

SHADOW - Main Result

Calculation: Real Case Curtailment

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

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational hours are calculated from WTGs in calculation and wind distribution:

CERRA N 56,483277 E 26,150006

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Monthly aggregation of real case reduction

Idle start wind speed3,0m/s

Flicker curtailment by stopping specific turbines

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

DHM: DTM model

Receptor grid resolution: 1,0 m

Topographic shadow included in calculation

All coordinates are in

Geo [deg]-WGS84

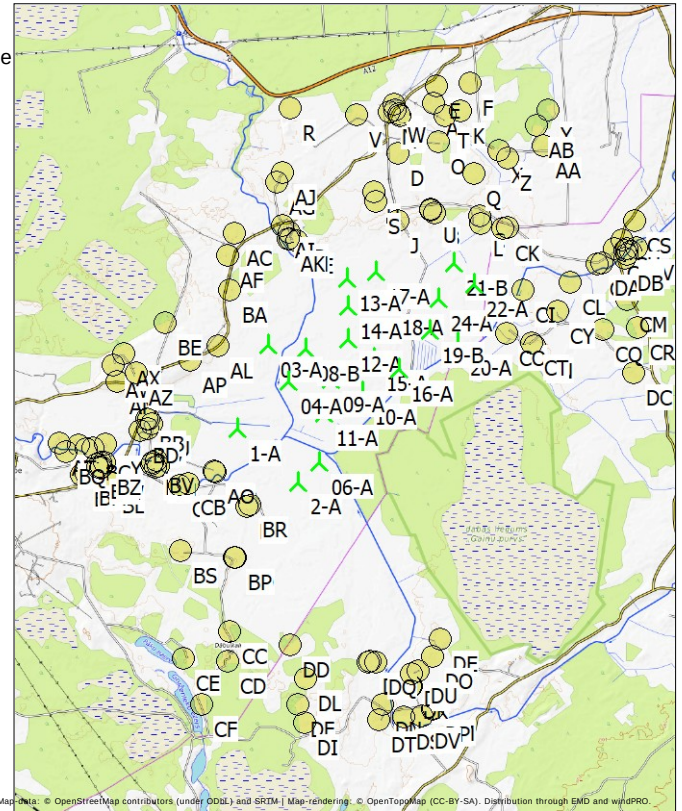
WTGs

	Longitude	Latitude	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
1	26,154944° E	56,472000° N	86,4	1-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
2	26,171545° E	56,464065° N	87,4	2-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
3	26,188797° E	56,477423° N	87,3	10-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
4	26,191766° E	56,482416° N	88,1	15-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
5	26,184830° E	56,485277° N	88,1	12-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
6	26,195723° E	56,490817° N	88,2	18-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
7	26,184789° E	56,490106° N	88,3	14-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
8	26,192600° E	56,495313° N	88,9	17-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
9	26,209173° E	56,491273° N	88,1	24-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
10	26,213491° E	56,496603° N	89,1	21-B	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
11	26,218949° E	56,493438° N	89,5	22-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
12	26,214396° E	56,484740° N	88,5	20-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
13	26,206995° E	56,486499° N	87,9	19-B	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
14	26,198775° E	56,480846° N	87,4	16-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
15	26,184611° E	56,494373° N	88,5	13-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
16	26,178446° E	56,474208° N	87,2	11-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
17	26,179996° E	56,479330° N	88,4	09-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
18	26,173625° E	56,483937° N	86,9	08-B	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
19	26,163370° E	56,484575° N	88,4	03-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
20	26,168908° E	56,479068° N	86,9	04-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8
21	26,176971° E	56,466954° N	86,4	06-A	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	162,0	1 894	10,8

Shadow receptor-Input

No.	Name	Longitude	Latitude	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
				[m]	[m]	[m]	[m]	[°]		[m]
A	Aizkalnes	26,207858° E	56,520369° N	94,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
B	Zvirgzdini	26,208124° E	56,504040° N	92,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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SHADOW - Main Result

Calculation: Real Case Curtailment

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No.	Name	Longitude	Latitude	Z	Width	Height	Elevation	Slope of	Direction mode	Eye height
				[m]	[m]	[m]	a.g.l.	window		(ZVI) a.g.l.
							[m]	[°]		[m]
	C Uplejas	26,220364° E	56,503587° N	90,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	D Druku Vecumi	26,198160° E	56,512887° N	93,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	E Kaijas	26,208687° E	56,522987° N	96,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	F Cvetkovi	26,217847° E	56,523273° N	96,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	G Balo ž i	26,198613° E	56,518862° N	93,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	H Berzi	26,191627° E	56,507246° N	92,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	I Kropini	26,207134° E	56,504585° N	92,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	J Ergli	26,198423° E	56,502938° N	91,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	K Nazari	26,214929° E	56,519219° N	93,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	L Akoti	26,220549° E	56,502569° N	90,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	M Linares	26,197407° E	56,520072° N	93,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	N Lamani 1	26,195936° E	56,518989° N	92,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	O Ro ž lejas	26,209238° E	56,514630° N	93,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	P Aizupes	26,199053° E	56,518437° N	92,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Q Kumelites	26,218886° E	56,509968° N	93,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	R Dzila Vada	26,169332° E	56,519514° N	91,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	S Vecumi	26,192519° E	56,505706° N	92,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	T Rutini	26,211042° E	56,518444° N	93,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	U Viksnes	26,207029° E	56,504358° N	92,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	V Dimanti	26,187384° E	56,518664° N	93,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	W Rudzi š i	26,197546° E	56,519321° N	93,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	X Podnieki	26,225499° E	56,513205° N	93,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Y Stimbinaja	26,238938° E	56,519389° N	93,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Z Marsnica	26,227741° E	56,512101° N	91,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AA Vilkmui ž a	26,237475° E	56,514054° N	93,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AB Vecergli	26,235536° E	56,517157° N	93,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AC Kvie š i	26,154412° E	56,500927° N	90,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AD Me ž a Rasas	26,169055° E	56,501189° N	90,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AE Dravnieki	26,171153° E	56,499901° N	90,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AF Ogu Purvs	26,152495° E	56,497838° N	90,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AG Jaunmedni	26,165627° E	56,508563° N	92,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AH Graudini	26,169543° E	56,500262° N	90,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AI Birznieki	26,167532° E	56,502200° N	89,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AJ Irbites	26,167241° E	56,510128° N	91,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AK Ruki	26,168833° E	56,500283° N	90,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AL Vipmali	26,149905° E	56,484230° N	91,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AM Galvani 1	26,122805° E	56,478966° N	95,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AN Pludmales 1	26,148820° E	56,465677° N	87,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AO Pludmales	26,149040° E	56,465610° N	87,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AP Kalna Galvani	26,142436° E	56,482221° N	98,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AQ Ziedini	26,114434° E	56,468966° N	89,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AR Strautini	26,112449° E	56,469534° N	89,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AS Druvas	26,131471° E	56,473578° N	87,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AT Saulkrasti	26,107300° E	56,469842° N	90,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AU Jaundruvas 1	26,131987° E	56,472637° N	88,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AV Zilites	26,131108° E	56,471880° N	88,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AW Avotini	26,121551° E	56,481424° N	95,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AX Biksti	26,124410° E	56,483251° N	96,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AY Tudalinas	26,119697° E	56,469646° N	90,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	AZ Kalnares	26,127965° E	56,480344° N	97,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BA Su š i	26,153089° E	56,492562° N	90,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BB Jaundruvas	26,130673° E	56,473442° N	87,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BC Straumenini	26,116258° E	56,469089° N	90,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BD Krasta Ozoli	26,128750° E	56,471771° N	88,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BE Galvani	26,135926° E	56,487675° N	95,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BF Mui ž nieki	26,113280° E	56,465079° N	91,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BG Me ž mui ž a	26,132979° E	56,466265° N	88,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BH Krastini	26,133875° E	56,466527° N	88,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BI Strauti	26,118340° E	56,466957° N	86,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BJ Purenas	26,117319° E	56,466719° N	87,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BK Uplejas	26,118170° E	56,466952° N	86,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BL Bazes stacija	26,120683° E	56,464128° N	90,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BM Spridi š i	26,114672° E	56,465253° N	91,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	BN Klavas	26,157722° E	56,460261° N	90,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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SHADOW - Main Result

