 20:37
21	07:22 17:02	14:11 (9) 15:51 (9)	06:49 17:41	14:27 (9) 15:47 (9)	06:04 18:13		06:14 19:47	05:38 20:18	05:27 20:37
22	07:21 17:04	14:10 (9) 15:51 (9)	06:47 17:42	14:29 (9) 15:47 (9)	06:03 18:14		06:12 19:48	05:37 20:19	05:28 20:38
23	07:21 17:05	14:10 (9) 15:51 (9)	06:46 17:43	14:30 (9) 15:45 (9)	06:01 18:15		06:11 19:49	05:36 20:19	05:28 20:38
24	07:20 17:06	14:11 (9) 15:53 (9)	06:45 17:45	14:32 (9) 15:44 (9)	05:59 18:16		06:09 19:50	05:35 20:20	05:28 20:38
25	07:19 17:07	14:11 (9) 15:53 (9)	06:43 17:46	14:33 (9) 15:43 (9)	05:58 18:17		06:08 19:51	05:35 20:21	05:28 20:38
26	07:18 17:09	14:11 (9) 15:53 (9)	06:42 17:47	14:36 (9) 15:42 (9)	05:56 18:19		06:06 19:52	05:34 20:22	05:29 20:38
27	07:18 17:10	14:11 (9) 15:53 (9)	06:40 17:48	14:37 (9) 15:40 (9)	05:54 18:20		06:05 19:53	05:33 20:23	05:29 20:38
28	07:17 17:11	14:11 (9) 15:53 (9)	06:38 17:49	14:40 (9) 15:38 (9)	05:52 18:21		06:04 19:54	05:33 20:24	05:29 20:39
29	07:16 17:12	14:12 (9) 15:54 (9)			06:51 19:22		06:02 19:55	05:32 20:25	05:30 20:38
30	07:15 17:14	14:12 (9) 15:54 (9)			06:49 19:23		06:01 19:56	05:31 20:26	05:30 20:38
31	07:14 17:15	14:12 (9) 15:54 (9)			06:47 19:24			05:31 20:26	
Potential sun hours	297		297	369		399	449	453	
Total, worst case	3028		2465	225					

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
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## SHADOW - Calendar

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

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December	
1	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	13:46 (9) 15:24 (9)	07:06 16:33
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	13:46 (9) 15:24 (9)	07:07 16:32
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:34 16:55	13:45 (9) 15:24 (9)	07:08 16:32
4	05:32 20:38	05:58 20:15	06:29 19:30	07:00 18:39	06:35 16:54	13:45 (9) 15:25 (9)	07:09 16:32
5	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	06:36 16:52	13:44 (9) 15:25 (9)	07:10 16:32
6	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	06:37 16:51	13:44 (9) 15:25 (9)	07:11 16:32
7	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	06:38 16:50	13:44 (9) 15:26 (9)	07:12 16:31
8	05:35 20:37	06:02 20:11	06:33 19:24	07:04 18:33	15:34 (9) 16:49	06:40 15:25 (9)	07:13 16:31
9	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	15:28 (9) 16:48	06:41 15:25 (9)	07:14 16:31
10	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	15:24 (9) 16:47	06:42 15:25 (9)	07:15 16:31
11	05:37 20:35	06:05 20:07	06:36 19:19	07:07 18:28	15:20 (9) 16:46	06:43 15:26 (9)	07:16 16:31
12	05:37 20:35	06:06 20:05	06:37 19:17	07:08 18:26	16:03 (9) 16:45	06:44 15:26 (9)	07:17 16:32
13	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:25	16:08 (9) 16:44	06:45 15:26 (9)	07:18 16:32
14	05:39 20:34	06:08 20:03	06:39 19:14	07:10 18:23	15:11 (9) 16:43	06:47 15:26 (9)	07:18 16:32
15	05:40 20:33	06:09 20:01	06:40 19:12	07:12 18:21	16:11 (9) 16:42	06:48 15:26 (9)	07:19 16:32
16	05:41 20:33	06:10 20:00	06:41 19:10	07:13 18:20	16:13 (9) 16:41	06:49 15:26 (9)	07:20 16:32
17	05:41 20:32	06:11 19:59	06:42 19:08	07:14 18:18	15:04 (9) 16:41	06:50 15:26 (9)	07:20 16:33
18	05:42 20:31	06:12 19:57	06:43 19:07	07:15 18:17	16:15 (9) 16:40	06:51 15:27 (9)	07:21 16:33
19	05:43 20:31	06:13 19:56	06:44 19:05	07:16 18:15	15:01 (9) 16:39	06:53 15:26 (9)	07:22 16:33
20	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	14:59 (9) 16:38	06:54 15:26 (9)	07:22 16:34
21	05:45 20:29	06:15 19:53	06:46 19:01	07:18 18:12	14:57 (9) 16:38	06:55 15:26 (9)	07:23 16:34
22	05:46 20:28	06:16 19:51	06:47 19:00	07:19 18:11	14:56 (9) 16:37	06:56 15:27 (9)	07:23 16:35
23	05:46 20:28	06:17 19:50	06:48 18:58	07:21 18:09	14:55 (9) 16:36	06:57 15:27 (9)	07:24 16:35
24	05:47 20:27	06:18 19:48	06:49 18:56	07:22 18:08	14:53 (9) 16:36	06:59 15:27 (9)	07:24 16:36
25	05:48 20:26	06:19 19:47	06:50 18:55	07:23 17:07	13:52 (9) 15:21 (9)	07:00 16:35	07:25 16:36
26	05:49 20:25	06:20 19:45	06:51 18:53	07:24 17:05	13:51 (9) 15:21 (9)	07:01 16:35	07:25 16:37
27	05:50 20:24	06:21 19:43	06:52 18:51	07:25 17:04	13:49 (9) 15:21 (9)	07:02 16:34	07:26 16:38
28	05:51 20:23	06:22 19:42	06:53 18:49	07:26 17:03	13:49 (9) 15:23 (9)	07:03 16:34	07:26 16:38
29	05:52 20:22	06:23 19:40	06:54 18:48	07:28 17:01	13:48 (9) 15:23 (9)	07:04 16:33	07:26 16:39
30	05:53 20:21	06:24 19:39	06:55 18:46	07:29 17:00	13:47 (9) 15:23 (9)	07:05 16:33	07:26 16:40
31	05:54 20:20	06:25 19:37	06:56 18:45	07:30 16:59	13:47 (9) 15:24 (9)	07:06 16:33	07:26 16:40
Potential sun hours	460	428	375	345	297	287	2819
Total, worst case				1727	3006		

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (11)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June				
1	07:27 16:42	15:03 (17) 15:48 (17)	07:13 17:16	15:35 (9) 16:24 (9)	06:37 17:50	72	15:25 (9) 16:37 (9)	06:46 19:25	06:00 19:57	05:30 20:27
2	07:27 16:42	15:05 (17) 15:49 (17)	07:12 17:17	15:34 (9) 16:26 (9)	06:35 17:52	71	15:25 (9) 16:36 (9)	06:44 19:26	05:58 19:58	05:30 20:28
3	07:27 16:43	15:05 (17) 15:49 (17)	07:11 17:19	15:33 (9) 16:27 (9)	06:34 17:53	70	15:26 (9) 16:36 (9)	06:42 19:27	05:57 19:59	05:29 20:29
4	07:27 16:44	15:05 (17) 15:48 (17)	07:10 17:20	15:32 (9) 16:28 (9)	06:32 17:54	69	15:26 (9) 16:35 (9)	06:41 19:28	05:56 20:00	05:29 20:29
5	07:27 16:45	15:06 (17) 15:48 (17)	07:09 17:21	15:31 (9) 16:30 (9)	06:31 17:55	66	15:28 (9) 16:34 (9)	06:39 19:29	05:54 20:01	05:29 20:30
6	07:27 16:46	15:07 (17) 15:48 (17)	07:08 17:22	15:30 (9) 16:31 (9)	06:29 17:56	65	15:28 (9) 16:33 (9)	06:37 19:30	05:53 20:03	05:28 20:31
7	07:27 16:47	15:08 (17) 15:48 (17)	07:07 17:24	15:30 (9) 16:32 (9)	06:27 17:57	64	15:28 (9) 16:32 (9)	06:36 19:31	05:52 20:04	05:28 20:31
8	07:27 16:48	15:09 (17) 15:49 (17)	07:06 17:25	15:29 (9) 16:33 (9)	06:26 17:59	61	15:30 (9) 16:31 (9)	06:34 19:33	05:51 20:05	05:28 20:32
9	07:27 16:49	15:11 (17) 15:49 (17)	07:05 17:26	15:28 (9) 16:34 (9)	06:24 18:00	59	15:31 (9) 16:30 (9)	06:33 19:34	05:50 20:06	05:28 20:32
10	07:27 16:50	15:11 (17) 15:48 (17)	07:03 17:27	15:27 (9) 16:35 (9)	06:23 18:01	56	15:32 (9) 16:28 (9)	06:31 19:35	05:48 20:07	05:27 20:33
11	07:26 16:51	15:12 (17) 15:48 (17)	07:02 17:29	15:27 (9) 16:36 (9)	06:21 18:02	53	15:34 (9) 16:27 (9)	06:29 19:36	05:47 20:08	05:27 20:34
12	07:26 16:52	15:14 (17) 15:48 (17)	07:01 17:30	15:27 (9) 16:36 (9)	06:19 18:03	50	15:35 (9) 16:25 (9)	06:28 19:37	05:46 20:09	05:27 20:34
13	07:26 16:53	15:15 (17) 15:47 (17)	07:00 17:31	15:25 (9) 16:36 (9)	06:18 18:04	47	15:36 (9) 16:23 (9)	06:26 19:38	05:45 20:10	05:27 20:35
14	07:25 16:54	15:17 (17) 15:46 (17)	06:58 17:32	15:25 (9) 16:37 (9)	06:16 18:05	42	15:39 (9) 16:21 (9)	06:24 19:39	05:44 20:11	05:27 20:35
15	07:25 16:55	15:18 (17) 15:45 (17)	06:57 17:34	15:25 (9) 16:38 (9)	06:14 18:06	38	15:41 (9) 16:19 (9)	06:23 19:40	05:43 20:12	05:27 20:35
16	07:25 16:57	15:20 (17) 15:44 (17)	06:56 17:35	15:24 (9) 16:38 (9)	06:13 18:08	32	15:43 (9) 16:15 (9)	06:21 19:41	05:42 20:13	05:27 20:36
17	07:24 16:58	15:22 (17) 15:43 (17)	06:54 17:36	15:24 (9) 16:38 (9)	06:11 18:09	25	15:47 (9) 16:12 (9)	06:20 19:42	05:41 20:14	05:27 20:36
18	07:24 16:59	15:23 (17) 15:41 (17)	06:53 17:37	15:23 (9) 16:38 (9)	06:09 18:10	15	15:52 (9) 16:07 (9)	06:18 19:43	05:40 20:15	05:27 20:37
19	07:23 17:00	15:29 (17) 15:37 (17)	06:52 17:39	15:24 (9) 16:39 (9)	06:08 18:11			06:17 19:44	05:39 20:16	05:27 20:37
20	07:23 17:01		06:50 17:40	15:24 (9) 16:39 (9)	06:06 18:12			06:15 19:45	05:38 20:17	05:27 20:37
21	07:22 17:02		06:49 17:41	15:23 (9) 16:39 (9)	06:04 18:13			06:14 19:47	05:38 20:18	05:27 20:37
22	07:21 17:04		06:47 17:42	15:24 (9) 16:39 (9)	06:03 18:14			06:12 19:48	05:37 20:19	05:28 20:38
23	07:21 17:05		06:46 17:43	15:23 (9) 16:39 (9)	06:01 18:15			06:11 19:49	05:36 20:19	05:28 20:38
24	07:20 17:06		06:44 17:45	15:24 (9) 16:39 (9)	05:59 18:16			06:09 19:50	05:35 20:20	05:28 20:38
25	07:19 17:07	15:50 (9)	06:43 17:46	15:23 (9) 16:38 (9)	05:58 18:17			06:08 19:51	05:35 20:21	05:28 20:38
26	07:18 17:09	15:47 (9)	06:42 17:47	15:24 (9) 16:38 (9)	05:56 18:19			06:06 19:52	05:34 20:22	05:29 20:38
27	07:18 17:10	16:11 (9)	06:40 17:48	15:44 (9) 16:38 (9)	05:54 18:20			06:05 19:53	05:33 20:23	05:29 20:38
28	07:17 17:11	15:42 (9)	06:38 17:49	15:25 (9) 16:38 (9)	05:52 18:21			06:04 19:54	05:33 20:24	05:29 20:38
29	07:16 17:12	15:40 (9)			06:51 19:22			06:02 19:55	05:32 20:25	05:30 20:38
30	07:15 17:14	15:38 (9)			06:49 19:23			06:01 19:56	05:31 20:25	05:30 20:38
31	07:14 17:15	16:20 (9)			06:47 19:24				05:31 20:26	
		16:22 (9)								
Potential sun hours	297		297	369	955		399	449		453
Total, worst case	872		1916		955					