Calculation: Real Case Curtailment

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No.	Name	Longitude	Latitude	Z	Width	Height	Elevation	Slope of	Direction mode	Eye height
				[m]	[m]	[m]	a.g.l.	window		(ZVI) a.g.l.
							[m]	[°]		[m]
BO	Kaupres	26,154481° E	56,452570° N	90,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BP	Kaupres 1	26,154736° E	56,452617° N	90,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BQ	Lici š i	26,109041° E	56,468627° N	91,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BR	Liepšala	26,158460° E	56,460663° N	91,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BS	Me ž vidi	26,140069° E	56,453828° N	91,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BT	Me ž a Mui ž a	26,131989° E	56,466718° N	89,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BU	Vilni š i	26,132310° E	56,466977° N	90,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BV	Raceni	26,133513° E	56,467240° N	89,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BW	Vipes skola	26,118133° E	56,466127° N	90,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BX	Vipes skola	26,118460° E	56,466288° N	90,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BY	Vipes skola	26,117611° E	56,466358° N	90,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BZ	Vipes skola 1	26,119453° E	56,467114° N	88,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CA	Slipie 1	26,139496° E	56,463705° N	87,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CB	Upmali	26,141987° E	56,463800° N	87,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CC	Ziemelnieki	26,152996° E	56,441528° N	92,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CD	Ezermui ž a	26,152602° E	56,437223° N	92,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CE	Ezermali	26,140640° E	56,437594° N	90,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CF	Ozolmui ž a	26,145561° E	56,430795° N	92,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CG	Vasarnieki	26,261108° E	56,498230° N	91,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CH	Ata š a	26,251712° E	56,496522° N	91,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CI	Mui ž nieki	26,231972° E	56,492662° N	89,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CJ	Rijasvecumi	26,227814° E	56,501950° N	92,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CK	Kalvani	26,226341° E	56,501709° N	92,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CL	Uzkalnini	26,244752° E	56,493800° N	92,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CM	Cakstes	26,260191° E	56,491064° N	93,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CN	Jaunie Vu š karnieki	26,234910° E	56,484228° N	89,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CO	Upmalnieki	26,227614° E	56,486271° N	89,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CP	Gruguli	26,259452° E	56,498488° N	91,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CQ	Aramsala	26,253669° E	56,486836° N	92,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CR	Alksni š i	26,262738° E	56,486897° N	94,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CS	Lejsalie š i	26,262300° E	56,502792° N	93,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CT	Araji	26,234288° E	56,484761° N	90,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CU	Plavinas	26,258552° E	56,500071° N	92,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CV	Zali š i	26,262376° E	56,498812° N	91,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CW	Grugules	26,256543° E	56,498698° N	92,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CX	Madaras	26,260204° E	56,498671° N	91,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CY	Vu š karnieki	26,241183° E	56,489414° N	92,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CZ	Vecares	26,260016° E	56,497881° N	90,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DA	Strautmali	26,253233° E	56,496637° N	91,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DB	Jaunari	26,259494° E	56,497402° N	91,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DC	Vidsala	26,261621° E	56,480364° N	94,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DD	Jaunie Robe ž nieki	26,169285° E	56,439743° N	89,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DE	Smelceja	26,209466° E	56,440532° N	92,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DF	Kukas	26,171356° E	56,430866° N	92,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DG	O š ini	26,190535° E	56,437029° N	89,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DH	O š ini	26,190590° E	56,437181° N	89,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DI	Robe ž nieki	26,173089° E	56,428132° N	92,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DJ	Pumpuri	26,202157° E	56,433538° N	91,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DK	Pumpuri	26,201785° E	56,433455° N	92,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DL	Berzkalnes	26,173600° E	56,434528° N	89,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DM	Arsmenieki	26,207754° E	56,430248° N	93,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DN	Smelceju majas	26,194039° E	56,430891° N	90,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DO	Zemites	26,207501° E	56,438015° N	91,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DP	Arsmenieki	26,207477° E	56,430056° N	93,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DQ	Upi š i	26,192367° E	56,437127° N	90,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DR	Aizveji	26,201934° E	56,435394° N	92,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DS	Dzervites	26,200128° E	56,428906° N	91,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DT	Jaunmasani	26,193181° E	56,428587° N	90,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DU	Airites	26,203694° E	56,435670° N	91,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DV	Upmalas	26,204770° E	56,429183° N	92,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0

SHADOW - Main Result

Calculation: Real Case Curtailment

Calculation Results

Shadow receptor

No.	Name	Shadow, expected values	
		Shadow hours per year [h/year]	Avoided hours per year [h/year]
	A Aizkalnes	0:00	
	B* Zvirgzdini	2:20	8:17
	C* Uplejas	0:26	6:25
	D Druku Vecumi	0:00	
	E Kaijas	0:00	
	F Cvetkovi	0:00	
	G Balo ž i	0:00	
	H* Berzi	0:52	0:36
	I* Kropini	1:57	7:16
	J* Ergli	1:26	12:02
	K Nazari	0:00	
	L* Akoti	0:00	9:54
	M Linares	0:00	
	N Lamani 1	0:00	
	O Ro ž lejas	0:00	
	P Aizupes	0:00	
	Q Kumelites	0:00	
	R Dzila Vada	0:00	
	S* Vecumi	0:10	3:43
	T Rutini	0:00	
	U* Viksnes	1:57	7:43
	V Dimanti	0:00	
	W Rudzi š i	0:00	
	X Podnieki	0:00	
	Y Stimbinaja	0:00	
	Z Marsnica	0:00	
	AA Vilkmui ž a	0:00	
	AB Vecergli	0:00	
	AC Kvie š i	0:00	
	AD* Me ž a Rasas	2:24	3:44
	AE* Dravnieki	4:23	5:28
	AF Ogu Purvs	0:48	
	AG Jaunmedni	0:00	
	AH* Graudini	2:41	4:23
	AI* Birznieki	2:16	2:36
	AJ Irbites	0:00	
	AK* Ruki	2:49	3:50
	AL* Vipmali	3:42	14:21
	AM Galvani 1	0:00	
	AN Pludmales 1	5:54	
	AO Pludmales	6:02	
	AP* Kalna Galvani	0:00	9:51
	AQ Ziedini	0:00	
	AR Strautini	0:00	
	AS Druvas	3:08	
	AT Saulkrasti	0:00	
	AU Jaundruvas 1	3:33	
	AV Zilites	3:29	
	AW Avotini	0:00	
	AX Biksti	0:00	
	AY Tudalinas	0:00	
	AZ Kalnares	0:00	
	BA* Su š i	1:19	3:45
	BB Jaundruvas	2:56	
	BC Straumenini	0:00	
	BD Krasta Ozoli	2:48	
	BE Galvani	1:52	
	BF Mui ž nieki	0:00	
	BG* Me ž mui ž a	4:22	2:47
	BH* Krastini	4:57	3:10
	BI Strauti	0:00	
	BJ Purenes	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: Real Case Curtailment

...continued from previous page

No.	Name	Shadow, expected values	
		Shadow hours per year [h/year]	Avoided hours per year [h/year]
	BK Uplejas	0:00	
	BL Bazes stacija	0:00	
	BM Spridi š i	0:00	
	BN* Klavas	0:00	27:38
	BO Kaupres	0:00	
	BP Kaupres 1	0:00	
	BQ Lici š i	0:00	
	BR* Liepsala	5:45	25:10
	BS Me ž vidi	0:00	
	BT* Me ž a Mui ž a	0:28	5:16
	BU* Vilni š i	0:02	5:47
	BV* Raceni	0:00	6:48
	BW Vipes skola	0:00	
	BX Vipes skola	0:00	
	BY Vipes skola	0:00	
	BZ Vipes skola 1	0:00	
	CA Slipie 1	0:00	
	CB Upmali	2:05	
	CC Ziemeļnieki	0:00	
	CD Ezermui ž a	0:00	
	CE Ezermali	0:00	
	CF Ozolmui ž a	0:00	
	CG Vasarnieki	0:00	
	CH Ata š a	0:00	
	CI* Mui ž nieki	5:08	26:21
	CJ* Rijasvecumi	2:17	6:57
	CK* Kalvani	0:34	9:52
	CL Uzkalnini	2:45	
	CM Cakstes	0:00	
	CN* Jaunie Vu š karnieki	1:17	10:35
	CO* Upmalnieki	1:24	27:40
	CP Gruguli	0:00	
	CQ Aramsala	0:00	
	CR Alksni š i	0:00	
	CS Lejsalie š i	0:00	
	CT* Araj	2:41	9:39
	CU Plavinas	0:00	
	CV Zali š i	0:00	
	CW Grugules	0:00	
	CX Madaras	0:00	
	CY* Vu š karnieki	5:15	5:03
	CZ Vecares	0:00	
	DA Strautmali	0:00	
	DB Jaunari	0:00	
	DC Vidsala	0:00	
	DD Jaunie Robe ž nieki	0:00	
	DE Smelceja	0:00	
	DF Kukas	0:00	
	DG O š ini	0:00	
	DH O š ini	0:00	
	DI Robe ž nieki	0:00	
	DJ Pumpuri	0:00	
	DK Pumpuri	0:00	
	DL Berzkalnes	0:00	
	DM Arsmenieki	0:00	
	DN Smelceju majas	0:00	
	DO Zemites	0:00	
	DP Arsmenieki	0:00	
	DQ Upi š i	0:00	
	DR Aizveji	0:00	
	DS Dzervites	0:00	
	DT Jaunmasani	0:00	
	DU Airites	0:00	
	DV Upmalas	0:00	

* Receptors where shadow flicker is reduced by curtailment

SHADOW - Main Result

Calculation: Real Case Curtailment

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

No.	Name	Stopped due to flicker curtailment [h/year]	Expected [h/year]
1	1-A	56:21	13:16
2	2-A	59:32	9:45
3	10-A		0:00
4	15-A		0:00
5	12-A		0:40
6	18-A		2:53
7	14-A	53:31	0:50
8	17-A	117:02	4:15
9	24-A	111:55	5:07
10	21-B	275:40	1:25
11	22-A	181:52	10:48
12	20-A	80:57	2:10
13	19-B	25:45	2:38
14	16-A		1:24
15	13-A	83:01	2:50
16	11-A		0:00
17	09-A		0:00
18	08-B	12:53	3:21
19	03-A	107:19	2:41
20	04-A	25:26	1:19
21	06-A	33:18	4:21

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.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

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Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: A - Aizkalnes