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (11)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December					
1	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	16:15 (9) 17:04 (9)	06:31 16:57	14:57 (9) 16:04 (9)	07:06 16:33	36	14:54 (17) 15:30 (17)	
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	16:13 (9) 17:05 (9)	06:32 16:56	14:57 (9) 16:03 (9)	07:07 16:32	37	14:54 (17) 15:31 (17)	
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	16:11 (9) 17:06 (9)	06:34 16:55	14:58 (9) 16:02 (9)	07:08 16:32	38	14:54 (17) 15:32 (17)	
4	05:32 20:38	05:58 20:15	06:29 19:30	07:00 18:39	16:09 (9) 17:07 (9)	06:35 16:54	15:00 (9) 16:02 (9)	07:09 16:32	40	14:53 (17) 15:33 (17)	
5	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	16:07 (9) 17:07 (9)	06:36 16:52	15:00 (9) 16:01 (9)	07:10 16:32	40	14:53 (17) 15:33 (17)	
6	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	16:06 (9) 17:08 (9)	06:37 16:51	15:01 (9) 15:59 (9)	07:11 16:32	41	14:53 (17) 15:34 (17)	
7	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	16:04 (9) 17:08 (9)	06:38 16:50	15:03 (9) 15:59 (9)	07:12 16:31	42	14:53 (17) 15:35 (17)	
8	05:35 20:37	06:02 20:11	06:33 19:24	07:04 18:33	16:03 (9) 17:09 (9)	06:40 16:49	15:04 (9) 15:58 (9)	07:13 16:31	43	14:53 (17) 15:36 (17)	
9	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	16:01 (9) 17:09 (9)	06:41 16:48	15:05 (9) 15:56 (9)	07:14 16:31	44	14:53 (17) 15:37 (17)	
10	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	16:00 (9) 17:09 (9)	06:42 16:47	15:06 (9) 15:55 (9)	07:15 16:31	44	14:54 (17) 15:38 (17)	
11	05:37 20:35	06:05 20:07	06:36 19:19	07:07 18:28	15:59 (9) 17:09 (9)	06:43 16:46	15:09 (9) 15:54 (9)	07:16 16:31	45	14:54 (17) 15:39 (17)	
12	05:37 20:35	06:06 20:05	06:37 19:17	07:08 18:26	15:59 (9) 17:10 (9)	06:44 16:45	15:10 (9) 15:52 (9)	07:17 16:32	45	14:54 (17) 15:39 (17)	
13	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:25	15:58 (9) 17:10 (9)	06:46 16:44	15:12 (9) 15:50 (9)	07:18 16:32	45	14:54 (17) 15:39 (17)	
14	05:39 20:34	06:08 20:03	06:39 19:14	07:10 18:23	15:57 (9) 17:10 (9)	06:47 16:43	15:15 (9) 15:49 (9)	07:18 16:32	46	14:54 (17) 15:40 (17)	
15	05:40 20:33	06:09 20:01	06:40 19:12	07:12 18:21	15:56 (9) 17:10 (9)	06:48 16:42	15:17 (9) 15:47 (9)	07:19 16:32	46	14:55 (17) 15:41 (17)	
16	05:41 20:33	06:10 20:00	06:41 19:10	07:13 18:20	15:56 (9) 17:10 (9)	06:49 16:41	15:20 (9) 15:44 (9)	07:20 16:32	47	14:54 (17) 15:41 (17)	
17	05:41 20:32	06:11 19:59	06:42 19:08	07:14 18:18	15:55 (9) 17:10 (9)	06:50 16:41	15:23 (9) 15:40 (9)	07:20 16:33	47	14:55 (17) 15:42 (17)	
18	05:42 20:31	06:12 19:57	06:43 19:07	07:15 18:17	15:55 (9) 17:10 (9)	06:52 16:40	15:40 (9) 16:33	07:21 16:33	47	14:56 (17) 15:43 (17)	
19	05:43 20:31	06:13 19:56	06:44 19:05	07:16 18:15	15:55 (9) 17:10 (9)	06:53 16:39	15:44 (9) 16:33	07:22 16:33	53	11:22 (10) 15:43 (17)	
20	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	15:54 (9) 17:10 (9)	06:54 16:38	15:44 (9) 16:34	07:22 16:34	55	11:22 (10) 15:44 (17)	
21	05:45 20:29	06:15 19:53	06:46 19:01	07:18 18:12	15:54 (9) 17:09 (9)	06:55 16:38	15:50 (9) 16:34	07:23 16:34	57	11:21 (10) 15:44 (17)	
22	05:46 20:28	06:16 19:51	06:47 19:00	07:19 18:11	15:54 (9) 17:09 (9)	06:56 16:37	15:54 (9) 16:35	07:23 16:35	57	11:22 (10) 15:45 (17)	
23	05:46 20:28	06:17 19:50	06:48 18:58	07:21 18:09	15:54 (9) 17:09 (9)	06:57 16:36	15:06 (17) 15:14 (17)	07:24 16:35	56	11:23 (10) 15:45 (17)	
24	05:47 20:27	06:18 19:48	06:49 18:56	07:22 18:08	15:54 (9) 17:09 (9)	06:59 16:36	15:02 (17) 15:18 (17)	07:24 16:36	54	11:25 (10) 15:46 (17)	
25	05:48 20:26	06:19 19:47	06:50 18:55	07:23 18:07	15:54 (9) 16:08 (9)	07:00 16:35	15:00 (17) 15:20 (17)	07:25 16:36	50	11:27 (10) 15:46 (17)	
26	05:49 20:25	06:20 19:45	06:51 18:53	07:24 18:05	14:54 (9) 16:07 (9)	07:01 16:35	14:58 (17) 15:22 (17)	07:25 16:37	47	14:59 (17) 15:46 (17)	
27	05:50 20:24	06:21 19:43	06:52 18:51	07:25 18:04	16:26 (9) 17:04	06:25 16:07 (9)	16:26 (9) 16:34	07:26 16:38	47	15:00 (17) 15:47 (17)	
28	05:51 20:23	06:22 19:42	06:53 18:49	07:26 18:03	16:23 (9) 17:02	06:26 16:07 (9)	14:57 (17) 15:26 (17)	07:26 16:38	46	15:01 (17) 15:47 (17)	
29	05:52 20:22	06:23 19:40	06:54 18:48	07:28 18:01	16:20 (9) 17:01	06:28 14:55 (9)	14:56 (17) 15:28 (17)	07:26 16:39	46	15:01 (17) 15:47 (17)	
30	05:53 20:21	06:24 19:39	06:55 18:46	07:29 18:00	16:18 (9) 17:03	06:29 17:00	14:55 (9) 15:29 (17)	07:26 16:40	45	15:02 (17) 15:47 (17)	
31	05:54 20:20	06:25 19:37		06:30 16:59	14:57 (9) 16:05 (9)			07:27 16:40	45	15:02 (17) 15:47 (17)	
Potential sun hours	460	428	375	345	297	287					
Total, worst case			185	2139	1008	1431					