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:48	08:09	07:04	06:41	05:26	04:31	04:28	05:16	06:18	07:18	07:24	08:25
	15:47	16:46	17:48	19:54	20:56	21:52	22:06	21:22	20:07	18:46	16:29	15:40
4	08:47	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:50	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:39
5	08:47	08:05	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:28
	15:50	16:50	17:53	19:58	21:00	21:55	22:04	21:18	20:01	18:41	16:25	15:39
6	08:46	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:38	16:23	15:38
7	08:46	08:01	06:53	06:31	05:17	04:27	04:32	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:37
8	08:45	07:58	06:51	06:28	05:14	04:26	04:33	05:26	06:28	07:28	07:35	08:32
	15:54	16:57	17:59	20:04	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:37
9	08:44	07:56	06:48	06:25	05:12	04:26	04:35	05:28	06:30	07:30	07:37	08:34
	15:56	16:59	18:01	20:06	21:09	22:00	22:01	21:09	19:51	18:30	16:17	15:36
10	08:44	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:39	08:35
	15:57	17:02	18:03	20:08	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:08	04:24	04:37	05:32	06:34	07:34	07:41	08:36
	15:59	17:04	18:06	20:10	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:35
12	08:42	07:50	06:40	06:17	05:06	04:24	04:38	05:34	06:36	07:37	07:43	08:38
	16:01	17:06	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:22	16:11	15:35
13	08:41	07:47	06:37	06:15	05:04	04:23	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:08	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:41	07:47	08:40
	16:04	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:06	17:13	18:14	20:19	21:20	22:05	21:54	20:55	19:35	18:15	16:05	15:35
16	08:38	07:41	06:29	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:52	08:42
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03	15:35
17	08:37	07:38	06:27	06:05	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:43
	16:10	17:17	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:44
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19	08:34	07:33	06:21	05:59	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
20	08:33	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:35
21	08:31	07:29	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:56	08:02	08:46
	16:18	17:26	18:27	20:31	21:32	22:08	21:46	20:40	19:18	18:00	15:55	15:36
22	08:30	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:58	08:04	08:46
	16:20	17:29	18:29	20:33	21:33	22:08	21:44	20:38	19:16	17:57	15:53	15:36
23	08:28	07:24	06:11	05:49	04:46	04:22	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:52	15:37
24	08:27	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:10	17:52	15:51	15:37
25	08:25	07:19	06:05	05:45	04:43	04:23	04:59	06:00	07:02	08:04	08:10	08:48
	16:26	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:36	20:25	19:02	16:45	15:47	15:39
28	08:20	07:11	05:57	05:37	04:38	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:44	22:08	21:34	20:22	19:00	16:43	15:45	15:40
29	08:18		05:55	05:35	04:37	04:25	05:06	06:08	07:10	07:13	08:18	08:48
	16:35		18:43	20:48	21:45	22:07	21:32	20:20	18:57	16:40	15:44	15:41
30	08:16		06:52	05:33	04:35	04:26	05:08	06:10	07:12	07:15	08:19	08:48
	16:37		19:45	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:15		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:48		21:48		21:28	20:15		16:36		15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

SKEPAST & PUKIM

Skepast & Puhkim OÜ

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Calculated:

02.07.2026 17:34/4.1.287

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: B - Zvirgzdini

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January			February			March		April		May		June	
1	08:48		14:06 (6)	08:13		16:05 (15)	07:09		06:47		05:30		04:33	
	15:45	24	14:30 (6)	16:42	4	16:09 (15)	17:44		19:50		20:52		21:50	
2	08:48		14:07 (6)	08:11		16:04 (15)	07:06		06:44		05:28		04:32	
	15:46	24	14:31 (6)	16:44	8	16:12 (15)	17:46		19:52		20:54		21:51	
3	08:48		14:07 (6)	08:09		16:03 (15)	07:04		06:41		05:26		04:31	
	15:47	24	14:31 (6)	16:46	12	16:15 (15)	17:48		19:54		20:56		21:52	
4	08:47		14:08 (6)	08:07		16:01 (15)	07:01		06:39		05:23		04:30	
	15:49	24	14:32 (6)	16:48	15	16:16 (15)	17:51		19:56		20:58		21:54	
5	08:47		14:09 (6)	08:05		16:01 (15)	06:58		06:36		05:21		04:29	
	15:50	23	14:32 (6)	16:51	18	16:19 (15)	17:53		19:58		21:00		21:55	
6	08:46		14:09 (6)	08:03		16:01 (15)	06:56		06:33		05:19		04:28	
	15:51	22	14:31 (6)	16:53	21	16:22 (15)	17:55		20:00		21:02		21:56	
7	08:46		14:10 (6)	08:01		16:00 (15)	06:53		06:31		05:17		04:27	
	15:53	21	14:31 (6)	16:55	23	16:23 (15)	17:57		20:02		21:04		21:57	
8	08:45		14:11 (6)	07:58		16:00 (15)	06:51		06:28		05:14		04:26	
	15:54	20	14:31 (6)	16:57	23	16:23 (15)	17:59		20:04		21:07		21:58	
9	08:44		14:12 (6)	07:56		16:01 (15)	06:48		06:25		05:12		04:26	
	15:56	19	14:31 (6)	16:59	23	16:24 (15)	18:01		20:06		21:09		21:59	
10	08:44		14:13 (6)	07:54		16:00 (15)	06:45		06:23		05:10		04:25	
	15:58	18	14:31 (6)	17:02	23	16:23 (15)	18:03		20:08		21:11		22:00	
11	08:43		14:14 (6)	07:52		16:01 (15)	06:43		06:20		05:08		04:24	
	15:59	17	14:31 (6)	17:04	22	16:23 (15)	18:06		20:10		21:13		22:01	
12	08:42		14:16 (6)	07:50		16:02 (15)	06:40		06:18		05:06		04:24	
	16:01	15	14:31 (6)	17:06	21	16:23 (15)	18:08		20:13		21:15		22:02	
13	08:41		14:17 (6)	07:47		16:02 (15)	06:37		06:15		05:04		04:23	
	16:03	13	14:30 (6)	17:08	20	16:22 (15)	18:10		20:15		21:16		22:03	
14	08:40		14:19 (6)	07:45		16:03 (15)	06:35		06:12		05:02		04:23	
	16:04	9	14:28 (6)	17:11	18	16:21 (15)	18:12		20:17		21:18		22:04	
15	08:39		14:23 (6)	07:43		16:04 (15)	06:32		06:10		05:00		04:23	
	16:06	3	14:26 (6)	17:13	16	16:20 (15)	18:14		20:19		21:20		22:05	
16	08:38			07:41		16:06 (15)	06:29		06:07		04:58		04:22	
	16:08			17:15	12	16:18 (15)	18:16		20:21		21:22		22:05	
17	08:36			07:38		16:10 (15)	06:27		06:05		04:56		04:22	
	16:10			17:17	4	16:14 (15)	18:18		20:23		21:24		22:06	
18	08:35			07:36			06:24		06:02		04:54		04:22	
	16:12			17:20			18:20		20:25		21:26		22:06	
19	08:34			07:33			06:21		06:00		04:53		04:22	
	16:14			17:22			18:22		20:27		21:28		22:07	
20	08:33			07:31			06:19		05:57		04:51		04:22	
	16:16			17:24			18:25		20:29		21:30		22:07	
21	08:31			07:29			06:16		05:54		04:49		04:22	
	16:18			17:26			18:27		20:31		21:32		22:07	
22	08:30			07:26			06:13		05:52		04:47		04:22	
	16:20			17:29			18:29		20:33		21:33		22:08	
23	08:28			07:24			06:11		05:49		04:46		04:23	
	16:22			17:31			18:31		20:35		21:35		22:08	
24	08:27			07:21			06:08		05:47		04:44		04:23	
	16:24			17:33			18:33		20:38		21:37		22:08	
25	08:25			07:19			06:05		05:45		04:43		04:23	
	16:26			17:35			18:35		20:40		21:39		22:08	
26	08:23			07:16			06:03		05:42		04:41		04:24	
	16:28			17:37			18:37		20:42		21:40		22:08	
27	08:22			07:14			06:00		05:40		04:40		04:24	
	16:31			17:40			18:39		20:44		21:42		22:08	
28	08:20			07:11			05:57		05:37		04:38		04:25	
	16:33			17:42			18:41		20:46		21:44		22:08	
29	08:18						05:55		05:35		04:37		04:25	
	16:35						18:43		20:48		21:45		22:07	
30	08:16						06:52		05:33		04:36		04:26	
	16:37						19:45		20:50		21:47		22:07	
31	08:14						06:49				04:34			
	16:39						19:48				21:48			
Potential sun hours	235			265			365		425		507		529	
Total, worst case		276			283									
Sun reduction		0,15			0,24									
Oper. time red.		0,94			0,94									
Wind dir. red.		0,67			0,68									
Total reduction		0,10			0,15									
Total, real		27			43									