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: L - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (12)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January		February		March		April		May		June	
1	07:27		15:31 (17)	07:13	15:58 (9)	06:37	06:46	18:23 (8)	06:00	05:30		
	16:42	33	16:04 (17)	17:16	16:37 (9)	17:50	19:25	18:43 (8)	19:57	20:27		
2	07:27		15:33 (17)	07:12	15:58 (9)	06:35	06:44	18:24 (8)	05:58	05:30		
	16:42	33	16:06 (17)	17:17	16:37 (9)	17:52	19:26	18:42 (8)	19:58	20:28		
3	07:27		15:33 (17)	07:11	15:58 (9)	06:34	06:42	18:23 (8)	05:57	05:29		
	16:43	33	16:06 (17)	17:19	16:38 (9)	17:53	19:27	18:39 (8)	19:59	20:29		
4	07:27		15:33 (17)	07:10	15:57 (9)	06:32	06:41	18:23 (8)	05:56	05:29		
	16:44	32	16:05 (17)	17:20	16:39 (9)	17:54	19:28	18:37 (8)	20:00	20:29		
5	07:27		15:34 (17)	07:09	15:57 (9)	06:31	06:39	18:24 (8)	05:54	05:29		
	16:45	31	16:05 (17)	17:21	16:40 (9)	17:55	19:29	18:36 (8)	20:01	20:30		
6	07:27		15:35 (17)	07:08	15:57 (9)	06:29	06:37	18:24 (8)	05:53	05:28		
	16:46	31	16:06 (17)	17:22	16:40 (9)	17:56	19:30	18:33 (8)	20:03	20:31		
7	07:27		15:35 (17)	07:07	15:57 (9)	06:27	06:36	18:25 (8)	05:52	05:28		
	16:47	31	16:06 (17)	17:24	16:41 (9)	17:57	19:31	18:31 (8)	20:04	20:31		
8	07:27		15:36 (17)	07:06	15:57 (9)	06:26	06:34	18:27 (8)	05:51	05:28		
	16:48	30	16:06 (17)	17:25	16:41 (9)	17:59	19:33	18:29 (8)	20:05	20:32		
9	07:27		15:37 (17)	07:05	15:57 (9)	06:24	06:32	18:28 (8)	05:50	05:28		
	16:49	30	16:07 (17)	17:26	16:41 (9)	18:00	19:34	18:28 (8)	20:06	20:32		
10	07:27		15:38 (17)	07:03	15:57 (9)	06:23	06:31	18:29 (8)	05:48	05:27		
	16:50	28	16:06 (17)	17:27	16:41 (9)	18:01	19:35	18:29 (8)	20:07	20:33		
11	07:26		15:39 (17)	07:02	15:57 (9)	06:21	06:29	18:30 (8)	05:47	05:27		
	16:51	27	16:06 (17)	17:29	16:41 (9)	18:02	19:36	18:30 (8)	20:08	20:34		
12	07:26		15:40 (17)	07:01	15:58 (9)	06:19	06:28	18:31 (8)	05:46	05:27		
	16:52	26	16:06 (17)	17:30	16:41 (9)	18:03	19:37	18:31 (8)	20:09	20:34		
13	07:26		15:41 (17)	07:00	15:57 (9)	06:18	06:26	18:32 (8)	05:45	05:27		
	16:53	24	16:05 (17)	17:31	16:40 (9)	18:04	19:38	18:32 (8)	20:10	20:35		
14	07:25		15:42 (17)	06:58	15:58 (9)	06:16	06:24	18:33 (8)	05:44	05:27		
	16:54	23	16:05 (17)	17:32	16:40 (9)	18:05	19:39	18:33 (8)	20:11	20:35		
15	07:25		15:43 (17)	06:57	15:59 (9)	06:14	06:23	18:34 (8)	05:43	05:27		
	16:55	21	16:04 (17)	17:34	16:40 (9)	18:06	19:40	18:34 (8)	20:12	20:35		
16	07:25		15:45 (17)	06:56	15:59 (9)	06:13	06:21	18:35 (8)	05:42	05:27		
	16:57	19	16:04 (17)	17:35	16:39 (9)	18:08	19:41	18:35 (8)	20:13	20:36		
17	07:24		15:47 (17)	06:54	16:00 (9)	06:11	06:20	18:36 (8)	05:41	05:27		
	16:58	15	16:02 (17)	17:36	16:39 (9)	18:09	19:42	18:36 (8)	20:14	20:36		
18	07:24		15:50 (17)	06:53	16:00 (9)	06:09	06:18	18:37 (8)	05:40	05:27		
	16:59	11	16:01 (17)	17:37	16:37 (9)	18:10	19:43	18:37 (8)	20:15	20:37		
19	07:23			06:52	16:02 (9)	06:08	06:17	18:38 (8)	05:39	05:27		
	17:00			17:39	16:37 (9)	18:11	19:44	18:38 (8)	20:16	20:37		
20	07:23			06:50	16:03 (9)	06:06	06:15	18:39 (8)	05:38	05:27		
	17:01			17:40	16:36 (9)	18:12	19:45	18:39 (8)	20:17	20:37		
21	07:22			06:49	16:04 (9)	06:04	06:14	18:40 (8)	05:38	05:27		
	17:02			17:41	16:34 (9)	18:13	19:46	18:40 (8)	20:18	20:37		
22	07:21		16:13 (9)	06:47	16:06 (9)	06:03	06:12	17:47 (8)	05:37	05:28		
	17:04	5	16:18 (9)	17:42	16:33 (9)	18:14	19:48	17:47 (8)	20:19	20:38		
23	07:21		16:08 (9)	06:46	16:08 (9)	06:01	06:11	17:33 (8)	05:36	05:28		
	17:05	14	16:22 (9)	17:43	16:30 (9)	18:15	19:49	17:50 (8)	20:19	20:38		
24	07:20		16:07 (9)	06:44	16:12 (9)	05:59	06:09	17:31 (8)	05:35	05:28		
	17:06	19	16:26 (9)	17:45	16:27 (9)	18:16	19:50	17:52 (8)	20:20	20:38		
25	07:19		16:05 (9)	06:43		05:57	06:08	17:29 (8)	05:35	05:28		
	17:07	23	16:28 (9)	17:46		18:17	19:51	17:53 (8)	20:21	20:38		
26	07:18		16:04 (9)	06:41		05:56	06:06	17:27 (8)	05:34	05:29		
	17:09	26	16:30 (9)	17:47		18:18	19:52	17:54 (8)	20:22	20:38		
27	07:18		16:02 (9)	06:40		05:54	06:05	17:27 (8)	05:33	05:29		
	17:10	29	16:31 (9)	17:48		18:20	19:53	17:54 (8)	20:23	20:38		
28	07:17		16:01 (9)	06:38		05:52	06:04	17:26 (8)	05:33	05:29		
	17:11	31	16:32 (9)	17:49		18:21	19:54	17:52 (8)	20:24	20:38		
29	07:16		16:00 (9)			06:51	06:02	18:24 (8)	05:32	05:30		
	17:12	34	16:34 (9)			19:22	19:55	18:50 (8)	20:25	20:38		
30	07:15		16:00 (9)			06:49	06:01	18:25 (8)	05:31	05:30		
	17:14	35	16:35 (9)			19:23	19:56	18:48 (8)	20:25	20:38		
31	07:14		15:59 (9)			06:47	06:01	18:24 (8)	05:31	20:38		
	17:15	37	16:36 (9)			19:24	19:57	18:46 (8)	20:26	20:38		
Potential sun hours	297		297		369		399		449	453		
Total, worst case		731		913		223		97				

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: L - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (12)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December			
1	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	15:27 (9) 16:11 (9)	07:06 16:33	27	15:21 (17) 15:48 (17)
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	15:26 (9) 16:10 (9)	07:07 16:32	28	15:21 (17) 15:49 (17)
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:34 16:55	15:26 (9) 16:10 (9)	07:08 16:32	29	15:21 (17) 15:50 (17)
4	05:32 20:38	05:58 20:15	06:29 19:30	18:24 (8) 07:00 18:26 (8)	07:00 18:39	06:35 16:54	15:27 (9) 16:32	30	15:20 (17) 15:50 (17)
5	05:33 20:37	05:59 20:14	06:30 19:29	18:22 (8) 07:01 18:28 (8)	07:01 18:38	06:36 16:52	15:27 (9) 16:32	31	15:20 (17) 15:51 (17)
6	05:33 20:37	06:00 20:13	06:31 19:27	18:21 (8) 07:02 18:29 (8)	07:02 18:36	06:37 16:51	15:27 (9) 16:32	31	15:21 (17) 15:52 (17)
7	05:34 20:37	06:01 20:12	06:32 19:25	18:19 (8) 07:03 18:31 (8)	07:03 18:34	06:38 16:50	15:28 (9) 16:31	32	15:21 (17) 15:53 (17)
8	05:35 20:36	06:02 20:11	06:33 19:24	18:18 (8) 07:04 18:32 (8)	07:04 18:33	06:40 16:49	15:29 (9) 16:31	32	15:21 (17) 15:53 (17)
9	05:35 20:36	06:03 20:09	06:34 19:22	18:18 (8) 07:05 18:33 (8)	07:05 18:31	06:41 16:48	15:29 (9) 16:31	33	15:21 (17) 15:54 (17)
10	05:36 20:36	06:04 20:08	06:35 19:20	18:17 (8) 07:06 18:35 (8)	07:06 18:29	06:42 16:47	15:29 (9) 16:31	33	15:22 (17) 15:55 (17)
11	05:37 20:35	06:05 20:07	06:36 19:19	18:16 (8) 07:07 18:36 (8)	07:07 18:28	06:43 16:46	15:31 (9) 16:31	33	15:22 (17) 15:55 (17)
12	05:37 20:35	06:06 20:05	06:37 19:17	18:16 (8) 07:08 18:38 (8)	07:08 18:26	06:44 16:45	15:32 (9) 16:32	33	15:23 (17) 15:56 (17)
13	05:38 20:34	06:07 20:04	06:38 19:15	18:16 (8) 07:09 18:39 (8)	07:09 18:25	06:46 16:44	15:32 (9) 16:32	34	15:22 (17) 15:56 (17)
14	05:39 20:34	06:08 20:03	06:39 19:14	18:16 (8) 07:10 18:40 (8)	07:10 18:23	06:47 16:43	15:34 (9) 16:32	34	15:23 (17) 15:57 (17)
15	05:40 20:33	06:09 20:01	06:40 19:12	18:15 (8) 07:12 18:41 (8)	07:12 18:21	06:48 16:42	15:35 (9) 16:32	35	15:23 (17) 15:58 (17)
16	05:41 20:33	06:10 20:00	06:41 19:10	18:15 (8) 07:13 18:42 (8)	07:13 18:20	06:49 16:41	15:37 (9) 16:32	34	15:23 (17) 15:57 (17)
17	05:41 20:32	06:11 19:58	06:42 19:08	18:15 (8) 07:14 18:42 (8)	07:14 18:18	16:46 (9) 16:55 (9)	15:38 (9) 16:41	23	15:24 (17) 15:58 (17)
18	05:42 20:31	06:12 19:57	06:43 19:07	18:16 (8) 07:15 18:41 (8)	07:15 18:17	16:42 (9) 17:00 (9)	15:41 (9) 16:40	19	15:25 (17) 16:33
19	05:43 20:31	06:13 19:56	06:44 19:05	18:17 (8) 07:16 18:39 (8)	07:16 18:15	16:39 (9) 17:02 (9)	15:43 (9) 16:39	14	15:24 (17) 16:33
20	05:44 20:30	06:14 19:54	06:45 19:03	18:19 (8) 07:17 18:37 (8)	07:17 18:14	16:36 (9) 17:04 (9)	15:48 (9) 16:38	5	15:25 (17) 16:34
21	05:45 20:29	06:15 19:53	06:46 19:01	18:21 (8) 07:18 18:34 (8)	07:18 18:12	16:34 (9) 17:05 (9)	15:57 (9) 16:38	31	15:25 (17) 16:34
22	05:46 20:28	06:16 19:51	06:47 19:00	18:21 (8) 07:19 18:11	07:19 18:11	16:33 (9) 17:06 (9)	15:57 (9) 16:37	33	15:26 (17) 16:35
23	05:46 20:28	06:17 19:50	06:48 18:58	18:21 (8) 07:21 18:09	07:21 18:09	16:32 (9) 17:08 (9)	15:57 (9) 16:36	36	15:26 (17) 16:35
24	05:47 20:27	06:18 19:48	06:49 18:56	18:21 (8) 07:22 18:08	07:22 18:08	16:31 (9) 17:08 (9)	15:57 (9) 16:36	10	15:27 (17) 16:36
25	05:48 20:26	06:19 19:47	06:50 18:55	18:21 (8) 07:23 17:07	07:23 17:07	16:30 (9) 16:09 (9)	15:57 (9) 16:35	15	15:28 (17) 16:36
26	05:49 20:25	06:20 19:45	06:51 18:53	18:21 (8) 07:24 17:05	07:24 17:05	15:29 (9) 16:09 (9)	15:57 (9) 16:35	40	15:28 (17) 16:37
27	05:50 20:24	06:21 19:43	06:52 18:51	18:21 (8) 07:25 17:04	07:25 17:04	15:28 (9) 16:09 (9)	15:23 (17) 16:34	21	15:29 (17) 16:38
28	05:51 20:23	06:22 19:42	06:53 18:49	18:21 (8) 07:26 17:02	07:26 17:02	15:28 (9) 16:10 (9)	15:23 (17) 16:34	22	15:29 (17) 16:38
29	05:52 20:22	06:23 19:40	06:54 18:48	18:21 (8) 07:28 17:01	07:28 17:01	15:27 (9) 16:10 (9)	15:22 (17) 16:33	24	15:30 (17) 16:39
30	05:53 20:21	06:24 19:39	06:55 18:46	18:21 (8) 07:29 17:00	07:29 17:00	15:27 (9) 16:10 (9)	15:21 (17) 16:40	26	15:30 (17) 16:40
31	05:54 20:20	06:25 19:37		06:30 16:59	15:27 (9) 16:11 (9)		07:27 16:40	34	15:30 (17) 16:04 (17)
Potential sun hours	460	428	375	345	297	287	1025		
Total, worst case			322	507	807				