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

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

Calculation: Real Case Curtailment Shadow receptor: B - Zvirgzdini

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October		November		December	
1	04:27	05:12	06:14	07:14		07:19	15:30 (15)	08:21	13:57 (6)
	22:07	21:26	20:12	18:52		16:34	23 15:53 (15)	15:42	15 14:12 (6)
2	04:28	05:14	06:16	07:16		07:21	15:30 (15)	08:23	13:56 (6)
	22:06	21:24	20:09	18:49		16:31	23 15:53 (15)	15:41	18 14:14 (6)
3	04:28	05:16	06:18	07:18		07:24	15:30 (15)	08:24	13:56 (6)
	22:06	21:22	20:07	18:46		16:29	23 15:53 (15)	15:40	19 14:15 (6)
4	04:29	05:18	06:20	07:20		07:26	15:30 (15)	08:26	13:56 (6)
	22:05	21:20	20:04	18:44		16:27	23 15:53 (15)	15:40	20 14:16 (6)
5	04:30	05:20	06:22	07:22		07:28	15:31 (15)	08:28	13:56 (6)
	22:04	21:17	20:01	18:41		16:25	22 15:53 (15)	15:39	21 14:17 (6)
6	04:31	05:22	06:24	07:24		07:30	15:31 (15)	08:29	13:55 (6)
	22:04	21:15	19:59	18:38		16:23	19 15:50 (15)	15:38	22 14:17 (6)
7	04:32	05:24	06:26	07:26		07:32	15:31 (15)	08:31	13:56 (6)
	22:03	21:13	19:56	18:36		16:21	17 15:48 (15)	15:37	22 14:18 (6)
8	04:34	05:26	06:28	07:28		07:34	15:33 (15)	08:32	13:56 (6)
	22:02	21:11	19:53	18:33		16:19	13 15:46 (15)	15:37	23 14:19 (6)
9	04:35	05:28	06:30	07:30		07:37	15:33 (15)	08:34	13:56 (6)
	22:01	21:09	19:51	18:30		16:17	10 15:43 (15)	15:36	23 14:19 (6)
10	04:36	05:30	06:32	07:32		07:39	15:35 (15)	08:35	13:57 (6)
	22:00	21:06	19:48	18:28		16:15	7 15:42 (15)	15:36	24 14:21 (6)
11	04:37	05:32	06:34	07:34		07:41	15:37 (15)	08:36	13:56 (6)
	21:59	21:04	19:45	18:25		16:13	2 15:39 (15)	15:36	25 14:21 (6)
12	04:39	05:34	06:36	07:37		07:43		08:37	13:56 (6)
	21:58	21:02	19:43	18:23		16:11		15:35	25 14:21 (6)
13	04:40	05:36	06:38	07:39		07:45		08:39	13:57 (6)
	21:57	20:59	19:40	18:20		16:09		15:35	25 14:22 (6)
14	04:41	05:38	06:40	07:41		07:47		08:40	13:58 (6)
	21:56	20:57	19:37	18:17		16:07		15:35	25 14:23 (6)
15	04:43	05:40	06:42	07:43		07:50		08:41	13:58 (6)
	21:54	20:55	19:35	18:15		16:05		15:35	25 14:23 (6)
16	04:44	05:42	06:44	07:45		07:52		08:42	13:58 (6)
	21:53	20:52	19:32	18:12		16:03		15:35	26 14:24 (6)
17	04:46	05:44	06:46	07:47		07:54		08:43	13:59 (6)
	21:52	20:50	19:29	18:10		16:02		15:35	25 14:24 (6)
18	04:47	05:46	06:48	07:49		07:56		08:44	13:59 (6)
	21:50	20:48	19:27	18:07		16:00		15:35	26 14:25 (6)
19	04:49	05:48	06:50	07:51		07:58		08:44	13:59 (6)
	21:49	20:45	19:24	18:05		15:58		15:35	26 14:25 (6)
20	04:51	05:50	06:52	07:53		08:00		08:45	14:00 (6)
	21:47	20:43	19:21	18:02		15:57		15:35	25 14:25 (6)
21	04:52	05:52	06:54	07:55		08:02		08:46	14:01 (6)
	21:46	20:40	19:18	18:00		15:55		15:36	25 14:26 (6)
22	04:54	05:54	06:56	07:58		08:04		08:46	14:01 (6)
	21:44	20:38	19:16	17:57		15:54		15:36	25 14:26 (6)
23	04:56	05:56	06:58	08:00		08:06		08:47	14:02 (6)
	21:42	20:35	19:13	17:55		15:52		15:37	25 14:27 (6)
24	04:57	05:58	07:00	08:02		08:08		08:47	14:02 (6)
	21:41	20:33	19:10	17:52		15:51		15:37	25 14:27 (6)
25	04:59	06:00	07:02	08:04		08:10		08:48	14:02 (6)
	21:39	20:30	19:08	17:50		15:49		15:38	26 14:28 (6)
26	05:01	06:02	07:04	07:06	15:37 (15)	08:12		08:48	14:02 (6)
	21:37	20:28	19:05	16:48	10 15:47 (15)	15:48		15:39	26 14:28 (6)
27	05:03	06:04	07:06	07:08	15:34 (15)	08:14		08:48	14:03 (6)
	21:35	20:25	19:02	16:45	15 15:49 (15)	15:47		15:39	25 14:28 (6)
28	05:05	06:06	07:08	07:11	15:33 (15)	08:16	14:00 (6)	08:48	14:03 (6)
	21:34	20:22	19:00	16:43	17 15:50 (15)	15:46	7 14:07 (6)	15:40	26 14:29 (6)
29	05:07	06:08	07:10	07:13	15:32 (15)	08:17	13:58 (6)	08:48	14:04 (6)
	21:32	20:20	18:57	16:41	20 15:52 (15)	15:44	11 14:09 (6)	15:41	25 14:29 (6)
30	05:08	06:10	07:12	07:15	15:31 (15)	08:19	13:57 (6)	08:48	14:05 (6)
	21:30	20:17	18:54	16:38	21 15:52 (15)	15:43	14 14:11 (6)	15:42	25 14:30 (6)
31	05:10	06:12	07:17	07:17	15:31 (15)			08:48	14:06 (6)
	21:28	20:15		16:36	22 15:53 (15)			15:43	24 14:30 (6)
Potential sun hours	530	470	385	324		248		216	
Total, worst case				105		214		737	
Sun reduction				0,27		0,09		0,09	
Oper. time red.				0,94		0,94		0,94	
Wind dir. red.				0,68		0,67		0,67	
Total reduction				0,17		0,06		0,05	
Total, real				18		13		40	

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: C - Uplejas

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	12:20 (11)	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19
15:45	9	14:09 (9)	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:51	16:34
2	08:48	14:02 (9)	08:11	07:06	06:44	05:28	04:32	04:28	05:14	06:16	07:16	07:21
15:46	8	14:10 (9)	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:31
3	08:48	14:02 (9)	08:09	07:04	06:41	05:26	04:31	04:28	05:16	06:18	07:18	07:24
15:47	8	14:10 (9)	16:46	17:48	19:54	20:56	21:52	22:06	21:22	20:07	18:46	16:29
4	08:47	14:03 (9)	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26
15:48	8	14:11 (9)	16:48	17:50	19:56	20:58	21:54	22:05	21:20	20:04	18:43	16:27
5	08:47	14:03 (9)	08:05	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28
15:50	8	14:11 (9)	16:50	17:53	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25
6	08:46	14:04 (9)	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30
15:51	7	14:11 (9)	16:53	17:55	20:00	21:02	21:56	22:04	21:15	19:59	18:38	16:23
7	08:46	14:04 (9)	08:00	06:53	06:31	05:17	04:27	04:32	05:24	06:26	07:26	07:32
15:53	8	14:12 (9)	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:36	16:21
8	08:45	14:05 (9)	07:58	06:51	06:28	05:14	04:26	04:34	05:26	06:28	07:28	07:34
15:54	7	14:12 (9)	16:57	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:19
9	08:44	14:06 (9)	07:56	06:48	06:25	05:12	04:26	04:35	05:28	06:30	07:30	07:37
15:56	7	14:13 (9)	16:59	18:01	20:06	21:08	21:59	22:01	21:09	19:51	18:30	16:17
10	08:44	14:07 (9)	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:39
15:57	6	14:13 (9)	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15
11	08:43	14:08 (9)	07:52	06:43	06:20	05:08	04:24	04:37	05:32	06:34	07:34	07:41
15:59	6	14:14 (9)	17:04	18:05	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:13
12	08:42	14:09 (9)	07:50	06:40	06:17	05:06	04:24	04:39	05:34	06:36	07:36	07:43
16:01	6	14:15 (9)	17:06	18:08	20:12	21:14	22:02	21:58	21:02	19:43	18:22	16:11
13	08:41	14:10 (9)	07:47	06:37	06:15	05:04	04:23	04:40	05:36	06:38	07:39	07:45
16:03	6	14:16 (9)	17:08	18:10	20:15	21:16	22:03	21:57	20:59	19:40	18:20	16:09
14	08:40	14:11 (9)	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:41	07:47
16:04	5	14:16 (9)	17:11	18:12	20:17	21:18	22:04	21:56	20:57	19:37	18:17	16:07
15	08:39	14:13 (9)	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49
16:06	4	14:17 (9)	17:13	18:14	20:19	21:20	22:05	21:54	20:55	19:35	18:15	16:05
16	08:38	14:14 (9)	07:40	06:29	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:52
16:08	3	14:17 (9)	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03
17	08:36	14:17 (9)	07:38	06:27	06:05	04:56	04:22	04:46	05:44	06:46	07:47	07:54
16:10	2	14:19 (9)	17:17	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02
18	08:35	14:18 (9)	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56
16:12	18:20	18:20	20:25	21:26	22:06	21:50	20:47	19:27	18:07	16:00	15:35	10
19	08:34	14:17 (9)	07:33	06:21	05:59	04:53	04:22	04:49	05:48	06:50	07:51	07:58
16:14	17:22	18:22	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35	10
20	08:32	14:16 (9)	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:53	08:00
16:16	17:24	18:24	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:35	10
21	08:31	14:15 (9)	07:29	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:55	08:02
16:18	17:26	18:27	20:31	21:32	22:07	21:46	20:40	19:18	18:00	15:55	15:36	9
22	08:30	14:14 (9)	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:58	08:04
16:20	17:29	18:29	20:33	21:33	22:08	21:44	20:38	19:16	17:57	15:54	15:36	9
23	08:28	14:13 (9)	07:24	06:11	05:49	04:46	04:23	04:56	05:56	06:58	08:00	08:06
16:22	17:31	18:31	20:35	21:35	22:08	21:42	20:35	19:13	17:55	15:52	15:37	9
24	08:27	14:12 (9)	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08
16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:10	17:52	15:51	15:37	10
25	08:25	14:11 (9)	07:19	06:05	05:45	04:43	04:23	04:59	06:00	07:02	08:04	08:10
16:26	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38	10
26	08:23	14:10 (9)	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	08:06	08:12
16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:27	19:05	17:48	15:48	3	13:54 (9)
27	08:22	14:09 (9)	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	08:08	08:14
16:31	17:40	18:39	20:44	21:42	22:08	21:35	20:25	19:02	17:45	15:47	3	13:57 (9)
28	08:20	14:08 (9)	07:11	05:57	05:37	04:38	04:25	05:05	06:06	07:08	08:11	08:16
16:33	17:42	18:41	20:46	21:43	22:07	21:34	20:22	19:00	17:43	15:45	4	13:56 (9)
29	08:18	14:07 (9)	07:08	05:55	05:35	04:37	04:25	05:06	06:08	07:10	08:13	08:17
16:35	18:43	19:43	20:48	21:45	22:07	21:32	20:20	18:57	17:40	15:44	5	13:56 (9)
30	08:16	14:06 (9)	07:06	05:52	05:33	04:36	04:26	05:08	06:10	07:12	08:15	08:19
16:37	19:45	20:50	21:47	22:07	21:47	21:30	20:17	18:54	17:38	15:43	6	13:56 (9)
31	08:14	14:05 (9)	07:04	05:51	05:32	04:35	04:27	05:10	06:12	07:14	08:17	08:21
16:39	19:47	21:48	21:48	21:48	21:48	21:28	20:15	18:51	17:34	15:40	15:43	10
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case	108										21	273
Sun reduction	0,15										0,09	0,09
Oper. time red.	0,94										0,94	0,94
Wind dir. red.	0,66										0,66	0,66
Total reduction	0,10										0,06	0,05
Total, real	10										1	15