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: M - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (13)

### Assumptions for shadow calculations

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

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

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

The WTG is always operating

	January	February	March	April	May	June
1	07:27 16:41	15:46 (7) 17:16	06:37 17:50	16:55 (6) 19:25	18:32 (4) 19:57	05:30 20:27
2	07:27 16:42	15:47 (7) 17:17	06:35 17:52	16:55 (6) 19:26	18:33 (4) 19:58	05:30 20:28
3	07:27 16:43	15:48 (7) 17:19	06:34 17:53	16:56 (6) 19:27	18:33 (4) 19:59	05:29 20:29
4	07:27 16:44	15:50 (7) 17:20	06:32 17:54	16:57 (6) 19:28	18:33 (4) 20:00	05:29 20:29
5	07:27 16:45	15:56 (7) 17:21	06:31 17:55	16:58 (6) 19:29	18:35 (4) 20:02	05:29 20:30
6	07:27 16:46	17:08 17:22	06:29 17:56	17:00 (6) 19:30	06:37 19:31	05:53 20:31
7	07:27 16:47	17:07 17:24	06:27 17:57	06:36 19:31	05:52 20:04	05:28 20:31
8	07:27 16:48	17:06 17:25	06:26 17:59	06:34 19:33	05:51 20:05	05:28 20:32
9	07:27 16:49	17:05 17:26	06:24 18:00	06:32 19:34	05:50 20:06	05:27 20:33
10	07:27 16:50	17:03 17:27	06:23 18:01	06:31 19:35	05:48 20:07	05:27 20:33
11	07:26 16:51	17:02 17:29	06:21 18:02	06:29 19:36	05:47 20:08	05:27 20:34
12	07:26 16:52	17:01 17:30	06:19 18:03	06:28 19:37	05:46 20:09	05:27 20:34
13	07:26 16:53	17:00 17:31	06:18 18:04	06:26 19:38	05:45 20:10	05:27 20:35
14	07:25 16:54	16:58 17:32	06:16 18:05	06:24 19:39	05:44 20:11	05:27 20:35
15	07:25 16:55	16:57 17:34	06:14 18:06	06:23 19:40	05:43 20:12	05:27 20:36
16	07:25 16:57	16:56 17:35	06:13 18:08	06:21 19:41	05:42 20:13	05:27 20:36
17	07:24 16:58	16:54 17:36	06:11 18:09	06:20 19:42	05:41 20:14	05:27 20:36
18	07:24 16:59	16:53 17:37	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:37
19	07:23 17:00	16:52 17:38	06:08 18:11	06:17 19:44	05:39 20:16	05:27 20:37
20	07:23 17:01	16:50 17:40	17:07 (6) 17:08 (6)	06:06 18:12	06:15 19:45	05:38 20:37
21	07:22 17:02	16:49 17:41	17:01 (6) 17:12 (6)	06:04 18:13	06:14 19:47	05:38 20:37
22	07:21 17:04	16:47 17:42	17:00 (6) 17:15 (6)	06:03 18:14	06:12 19:48	05:37 20:38
23	07:21 17:05	16:46 17:43	16:58 (6) 17:16 (6)	06:01 18:15	06:11 19:49	05:36 20:38
24	07:20 17:06	16:44 17:45	16:57 (6) 17:17 (6)	05:59 18:16	06:09 19:50	05:35 20:38
25	07:19 17:07	16:43 17:46	16:56 (6) 17:17 (6)	05:57 18:17	17:41 (4) 19:51	06:08 20:21
26	07:18 17:08	16:42 17:47	16:56 (6) 17:18 (6)	05:56 18:18	17:38 (4) 19:52	06:06 20:22
27	07:18 17:10	16:40 17:48	16:55 (6) 17:17 (6)	05:54 18:20	17:37 (4) 19:53	06:05 20:23
28	07:17 17:11	16:38 17:49	16:55 (6) 17:18 (6)	05:52 18:21	17:35 (4) 19:54	06:04 20:24
29	07:16 17:12		06:51 19:22	18:34 (4) 18:50 (4)	06:02 19:55	05:32 20:25
30	07:15 17:13		06:49 19:23	18:34 (4) 18:48 (4)	06:01 19:56	05:31 20:26
31	07:14 17:15		06:47 19:24	18:33 (4) 18:46 (4)	05:31 20:26	20:38
Potential sun hours	297	297	369	399	449	453
Total, worst case	38	153	202	31		

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: M - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (13)

### Assumptions for shadow calculations

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

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

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

The WTG is always operating

	July	August	September	October	November	December			
1	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33			
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	07:07 16:32			
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:34 16:55	07:08 16:32			
4	05:32 20:38	05:58 20:16	06:29 19:30	07:00 18:39	06:35 16:54	07:09 16:32			
5	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	06:36 16:52	07:10 16:32			
6	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	06:37 16:51	07:11 16:31			
7	05:34 20:37	06:01 20:12	06:32 19:25	18:30 (4) 18:31 (4)	07:03 18:34	17:38 (6) 17:44 (6)	06:38 16:50	07:12 16:31	
8	05:35 20:37	06:02 20:11	06:33 19:24	18:28 (4) 18:32 (4)	07:04 18:33	17:34 (6) 17:47 (6)	06:40 16:49	07:13 16:31	15:37 (7) 15:43 (7)
9	05:35 20:36	06:03 20:09	06:34 19:22	18:27 (4) 18:33 (4)	07:05 18:31	17:32 (6) 17:48 (6)	06:41 16:48	07:14 16:31	15:36 (7) 15:45 (7)
10	05:36 20:36	06:04 20:08	06:35 19:20	18:26 (4) 18:35 (4)	07:06 18:29	17:30 (6) 17:49 (6)	06:42 16:47	07:15 16:31	15:36 (7) 15:47 (7)
11	05:37 20:35	06:05 20:07	06:36 19:19	18:26 (4) 18:36 (4)	07:07 18:28	17:29 (6) 17:49 (6)	06:43 16:46	07:16 16:31	15:36 (7) 15:48 (7)
12	05:37 20:35	06:06 20:05	06:37 19:17	18:25 (4) 18:38 (4)	07:08 18:26	17:29 (6) 17:51 (6)	06:44 16:45	07:17 16:31	15:36 (7) 15:49 (7)
13	05:38 20:34	06:07 20:04	06:38 19:15	18:25 (4) 18:39 (4)	07:09 18:25	17:28 (6) 17:51 (6)	06:46 16:44	07:18 16:32	15:35 (7) 15:49 (7)
14	05:39 20:34	06:08 20:03	06:39 19:14	18:25 (4) 18:40 (4)	07:10 18:23	17:28 (6) 17:50 (6)	06:47 16:43	07:18 16:32	15:35 (7) 15:50 (7)
15	05:40 20:33	06:09 20:01	06:40 19:12	18:24 (4) 18:41 (4)	07:12 18:21	17:28 (6) 17:50 (6)	06:48 16:42	07:19 16:32	15:36 (7) 15:51 (7)
16	05:40 20:33	06:10 20:00	06:41 19:10	18:25 (4) 18:42 (4)	07:13 18:20	17:27 (6) 17:49 (6)	06:49 16:41	07:20 16:32	15:36 (7) 15:53 (7)
17	05:41 20:32	06:11 19:59	06:42 19:08	18:26 (4) 18:40 (4)	07:14 18:18	17:28 (6) 17:48 (6)	06:50 16:40	07:20 16:33	15:36 (7) 15:53 (7)
18	05:42 20:31	06:12 19:57	06:43 19:07	18:28 (4) 18:38 (4)	07:15 18:17	17:29 (6) 17:48 (6)	06:52 16:40	07:21 16:33	15:37 (7) 15:54 (7)
19	05:43 20:31	06:13 19:56	06:44 19:05	18:30 (4) 18:39 (4)	07:16 18:15	17:30 (6) 17:47 (6)	06:53 16:39	07:22 16:33	15:36 (7) 15:54 (7)
20	05:44 20:30	06:14 19:54	06:45 19:03	18:31 (4) 18:40 (4)	07:17 18:14	17:31 (6) 17:45 (6)	06:54 16:38	07:22 16:34	15:37 (7) 15:55 (7)
21	05:45 20:29	06:15 19:53	06:46 19:01	18:32 (4) 18:41 (4)	07:18 18:12	17:33 (6) 17:42 (6)	06:55 16:37	07:23 16:34	15:37 (7) 15:55 (7)
22	05:45 20:28	06:16 19:51	06:47 19:00	18:33 (4) 18:42 (4)	07:19 18:11	17:33 (6) 17:41 (6)	06:56 16:37	07:23 16:35	15:38 (7) 15:56 (7)
23	05:46 20:28	06:17 19:50	06:48 18:58	18:34 (4) 18:43 (4)	07:20 18:09	17:34 (6) 17:40 (6)	06:57 16:36	07:24 16:35	15:38 (7) 15:56 (7)
24	05:47 20:27	06:18 19:48	06:49 18:56	18:35 (4) 18:44 (4)	07:22 18:08	17:35 (6) 17:39 (6)	06:59 16:36	07:24 16:36	15:39 (7) 15:57 (7)
25	05:48 20:26	06:19 19:47	06:50 18:55	18:36 (4) 18:45 (4)	07:23 17:07	17:36 (6) 17:33 (6)	07:00 16:35	07:25 16:36	15:39 (7) 15:57 (7)
26	05:49 20:25	06:20 19:45	06:51 18:53	18:37 (4) 18:46 (4)	07:24 17:05	17:37 (6) 17:32 (6)	07:01 16:35	07:25 16:37	15:40 (7) 15:57 (7)
27	05:50 20:24	06:21 19:43	06:52 18:51	18:38 (4) 18:47 (4)	07:25 17:04	17:38 (6) 17:31 (6)	07:02 16:34	07:26 16:37	15:41 (7) 15:58 (7)
28	05:51 20:23	06:22 19:42	06:53 18:49	18:39 (4) 18:48 (4)	07:26 17:02	17:39 (6) 17:30 (6)	07:03 16:34	07:26 16:38	15:42 (7) 15:58 (7)
29	05:52 20:22	06:23 19:40	06:54 18:48	18:40 (4) 18:49 (4)	07:28 17:01	17:40 (6) 17:31 (6)	07:04 16:33	07:26 16:39	15:42 (7) 15:57 (7)
30	05:53 20:21	06:24 19:39	06:55 18:46	18:41 (4) 18:50 (4)	07:29 17:00	17:41 (6) 17:32 (6)	07:05 16:33	07:26 16:40	15:43 (7) 15:57 (7)
31	05:54 20:20	06:25 19:37		18:42 (4) 16:59	07:30 16:30			07:27 16:40	15:44 (7) 15:57 (7)
Potential sun hours	460	429	375	345	297	287			
Total, worst case			130	264		364			

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: N - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (14)

### Assumptions for shadow calculations

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

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

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

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:27 16:41	07:13 17:16	06:37 17:50		06:46 19:25	18:30 (4) 05:59	05:30 19:57	05:31 20:27	05:55 20:38	06:26 20:19		06:31 19:35
2	07:27 16:42	07:12 17:17	06:35 17:52	21	06:44 19:26	18:30 (4) 05:58	05:30 19:58	05:31 20:28	05:56 20:38	06:27 20:18		06:32 19:34
3	07:27 16:43	07:11 17:19	06:34 17:53	14	06:42 19:27	18:30 (4) 05:57	05:29 19:59	05:32 20:29	05:57 20:38	06:28 20:17		06:34 19:32
4	07:27 16:44	07:10 17:20	06:32 17:54	9	06:41 19:28	18:30 (4) 05:56	05:29 20:00	05:32 20:29	05:58 20:38	06:29 20:16		06:35 19:30
5	07:27 16:45	07:09 17:21	06:31 17:55		06:39 19:29	18:31 (4) 05:54	05:29 20:02	05:33 20:30	05:59 20:37	06:30 20:14		06:36 19:29
6	07:27 16:46	07:08 17:22	06:29 17:56		06:37 19:30	18:32 (4) 05:53	05:28 20:03	05:33 20:31	06:00 20:37	06:31 20:13	1	06:37 18:28 (4)
7	07:27 16:47	07:07 17:24	06:27 17:57		06:36 19:31	18:33 (4) 05:52	05:28 20:04	05:34 20:31	06:01 20:37	06:32 20:12	1	06:38 18:29 (4)
8	07:27 16:48	07:06 17:25	06:26 17:59		06:34 19:33	05:51 20:05	05:28 20:32	05:35 20:37	06:02 20:11	06:33 19:24	5	06:39 18:25 (4)
9	07:27 16:49	07:05 17:26	06:24 18:00		06:32 19:34	05:50 20:06	05:27 20:33	05:35 20:36	06:03 20:09	06:34 19:22	7	06:40 18:24 (4)
10	07:27 16:50	07:03 17:27	06:23 18:01		06:31 19:35	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	9	06:41 18:35 (4)
11	07:26 16:51	07:02 17:29	06:21 18:02		06:29 19:36	05:47 20:08	05:27 20:34	05:37 20:35	06:05 20:07	06:36 19:19	11	06:42 18:23 (4)
12	07:26 16:52	07:01 17:30	06:19 18:03		06:28 19:37	05:46 20:09	05:27 20:34	05:37 20:35	06:06 20:05	06:37 19:17	13	06:43 18:36 (4)
13	07:26 16:53	07:00 17:31	06:18 18:04		06:26 19:38	05:45 20:10	05:27 20:35	05:38 20:34	06:07 20:04	06:38 19:15	15	06:44 18:23 (4)
14	07:25 16:54	06:58 17:32	06:16 18:05		06:24 19:39	05:44 20:11	05:27 20:35	05:39 20:34	06:08 20:03	06:39 19:14	16	06:45 18:39 (4)
15	07:25 16:55	06:57 17:34	06:14 18:06		06:23 19:40	05:43 20:12	05:27 20:36	05:40 20:33	06:09 20:01	06:40 19:12	17	06:46 18:22 (4)
16	07:25 16:57	06:56 17:35	06:13 18:08		06:22 19:41	05:42 20:13	05:27 20:36	05:40 20:33	06:10 20:00	06:41 19:10	18	06:47 18:41 (4)
17	07:24 16:58	06:54 17:36	06:11 18:09		06:20 19:42	05:41 20:14	05:27 20:36	05:41 20:32	06:11 19:59	06:42 19:08	19	06:48 18:24 (4)
18	07:24 16:59	06:53 17:37	06:09 18:10		06:18 19:43	05:40 20:15	05:27 20:37	05:42 20:31	06:12 19:57	06:43 19:07	11	06:49 18:37 (4)
19	07:23 17:00	06:52 17:38	06:08 18:11		06:17 19:44	05:39 20:16	05:27 20:37	05:43 20:31	06:13 19:56	06:44 19:05	13	06:50 18:15
20	07:23 17:01	06:50 17:40	06:06 18:12		06:15 19:45	05:38 20:17	05:27 20:37	05:44 20:30	06:14 19:54	06:45 19:03	15	06:51 17:19 (6)
21	07:22 17:02	06:49 17:41	06:04 18:13		06:14 19:47	05:38 20:18	05:27 20:37	05:45 20:29	06:15 19:53	06:46 19:01	17	06:52 18:12
22	07:21 17:04	06:47 17:42	06:03 18:14		06:12 19:48	05:37 20:19	05:28 20:38	05:46 20:28	06:16 19:51	06:47 19:00	19	06:53 18:11
23	07:21 17:05	06:46 17:43	06:01 18:15		06:11 19:49	05:36 20:20	05:28 20:38	05:46 20:28	06:17 19:50	06:48 18:58	21	06:54 17:21 (6)
24	07:20 17:06	06:44 17:45	05:59 18:16		06:09 19:50	05:35 20:20	05:28 20:38	05:47 20:27	06:18 19:48	06:49 18:56	23	06:55 18:08
25	07:19 17:07	06:43 17:46	05:57 18:17		06:08 19:51	05:34 20:21	05:28 20:38	05:48 20:26	06:19 19:47	06:50 18:55	25	06:56 17:07
26	07:19 17:08	06:42 17:47	05:56 18:18		06:06 19:52	05:34 20:22	05:29 20:38	05:49 20:25	06:20 19:45	06:51 18:53	27	06:57 17:05
27	07:18 17:10	06:40 17:48	05:54 18:20		06:05 19:53	05:33 20:23	05:29 20:38	05:50 20:24	06:21 19:43	06:52 18:51	29	06:58 17:04
28	07:17 17:11	06:38 17:49	05:52 18:21		06:04 19:54	05:32 20:24	05:29 20:38	05:51 20:23	06:22 19:42	06:53 18:49	31	06:59 17:02
29	07:16 17:12		06:02 19:22		06:02 19:55	05:32 20:25	05:30 20:38	05:52 20:22	06:23 19:40	06:54 18:48		06:59 17:01
30	07:15 17:13		06:01 19:23		06:01 19:56	05:31 20:26	05:30 20:38	05:53 20:21	06:24 19:39	06:55 18:46		06:59 17:00
31	07:14 17:15		06:00 19:24		06:00 19:57	05:31 20:26	05:30 20:38	05:54 20:20	06:25 19:37	06:56 18:46		06:59 17:00
Potential sun hours	297	297	369	399	449	453	460	429	375	157	337	297
Total, worst case	297	270	172	47	449	453	460	429	375	157	337	287

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: O - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (15)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:27 16:41	16:01 (7)	07:13 17:16	06:37 17:50	06:46 19:25	05:59 20:27
2	07:27 16:42	16:01 (7)	07:12 17:17	06:35 17:52	06:44 19:26	05:58 20:28
3	07:27 16:43	16:01 (7)	07:11 17:18	06:34 17:53	17:15 (6) 19:27	05:57 20:29
4	07:27 16:44	16:02 (7)	07:10 17:20	06:32 17:54	17:12 (6) 19:28	05:56 20:29
5	07:27 16:45	16:01 (7)	07:09 17:21	06:31 17:55	17:11 (6) 19:29	05:54 20:30
6	07:27 16:46	16:01 (7)	07:08 17:22	06:29 17:56	17:09 (6) 19:30	05:53 20:31
7	07:27 16:47	16:02 (7)	07:07 17:24	06:27 17:57	17:08 (6) 19:31	05:52 20:31
8	07:27 16:48	16:02 (7)	07:06 17:25	06:26 17:59	17:08 (6) 19:33	05:51 20:32
9	07:27 16:49	16:22 (7)	07:05 17:26	06:24 18:00	17:07 (6) 19:34	05:50 20:33
10	07:27 16:50	16:02 (7)	07:03 17:27	06:23 18:01	17:07 (6) 19:35	05:48 20:33
11	07:26 16:51	16:03 (7)	07:02 17:29	06:21 18:02	17:08 (6) 19:36	05:47 20:34
12	07:26 16:52	16:03 (7)	07:01 17:30	06:19 18:03	17:08 (6) 19:37	05:46 20:34
13	07:26 16:53	16:03 (7)	07:00 17:31	06:18 18:04	17:08 (6) 19:38	05:45 20:35
14	07:25 16:54	16:04 (7)	06:58 17:32	06:16 18:05	17:10 (6) 19:39	05:44 20:35
15	07:25 16:55	16:04 (7)	06:57 17:34	06:14 18:06	17:12 (6) 19:40	05:43 20:36
16	07:25 16:57	16:05 (7)	06:56 17:35	06:13 18:08	06:21 19:41	05:42 20:36
17	07:24 16:58	16:05 (7)	06:54 17:36	06:11 18:09	06:20 19:42	05:41 20:36
18	07:24 16:59	16:06 (7)	06:53 17:37	06:09 18:10	06:18 19:43	05:40 20:37
19	07:23 17:00	16:06 (7)	06:52 17:38	06:08 18:11	06:17 19:44	05:39 20:37
20	07:23 17:01	16:07 (7)	06:50 17:40	06:06 18:12	06:15 19:45	05:38 20:37
21	07:22 17:02	16:08 (7)	06:49 17:41	06:04 18:13	06:14 19:47	05:38 20:37
22	07:21 17:04	16:09 (7)	06:47 17:42	06:03 18:14	06:12 19:48	05:37 20:38
23	07:21 17:05	16:09 (7)	06:46 17:43	06:01 18:15	06:11 19:49	05:36 20:38
24	07:20 17:06	16:11 (7)	06:44 17:45	05:59 18:16	06:09 19:50	05:35 20:38
25	07:19 17:07	16:13 (7)	06:43 17:46	05:57 18:17	06:08 19:51	05:34 20:38
26	07:18 17:08	16:15 (7)	06:41 17:47	05:56 18:18	06:06 19:52	05:34 20:38
27	07:18 17:10	16:24 (7)	06:40 17:48	05:54 18:20	06:05 19:53	05:33 20:38
28	07:17 17:11		06:38 17:49	05:52 18:21	06:04 19:54	05:32 20:38
29	07:16 17:12		06:51 19:22	06:02 19:55	05:32 20:25	05:30 20:38
30	07:15 17:13		06:49 19:23	06:01 19:56	05:31 20:26	05:30 20:38
31	07:14 17:15		06:47 19:24		05:31 20:26	
Potential sun hours	297		297	369	399	453
Total, worst case	511		222			