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: D - Druku Vecumi

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:48 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:25 15:40
4	08:47 15:51	08:07 16:57	07:01 17:59	06:39 20:00	05:23 20:58	04:30 21:54	04:29 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:18	06:22 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:03	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:37
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9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:34 15:36
10	08:44 15:58	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:11	04:25 22:01	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:10	05:08 21:13	04:24 22:02	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:35
13	08:41 16:03	07:47 17:08	06:38 18:10	06:15 20:15	05:04 21:17	04:23 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
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15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:37 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:33 17:22	06:22 18:22	06:00 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:56 18:00	08:02 15:55	08:46 15:36
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24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
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31	08:15 16:39		06:49 19:48		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: E - Kaijas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

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

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: F - Cvetkovi

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:41	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
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6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
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9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:09	04:25 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:16	08:34 15:36
10	08:44 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:11	04:25 22:01	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:13	04:24 22:02	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:17 20:13	05:06 21:15	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:38 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:15	05:04 21:17	04:23 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:01	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:50 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:56	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:28	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:44 20:40	04:42 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:23 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:47	08:12 15:48	08:48 15:38
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:39 21:42	04:24 22:08	05:03 21:36	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:45	08:48 15:40
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:32	06:08 20:20	07:10 18:57	07:13 16:40	08:18 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:15 16:39		06:49 19:48		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: G - Balo ži

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:22 16:31	08:23 15:41
3	08:48 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:53	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:25 15:40
4	08:47 15:51	08:07 16:57	07:01 17:59	06:39 20:00	05:23 20:58	04:30 21:54	04:29 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:39
5	08:47 15:50	08:05 16:50	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:03	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:37
8	08:45 15:54	07:58 16:57	06:51 17:59	06:28 20:04	05:14 21:07	04:26 21:59	04:33 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 16:19	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:34 15:36
10	08:44 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:11	04:25 22:01	04:36 22:00	05:30 21:07	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:10	05:08 21:13	04:24 22:02	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:35
13	08:41 16:03	07:47 17:08	06:38 18:10	06:15 20:15	05:04 21:17	04:23 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:19	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:48 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05	04:43 21:55	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:37 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:33 17:22	06:22 18:22	06:00 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:08	04:52 21:46	05:52 20:40	06:54 19:18	07:56 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:47 21:34	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:36	04:46 21:35	04:22 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:36	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:45	08:48 15:40
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:33 20:50	04:36 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:15 16:39		06:49 19:48		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

SKEPAST & PUKIM

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: H - Berzi

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	13:26 (15)	08:13	08:51 (10)	07:09	06:47
	15:45	9 13:35 (15)	16:42	23 09:14 (10)	17:44	19:50
2	08:48	13:27 (15)	08:11	08:55 (10)	07:06	06:44
	15:46	9 13:36 (15)	16:44	19 09:14 (10)	17:46	19:52
3	08:48	13:29 (15)	08:09	09:00 (10)	07:04	06:41
	15:47	8 13:37 (15)	16:46	15 09:15 (10)	17:48	19:54
4	08:47	13:32 (15)	08:07	09:01 (10)	07:01	06:39
	15:49	4 13:36 (15)	16:48	13 09:14 (10)	17:51	19:56
5	08:47		08:05	09:04 (10)	06:59	06:36
	15:50		16:51	10 09:14 (10)	17:53	19:58
6	08:46		08:03	09:05 (10)	06:56	06:33
	15:51		16:53	9 09:14 (10)	17:55	20:00
7	08:46		08:01	09:07 (10)	06:53	06:31
	15:53		16:55	6 09:13 (10)	17:57	20:02
8	08:45		07:58	09:07 (10)	06:51	06:28
	15:54		16:57	5 09:12 (10)	17:59	20:04
9	08:44		07:56	09:08 (10)	06:48	06:25
	15:56		17:00	3 09:11 (10)	18:01	20:06
10	08:44		07:54		06:45	06:23
	15:58		17:02		18:03	20:08
11	08:43		07:52		06:43	06:20
	15:59		17:04		18:06	20:10
12	08:42		07:50		06:40	06:18
	16:01		17:06		18:08	20:13
13	08:41		07:47		06:38	06:15
	16:03		17:09		18:10	20:15
14	08:40		07:45		06:35	06:12
	16:05		17:11		18:12	20:17
15	08:39		07:43		06:32	06:10
	16:06		17:13		18:14	20:19
16	08:38		07:41		06:30	06:07
	16:08		17:15		18:16	20:21
17	08:37		07:38		06:27	06:05
	16:10		17:18		18:18	20:23
18	08:35		07:36		06:24	06:02
	16:12		17:20		18:20	20:25
19	08:34		07:33		06:22	06:00
	16:14		17:22		18:23	20:27
20	08:33		07:31		06:19	05:57
	16:16		17:24		18:25	20:29
21	08:31		07:29		06:16	05:55
	16:18		17:26		18:27	20:31
22	08:30		07:26		06:14	05:52
	16:20		17:29		18:29	20:33
23	08:28		07:24		06:11	05:50
	16:22		17:31		18:31	20:36
24	08:27	09:02 (10)	07:21		06:08	05:47
	16:24	5 09:07 (10)	17:33		18:33	20:38
25	08:25	09:00 (10)	07:19		06:05	05:45
	16:26	8 09:08 (10)	17:35		18:35	20:40
26	08:23	08:58 (10)	07:16		06:03	05:42
	16:29	11 09:09 (10)	17:37		18:37	20:42
27	08:22	08:56 (10)	07:14		06:00	05:40
	16:31	15 09:11 (10)	17:40		18:39	20:44
28	08:20	08:54 (10)	07:11		05:57	05:37
	16:33	17 09:11 (10)	17:42		18:41	20:46
29	08:18	08:52 (10)			05:55	05:35
	16:35	20 09:12 (10)			18:43	20:48
30	08:16	08:51 (10)			06:52	05:33
	16:37	22 09:13 (10)			19:46	20:50
31	08:15	08:51 (10)			06:49	04:34
	16:39	22 09:13 (10)			19:48	21:48
Potential sun hours	235		265		365	425
Total, worst case	150		103		507	529
Sun reduction	0,15		0,24			
Oper. time red.	0,94		0,94			
Wind dir. red.	0,60		0,59			
Total reduction	0,09		0,13			
Total, real	13		14			