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: O - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (15)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December		
1	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	17:48 (6) 18:06 (6)	06:31 16:57	07:06 16:33	15:45 (7) 16:07 (7)
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	17:47 (6) 18:06 (6)	06:32 16:56	07:07 16:32	15:45 (7) 16:07 (7)
3	05:32 20:38	05:57 20:17	06:28 19:33	06:59 18:41	17:46 (6) 18:06 (6)	06:34 16:55	07:08 16:32	15:46 (7) 16:06 (7)
4	05:32 20:38	05:58 20:16	06:29 19:32	07:00 18:39	17:45 (6) 18:06 (6)	06:35 16:54	07:09 16:32	15:46 (7) 16:06 (7)
5	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	17:45 (6) 18:06 (6)	06:36 16:52	07:10 16:32	15:47 (7) 16:06 (7)
6	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	17:45 (6) 18:05 (6)	06:37 16:51	07:11 16:31	15:47 (7) 16:06 (7)
7	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	17:45 (6) 18:04 (6)	06:38 16:50	07:12 16:31	15:48 (7) 16:06 (7)
8	05:35 20:37	06:02 20:11	06:33 19:24	07:04 18:33	17:45 (6) 18:03 (6)	06:40 16:49	07:13 16:31	15:49 (7) 16:06 (7)
9	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	17:46 (6) 18:02 (6)	06:41 16:48	07:14 16:31	15:49 (7) 16:06 (7)
10	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	17:47 (6) 18:00 (6)	06:42 16:47	07:15 16:31	15:50 (7) 16:06 (7)
11	05:37 20:35	06:05 20:07	06:36 19:19	07:07 18:28	17:50 (6) 17:56 (6)	06:43 16:46	07:16 16:31	15:51 (7) 16:06 (7)
12	05:37 20:35	06:06 20:05	06:37 19:17	07:08 18:26	07:08 16:45	06:44 16:45	07:17 16:31	15:52 (7) 16:06 (7)
13	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:25	07:09 16:44	06:46 16:44	07:18 16:32	15:52 (7) 16:05 (7)
14	05:39 20:34	06:08 20:03	06:39 19:13	07:10 18:23	06:47 16:43	06:47 16:43	07:18 16:32	15:53 (7) 16:06 (7)
15	05:40 20:33	06:09 20:01	06:40 19:12	07:12 18:21	06:48 16:42	06:48 16:42	07:19 16:32	15:54 (7) 16:06 (7)
16	05:40 20:33	06:10 20:00	06:41 19:10	07:13 18:20	06:49 16:41	15:48 (7) 15:57 (7)	07:20 16:32	15:55 (7) 16:07 (7)
17	05:41 20:32	06:11 19:59	06:42 19:08	07:14 18:18	06:50 16:40	15:46 (7) 15:59 (7)	07:20 16:33	15:55 (7) 16:06 (7)
18	05:42 20:31	06:12 19:57	06:43 19:07	07:15 18:17	06:52 16:40	15:45 (7) 16:01 (7)	07:21 16:33	15:56 (7) 16:07 (7)
19	05:43 20:31	06:13 19:56	06:44 19:05	07:16 18:15	06:53 16:39	15:44 (7) 16:02 (7)	07:22 16:33	15:56 (7) 16:07 (7)
20	05:44 20:30	06:14 19:54	06:45 19:03	07:17 18:14	06:54 16:38	15:44 (7) 16:03 (7)	07:22 16:34	15:57 (7) 16:08 (7)
21	05:45 20:29	06:15 19:53	06:46 19:01	07:18 18:12	06:55 16:37	15:43 (7) 16:04 (7)	07:23 16:34	15:57 (7) 16:08 (7)
22	05:45 20:28	06:16 19:51	06:47 19:00	07:19 18:11	06:56 16:37	15:43 (7) 16:05 (7)	07:23 16:35	15:58 (7) 16:09 (7)
23	05:46 20:28	06:17 19:50	06:48 18:58	07:21 18:09	06:57 16:36	15:43 (7) 16:06 (7)	07:24 16:35	15:58 (7) 16:09 (7)
24	05:47 20:27	06:18 19:48	06:49 18:56	07:22 18:08	06:59 16:36	15:43 (7) 16:06 (7)	07:24 16:36	15:59 (7) 16:10 (7)
25	05:48 20:26	06:19 19:47	06:50 18:55	07:23 17:07	07:00 16:35	15:43 (7) 16:06 (7)	07:25 16:36	15:59 (7) 16:10 (7)
26	05:49 20:25	06:20 19:45	06:51 18:53	06:24 17:05	07:01 16:35	15:43 (7) 16:06 (7)	07:25 16:37	15:59 (7) 16:10 (7)
27	05:50 20:24	06:21 19:43	06:52 18:51	06:25 17:04	07:02 16:34	15:44 (7) 16:08 (7)	07:26 16:37	16:00 (7) 16:12 (7)
28	05:51 20:23	06:22 19:42	06:53 18:49	17:54 (6) 17:02	06:26 17:02	15:44 (7) 16:08 (7)	07:26 16:38	16:00 (7) 16:12 (7)
29	05:52 20:22	06:23 19:40	06:54 18:48	17:51 (6) 18:04 (6)	06:28 17:01	15:44 (7) 16:08 (7)	07:26 16:39	16:00 (7) 16:13 (7)
30	05:53 20:21	06:24 19:39	06:55 18:46	17:49 (6) 18:05 (6)	06:29 17:00	15:44 (7) 16:08 (7)	07:26 16:40	16:00 (7) 16:13 (7)
31	05:54 20:20	06:25 19:37		06:30 16:59			07:27 16:40	16:00 (7) 16:14 (7)
Potential sun hours	460	429	375	345	297	287	443	
Total, worst case			36	191	306			

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: P - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (16)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:27 16:41	07:13 17:16	06:37 17:50	06:46 19:25	17:51 (5) 18:31 (5)	05:59 19:57	05:30 20:27	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	06:31 16:57	07:06 16:33
2	07:27 16:42	07:12 17:17	06:35 17:52	06:44 19:26	17:52 (5) 18:30 (5)	05:58 19:58	05:30 20:28	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	06:32 16:56	07:07 16:32
3	07:27 16:43	07:11 17:18	06:34 17:53	06:42 19:27	17:53 (5) 18:29 (6)	05:57 19:59	05:29 20:29	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	06:34 16:55	07:08 16:32
4	07:27 16:44	07:10 17:20	06:32 17:54	06:41 19:28	17:53 (5) 18:27 (5)	05:56 20:00	05:29 20:29	05:32 20:38	05:58 20:15	06:29 19:30	07:00 18:39	06:35 16:54	07:09 16:32
5	07:27 16:45	07:09 17:21	06:31 17:55	06:39 19:29	17:55 (5) 18:27 (5)	05:54 20:02	05:29 20:30	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	06:36 16:52	07:10 16:32
6	07:27 16:46	07:08 17:22	06:29 17:56	06:37 19:30	17:55 (5) 18:25 (5)	05:53 20:03	05:28 20:31	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	06:37 16:51	07:11 16:31
7	07:27 16:47	07:07 17:24	06:27 17:57	06:36 19:31	17:56 (5) 18:22 (5)	05:52 20:04	05:28 20:31	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	06:38 16:50	07:12 16:31
8	07:27 16:48	07:06 17:25	06:26 17:59	06:34 19:33	17:59 (5) 18:21 (5)	05:51 20:05	05:28 20:32	05:35 20:37	06:02 20:11	06:33 19:24	07:04 18:33	06:40 16:49	07:13 16:31
9	07:27 16:49	07:05 17:26	06:24 18:00	06:32 19:34	18:01 (5) 18:17 (5)	05:50 20:06	05:27 20:33	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	06:41 16:48	07:14 16:31
10	07:27 16:50	07:03 17:27	06:23 18:01	06:31 19:35	18:06 (5) 18:11 (5)	05:48 20:07	05:27 20:33	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	06:42 16:47	07:15 16:31
11	07:26 16:51	07:02 17:29	06:21 18:02	06:29 19:36	05:47 20:08	05:27 20:34	05:37 20:35	05:37 20:07	06:05 20:19	06:36 19:39	07:07 18:28	06:43 16:46	07:16 16:31
12	07:26 16:52	07:01 17:30	16:50 (6) 18:03	06:19 19:37	06:28 20:09	05:46 20:34	05:27 20:35	05:37 20:05	06:06 20:17	06:37 19:40	07:08 18:26	06:44 16:45	07:17 16:31
13	07:26 16:53	07:00 17:31	16:48 (6) 17:00 (6)	06:18 18:04	17:30 (4) 17:31 (4)	06:26 19:38	05:45 20:10	05:27 20:35	06:07 20:04	06:38 19:15	07:09 18:25	06:46 16:44	07:18 16:32
14	07:25 16:54	06:58 17:32	16:47 (6) 17:02 (6)	06:16 18:05	17:26 (4) 17:36 (4)	06:24 19:39	05:44 20:11	05:27 20:35	06:08 20:03	06:39 19:13	07:10 18:23	06:47 16:43	07:18 16:32
15	07:25 16:55	06:57 17:34	16:46 (6) 17:03 (6)	06:14 18:06	17:08 (5) 17:37 (4)	06:23 19:40	05:43 20:12	05:27 20:36	06:09 20:01	06:40 19:12	07:12 18:21	06:48 16:42	07:19 16:32
16	07:25 16:56	06:56 17:35	16:45 (6) 17:03 (6)	06:13 18:08	17:05 (5) 17:38 (4)	06:21 19:41	05:42 20:13	05:27 20:36	06:10 20:00	06:41 19:10	07:13 18:20	06:49 16:41	07:20 16:32
17	07:24 16:58	06:54 17:36	16:45 (6) 17:04 (6)	06:11 18:09	17:03 (5) 17:39 (4)	06:20 19:42	05:41 20:14	05:27 20:36	06:11 20:32	06:42 19:59	07:14 18:18	06:50 16:40	07:20 16:33
18	07:24 16:59	06:53 17:37	16:44 (6) 17:03 (6)	06:09 18:10	17:00 (5) 17:39 (4)	06:18 19:43	05:40 20:15	05:27 20:37	06:12 20:31	06:43 19:07	07:15 18:17	06:52 16:40	07:21 16:33
19	07:23 17:00	06:52 17:38	16:44 (6) 17:04 (6)	06:08 18:11	16:58 (5) 17:38 (4)	06:17 19:44	05:39 20:16	05:27 20:37	06:13 20:31	06:44 19:05	07:16 18:15	06:53 16:39	07:22 16:33
20	07:23 17:01	06:50 17:40	16:45 (6) 17:04 (6)	06:06 18:12	16:58 (5) 17:39 (4)	06:15 19:45	05:38 20:17	05:27 20:37	06:14 20:30	06:45 19:03	07:17 18:14	06:54 16:38	07:22 16:34
21	07:22 17:02	06:49 17:41	16:45 (6) 17:03 (6)	06:04 18:13	16:56 (5) 17:38 (4)	06:14 19:47	05:38 20:18	05:27 20:37	06:15 20:29	06:46 19:53	07:18 18:12	06:55 16:37	07:23 16:34
22	07:21 17:04	06:47 17:42	16:46 (6) 17:02 (6)	06:03 18:14	16:55 (5) 17:36 (4)	06:12 19:48	05:37 20:19	05:27 20:38	06:16 20:28	06:47 19:51	07:19 18:11	06:56 16:37	07:23 16:35
23	07:21 17:05	06:46 17:43	16:47 (6) 17:00 (6)	06:01 18:15	16:53 (5) 17:34 (4)	06:11 19:49	05:36 20:20	05:28 20:38	06:17 20:28	06:48 19:50	07:21 18:09	06:57 16:36	07:24 16:35
24	07:20 17:06	06:44 17:45	16:49 (6) 16:59 (6)	05:59 18:16	16:53 (5) 17:34 (5)	06:09 19:50	05:35 20:20	05:28 20:38	06:49 20:27	06:49 19:48	07:22 18:08	06:59 16:36	07:24 16:36
25	07:19 17:07	06:43 17:46	16:59 (6) 17:46	05:57 18:17	16:52 (5) 17:34 (5)	06:08 19:51	05:34 20:21	05:28 20:38	06:48 20:26	06:19 19:47	06:23 18:55	07:00 16:35	07:25 16:36
26	07:18 17:08	06:41 17:47	16:56 (6) 17:47	05:56 18:18	16:52 (5) 17:33 (5)	06:06 19:52	05:34 20:22	05:29 20:38	06:20 20:25	06:51 19:45	06:24 18:53	07:01 16:35	07:25 16:37
27	07:18 17:10	06:40 17:48	16:54 (6) 17:48	05:54 18:20	16:52 (5) 17:34 (5)	06:05 19:53	05:33 20:23	05:29 20:38	06:21 20:24	06:52 19:43	06:25 18:51	07:02 16:34	07:26 16:37
28	07:17 17:11	06:38 17:49	16:51 (6) 17:49	05:52 18:21	16:51 (5) 17:33 (5)	06:04 19:54	05:32 20:24	05:29 20:38	06:22 20:23	06:53 19:42	06:26 18:49	07:03 16:34	07:26 16:38
29	07:16 17:12		17:51 (5) 19:22	06:02 18:33 (5)	17:51 (5) 18:33 (5)	06:02 19:55	05:32 20:25	05:52 20:38	06:23 20:22	06:54 19:40	06:28 18:48	07:04 16:33	07:26 16:39
30	07:15 17:13		17:52 (5) 19:23	06:01 18:33 (5)	17:52 (5) 18:33 (5)	06:01 19:56	05:31 20:26	05:30 20:38	06:24 20:21	06:55 19:39	06:29 18:46	07:05 16:33	07:26 16:40
31	07:14 17:15		17:51 (5) 19:24	06:01 18:32 (5)	17:51 (5) 18:32 (5)	06:01 19:56	05:31 20:26	05:30 20:38	06:25 20:20	06:54 19:37	06:25 18:46	07:06 16:33	07:27 16:40
Potential sun hours	297	297	369	685	399	449	453	460	375	983	345	297	287
Total, worst case	297	205	369	685	399	449	453	460	375	983	345	297	287

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

### SHADOW - Calendar

Shadow receptor: Q - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (17)

#### Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June		
1	07:27 16:41	07:13 17:16	16:25 (6) 16:43 (6)	06:37 17:50	16:17 (5) 17:19 (4)	06:46 19:25	05:59 19:57	05:30 20:27
2	07:27 16:42	07:12 17:17	16:25 (6) 16:44 (6)	06:35 17:52	16:17 (5) 17:21 (4)	06:44 19:26	05:58 19:58	05:30 20:28
3	07:27 16:43	07:11 17:18	16:25 (6) 16:44 (6)	06:34 17:53	16:18 (5) 17:23 (4)	06:42 19:27	05:57 19:59	05:29 20:29
4	07:27 16:44	07:10 17:20	16:25 (6) 16:44 (6)	06:32 17:54	16:17 (5) 17:24 (4)	06:41 19:28	05:56 20:00	05:29 20:29
5	07:27 16:45	07:09 17:21	16:25 (6) 16:45 (6)	06:31 17:55	16:18 (5) 17:25 (4)	06:39 19:29	05:54 20:02	05:29 20:30
6	07:27 16:46	07:08 17:22	16:25 (6) 16:45 (6)	06:29 17:56	16:19 (5) 17:25 (4)	06:37 19:30	05:53 20:03	05:28 20:31
7	07:27 16:47	07:07 17:24	16:26 (6) 16:44 (6)	06:27 17:57	16:19 (5) 17:24 (4)	06:36 19:31	05:52 20:04	05:28 20:31
8	07:27 16:48	07:06 17:25	16:27 (6) 16:44 (6)	06:26 17:59	16:20 (5) 17:24 (4)	06:34 19:33	05:51 20:05	05:28 20:32
9	07:27 16:49	07:05 17:26	16:27 (6) 16:42 (6)	06:24 18:00	16:21 (5) 17:23 (4)	06:32 19:34	05:50 20:06	05:27 20:33
10	07:27 16:50	07:03 17:27	16:29 (6) 16:41 (6)	06:23 18:01	16:22 (5) 17:22 (4)	06:31 19:35	05:48 20:07	05:27 20:33
11	07:26 16:51	07:02 17:29	16:32 (6) 16:39 (6)	06:21 18:02	16:24 (5) 17:21 (4)	06:29 19:36	05:47 20:08	05:27 20:34
12	07:26 16:52	07:01 17:30	06:19 18:03	06:19 18:03	16:26 (5) 17:19 (4)	06:28 19:37	05:46 20:09	05:27 20:34
13	07:26 16:53	07:00 17:31	06:18 18:04	06:18 18:04	16:28 (5) 16:44 (5)	06:26 19:38	05:45 20:10	05:27 20:35
14	07:25 16:54	06:58 17:32	16:34 (5) 16:46 (5)	06:16 18:05	06:24 19:39	05:44 20:11	05:27 20:35	05:27 20:35
15	07:25 16:55	06:57 17:34	16:31 (5) 16:50 (5)	06:14 18:06	06:23 19:40	05:43 20:12	05:27 20:36	05:27 20:36
16	07:25 16:56	06:56 17:35	16:28 (5) 16:52 (5)	06:13 18:08	06:21 19:41	05:42 20:13	05:27 20:36	05:27 20:36
17	07:24 16:58	06:54 17:36	16:26 (5) 16:54 (5)	06:11 18:09	06:20 19:42	05:41 20:14	05:27 20:36	05:27 20:36
18	07:24 16:59	06:53 17:37	16:24 (5) 16:55 (5)	06:09 18:10	06:18 19:43	05:40 20:15	05:27 20:37	05:27 20:37
19	07:23 17:00	06:52 17:38	16:23 (5) 16:57 (5)	06:08 18:11	06:17 19:44	05:39 20:16	05:27 20:37	05:27 20:37
20	07:23 17:01	06:50 17:40	16:22 (5) 16:58 (5)	06:06 18:12	17:49 (3) 17:51 (3)	06:15 19:45	05:38 20:17	05:27 20:37
21	07:22 17:02	06:49 17:41	16:21 (5) 16:58 (5)	06:04 18:13	17:46 (3) 17:52 (3)	06:14 19:47	05:38 20:18	05:27 20:37
22	07:21 17:04	06:47 17:42	16:20 (5) 17:00 (5)	06:03 18:14	17:45 (3) 17:53 (3)	06:12 19:48	05:37 20:19	05:27 20:38
23	07:21 17:05	06:46 17:43	16:19 (5) 17:00 (5)	06:01 18:15	17:44 (3) 17:54 (3)	06:11 19:49	05:36 20:20	05:28 20:38
24	07:20 17:06	06:44 17:45	16:19 (5) 17:00 (5)	05:59 18:16	17:44 (3) 17:55 (3)	06:09 19:50	05:35 20:20	05:28 20:38
25	07:19 17:07	06:43 17:46	16:18 (5) 17:00 (5)	05:57 18:17	17:43 (3) 17:56 (3)	06:08 19:51	05:34 20:21	05:28 20:38
26	07:19 17:08	06:42 17:47	16:18 (5) 17:01 (5)	05:56 18:18	17:43 (3) 17:56 (3)	06:06 19:52	05:34 20:22	05:29 20:38
27	07:18 17:10	16:30 (6) 17:48	06:40 17:01 (5)	05:54 18:20	17:44 (3) 17:54 (3)	06:05 19:53	05:33 20:23	05:29 20:38
28	07:17 17:11	16:28 (6) 17:49	06:38 17:01 (5)	05:52 18:21	17:45 (3) 17:52 (3)	06:04 19:54	05:32 20:24	05:29 20:38
29	07:16 17:12	16:27 (6) 16:40 (6)	06:49 16:26 (6)	06:51 19:22	18:47 (3) 18:50 (3)	06:02 19:55	05:32 20:25	05:30 20:38
30	07:15 17:13	16:26 (6) 16:41 (6)	06:49 16:41 (6)	06:49 19:23	06:01 19:56	05:31 20:26	05:31 20:26	05:30 20:38
31	07:14 17:15	16:25 (6) 16:42 (6)	06:47 16:42 (6)	06:47 19:24	05:31 20:26	05:31 20:26	05:31 20:26	05:30 20:38
Potential sun hours	296	297	369	399	449	453		
Total, worst case	61	699	716					

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Calendar

Shadow receptor: Q - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 0,0° (17)

### Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:31 20:38	05:55 20:19	06:26 19:35	06:56 18:44	17:07 (5) 16:57	15:59 (6) 16:11 (6)
2	05:31 20:38	05:56 20:18	06:27 19:34	06:58 18:43	17:04 (5) 17:59 (4)	15:57 (6) 16:12 (6)
3	05:32 20:38	05:57 20:17	06:28 19:32	06:59 18:41	17:01 (5) 18:00 (4)	15:56 (6) 16:13 (6)
4	05:32 20:38	05:58 20:16	06:29 19:30	07:00 18:39	16:59 (5) 18:01 (4)	15:56 (6) 16:14 (6)
5	05:33 20:37	05:59 20:14	06:30 19:29	07:01 18:38	16:58 (5) 18:01 (4)	15:55 (6) 16:14 (6)
6	05:33 20:37	06:00 20:13	06:31 19:27	07:02 18:36	16:56 (5) 18:01 (4)	15:55 (6) 16:14 (6)
7	05:34 20:37	06:01 20:12	06:32 19:25	07:03 18:34	16:55 (5) 18:00 (4)	15:56 (6) 16:15 (6)
8	05:35 20:37	06:02 20:11	06:33 19:24	07:04 18:33	16:54 (5) 18:00 (4)	15:55 (6) 16:15 (6)
9	05:35 20:36	06:03 20:09	06:34 19:22	07:05 18:31	16:52 (5) 17:59 (4)	15:55 (6) 16:14 (6)
10	05:36 20:36	06:04 20:08	06:35 19:20	07:06 18:29	16:52 (5) 17:58 (4)	15:56 (6) 16:14 (6)
11	05:37 20:35	06:05 20:07	06:36 19:19	07:07 18:28	16:51 (5) 17:56 (4)	15:57 (6) 16:14 (6)
12	05:37 20:35	06:06 20:05	06:37 19:17	07:08 18:26	16:51 (5) 17:55 (4)	15:58 (6) 16:13 (6)
13	05:38 20:34	06:07 20:04	06:38 19:15	07:09 18:25	16:51 (5) 17:34 (5)	15:59 (6) 16:12 (6)
14	05:39 20:34	06:08 20:03	06:39 19:14	07:10 18:23	16:50 (5) 17:33 (5)	16:01 (6) 16:11 (6)
15	05:40 20:33	06:09 20:01	06:40 19:12	07:11 18:21	16:50 (5) 17:33 (5)	16:03 (6) 16:09 (6)
16	05:40 20:33	06:10 20:00	06:41 19:10	07:12 18:20	16:50 (5) 17:32 (5)	16:04 (6) 16:11 (6)
17	05:41 20:32	06:11 19:59	06:42 19:08	07:13 18:18	16:50 (5) 17:32 (5)	16:05 (6) 16:10 (6)
18	05:42 20:31	06:12 19:57	06:43 19:07	07:14 18:17	16:50 (5) 17:32 (5)	16:06 (6) 16:10 (6)
19	05:43 20:31	06:13 19:56	06:44 19:05	07:15 18:15	16:51 (5) 17:31 (5)	16:07 (6) 16:09 (6)
20	05:44 20:30	06:14 19:54	06:45 19:03	07:16 18:14	16:51 (5) 17:30 (5)	16:10 (6) 16:10 (6)
21	05:45 20:29	06:15 19:53	06:46 19:01	07:17 18:12	16:51 (5) 17:29 (5)	16:11 (6) 16:10 (6)
22	05:45 20:28	06:16 19:51	06:47 19:00	07:18 18:11	16:51 (5) 17:27 (5)	16:12 (6) 16:10 (6)
23	05:46 20:28	06:17 19:50	06:48 18:58	07:19 18:10	16:52 (5) 17:27 (5)	16:13 (6) 16:10 (6)
24	05:47 20:27	06:18 19:48	06:49 18:56	07:20 18:08	16:52 (5) 17:25 (5)	16:14 (6) 16:10 (6)
25	05:48 20:26	06:19 19:47	06:50 18:55	07:21 17:07	16:53 (5) 16:23 (5)	16:15 (6) 16:10 (6)
26	05:49 20:25	06:20 19:45	06:51 18:53	07:22 17:05	16:54 (5) 16:21 (5)	16:16 (6) 16:11 (6)
27	05:50 20:24	06:21 19:43	06:52 18:51	07:23 17:04	16:55 (5) 16:19 (5)	16:17 (6) 16:12 (6)
28	05:51 20:23	06:22 19:42	06:53 18:49	07:24 17:02	16:56 (5) 16:15 (5)	16:18 (6) 16:13 (6)
29	05:52 20:22	06:23 19:40	06:54 18:48	07:25 17:01	16:57 (5) 16:14 (5)	16:19 (6) 16:14 (6)
30	05:53 20:21	06:24 19:39	06:55 18:46	17:11 (5) 17:23 (5)	16:58 (5) 17:00	16:20 (6) 16:15 (6)
31	05:54 20:20	06:25 19:37		06:30 16:58	16:01 (6) 16:10 (6)	16:21 (6) 16:16 (6)
Potential sun hours	460	429	375	345	297	287
Total, worst case			92	1162	237	

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

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

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Main Result

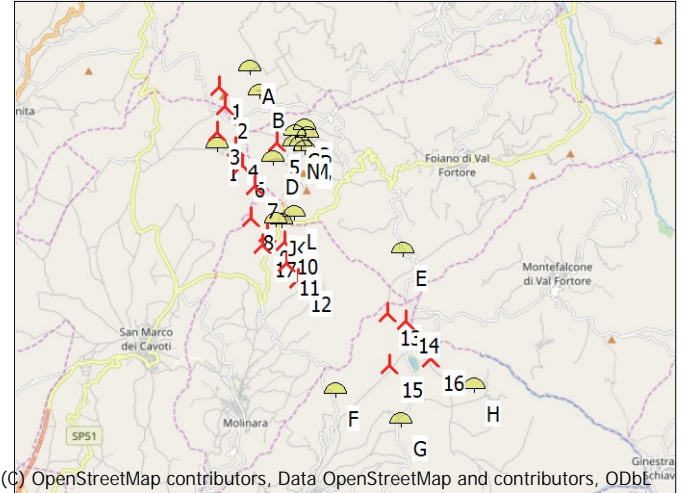
### Assumptions for shadow calculations

Maximum distance for influence  
Calculate only when more than 20 % of sun is covered by the blade  
Please look in WTG table

Minimum sun height over horizon for influence 3 °  
Day step for calculation 1 days  
Time step for calculation 1 minutes  
The calculated times are "worst case" given by the following assumptions:  
The sun is shining all the day, from sunrise to sunset  
The rotor plane is always perpendicular to the line from the WTG to the sun  
The WTG is always operating

Line-of-sight calculation has been deactivated. This means that sheltering from obstacles, areas or hills are not taken into account.

All coordinates are in  
UTM (north)-WGS84 Zone: 33



Scale 1:200.000  
New WTG Shadow receptor

### WTGs

WTG	Easting	Northing	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.					Calculation distance [m]	RPM
1	491.805	4.579.879	955,8	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
2	491.933	4.579.353	941,9	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
3	491.751	4.578.670	916,6	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
4	492.240	4.578.289	990,1	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
5	493.310	4.578.420	933,3	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
6	492.400	4.577.817	905,4	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
7	492.741	4.577.267	920,5	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
8	492.629	4.576.416	905,6	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
9	493.052	4.576.013	911,4	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
10	493.503	4.575.787	905,4	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
11	493.578	4.575.236	926,5	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
12	493.891	4.574.816	935,9	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
13	496.256	4.573.927	893,9	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
14	496.720	4.573.710	887,3	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
15	496.291	4.572.551	886,4	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
16	497.390	4.572.721	875,4	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0
17	492.930	4.575.717	870,6	GE WIND ENERGY GE 15...	Yes	GE WIND ENERGY	GE 158-6.600	6.600	158,0	101,0	2.500	0,0

### Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation	Degrees from	Slope of	Direction mode	Eye height
			[m]	[m]	[m]	a.g.l.	south cw	window		(ZVI) a.g.l.
A	492.591	4.580.264	814,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
B	492.858	4.579.642	847,4	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
C	493.801	4.578.576	883,9	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
D	493.219	4.577.897	919,8	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
E	496.649	4.575.498	778,5	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
F	494.856	4.571.786	792,8	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
G	496.609	4.571.009	817,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
H	498.548	4.571.918	853,1	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
I	491.732	4.578.249	903,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
J	493.293	4.576.267	885,8	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
K	493.451	4.576.247	869,2	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
L	493.775	4.576.433	852,5	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
M	493.952	4.578.297	887,2	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
N	493.770	4.578.295	897,2	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
O	494.071	4.578.176	876,5	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
P	494.146	4.578.519	856,9	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
Q	494.076	4.578.726	858,9	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0

Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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Calculated:  
07/08/2023 20:12/3.5.584

## SHADOW - Main Result

### Calculation Results

Shadow receptor

Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
A	27:46	53	0:40
B	37:22	91	0:37
C	95:36	124	1:30
D	31:33	56	0:43
E	0:00	0	0:00
F	0:00	0	0:00
G	0:00	0	0:00
H	0:00	0	0:00
I	58:54	127	0:46
J	221:10	150	1:43
K	141:46	165	1:16
L	77:05	161	0:44
M	19:42	82	0:23
N	16:23	61	0:26
O	28:29	99	0:24
P	39:24	85	0:42
Q	49:27	108	0:59

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

No.	Name	Worst case [h/year]
1	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (1)	27:46
2	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (2)	22:50
3	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (3)	17:15
4	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (4)	38:19
5	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (5)	110:30
6	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (6)	110:39
7	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (7)	27:42
8	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (8)	10:42
9	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (9)	308:40
10	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (10)	0:53
11	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (11)	0:00
12	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (12)	0:00
13	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (13)	0:00
14	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (14)	0:00
15	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (15)	0:00
16	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (16)	0:00
17	GE WIND ENERGY GE 158 6600 158.0 !O! hub: 101,0 m (TOT: 180,0 m) (17)	52:35

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



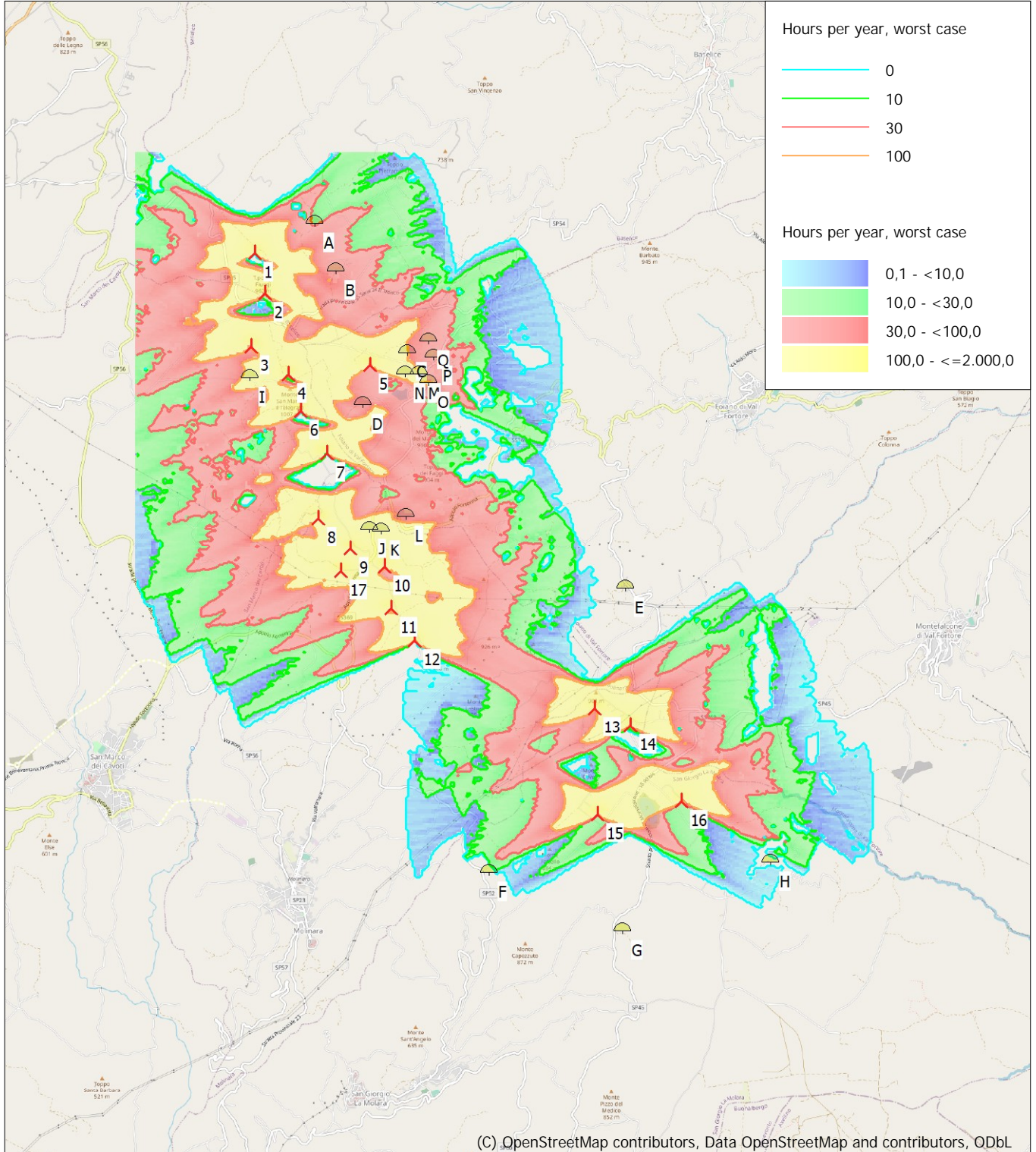
Project:

Progetto definitivo per il rifacimento di un Parco Eolico della potenza complessiva di 103,70MW costituito da n. 17 aerogeneratori tipo GE 158 da 6.1MW sito nei Comuni di Baselice, Foiano di Val Fortore, San Marco dei Cavoti, Molinara e San Giorgio La Molara (BN), nonché delle opere connesse e delle infrastrutture indispensabili alla costruzione e all'esercizio dell'impianto.

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## SHADOW - Map



0 1 2 3 4 km

Map: EMD OpenStreetMap , Print scale 1:75.000, Map center UTM (north)-WGS84 Zone: 33 East: 495.240 North: 4.575.630

New WTG

Shadow receptor

Flicker map level: Project Wizard Elevation Data Grid (SRTM: Shuttle DTM 1 arc-second)

Time step: 4 minutes, Day step: 14 days, Map resolution: 30 m, Visibility resolution: 15 m, Eye height: 1,5 m