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

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

Calculation: Real Case Curtailment Shadow receptor: H - Berzi

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	08:21
	22:07	21:26	20:12	18:52	16:34	15:42
2	04:28	05:14	06:16	07:16	07:21	08:38 (10)
	22:06	21:24	20:09	18:49	16:32	15:41
3	04:28	05:16	06:18	07:18	07:24	08:38 (10)
	22:06	21:22	20:07	18:46	16:29	15:40
4	04:29	05:18	06:20	07:20	07:26	08:36 (10)
	22:05	21:20	20:04	18:44	16:27	15:40
5	04:30	05:20	06:22	07:22	07:28	08:36 (10)
	22:04	21:18	20:02	18:41	16:25	15:39
6	04:31	05:22	06:24	07:24	07:30	08:34 (10)
	22:04	21:15	19:59	18:38	16:23	15:38
7	04:32	05:24	06:26	07:26	07:32	08:32 (10)
	22:03	21:13	19:56	18:36	16:21	15:37
8	04:34	05:26	06:28	07:28	07:35	08:31 (10)
	22:02	21:11	19:54	18:33	16:19	15:37
9	04:35	05:28	06:30	07:30	07:37	08:28 (10)
	22:01	21:09	19:51	18:30	16:17	15:36
10	04:36	05:30	06:32	07:32	07:39	08:22 (10)
	22:00	21:06	19:48	18:28	16:15	15:36
11	04:37	05:32	06:34	07:34	07:41	08:22 (10)
	21:59	21:04	19:45	18:25	16:13	15:36
12	04:39	05:34	06:36	07:37	07:43	08:23 (10)
	21:58	21:02	19:43	18:23	16:11	15:35
13	04:40	05:36	06:38	07:39	07:45	08:23 (10)
	21:57	21:00	19:40	18:20	16:09	15:35
14	04:41	05:38	06:40	07:41	07:47	08:25 (10)
	21:56	20:57	19:37	18:17	16:07	15:35
15	04:43	05:40	06:42	07:43	07:50	08:28 (10)
	21:54	20:55	19:35	18:15	16:05	15:35
16	04:44	05:42	06:44	07:45	07:52	08:30 (10)
	21:53	20:52	19:32	18:12	16:03	15:35
17	04:46	05:44	06:46	07:47	07:54	08:33 (10)
	21:52	20:50	19:29	18:10	16:02	15:35
18	04:47	05:46	06:48	07:49	07:56	08:35 (10)
	21:50	20:48	19:27	18:07	16:00	15:35
19	04:49	05:48	06:50	07:51	07:58	08:37 (10)
	21:49	20:45	19:24	18:05	15:58	15:35
20	04:51	05:50	06:52	07:53	08:00	08:40 (10)
	21:47	20:43	19:21	18:02	15:57	15:35
21	04:52	05:52	06:54	07:56	08:02	08:46
	21:46	20:40	19:19	18:00	15:55	15:36
22	04:54	05:54	06:56	07:58	08:04	08:46
	21:44	20:38	19:16	17:57	15:54	15:36
23	04:56	05:56	06:58	08:00	08:06	08:47
	21:43	20:35	19:13	17:55	15:52	15:37
24	04:58	05:58	07:00	08:02	08:08	08:47
	21:41	20:33	19:10	17:52	15:51	15:37
25	04:59	06:00	07:02	08:04	08:10	08:48
	21:39	20:30	19:08	17:50	15:49	15:38
26	05:01	06:02	07:04	07:06	08:12	08:48
	21:37	20:28	19:05	16:48	15:48	15:39
27	05:03	06:04	07:06	07:08	08:14	08:48
	21:36	20:25	19:02	16:45	15:47	15:39
28	05:05	06:06	07:08	07:11	08:16	08:48
	21:34	20:22	19:00	16:43	15:46	15:40
29	05:07	06:08	07:10	07:13	08:18	08:48
	21:32	20:20	18:57	16:41	15:44	15:41
30	05:08	06:10	07:12	07:15	08:19	08:48
	21:30	20:17	18:54	16:38	15:43	15:42
31	05:10	06:12		07:17		08:48
	21:28	20:15		16:36		15:43
Potential sun hours	530	470	385	324	248	216
Total, worst case					228	275
Sun reduction					0,09	0,09
Oper. time red.					0,94	0,94
Wind dir. red.					0,59	0,64
Total reduction					0,05	0,05
Total, real					12	14

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

SKEPAST & PUHKIM

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: I - Kropini

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	13:57 (6)	08:13	15:07 (8)	07:09	06:47
	15:45	19	14:16 (6)	16:42	20	16:09 (15)
2	08:48	13:58 (6)	08:11	15:08 (8)	07:06	06:44
	15:46	19	14:17 (6)	16:44	23	16:12 (15)
3	08:48	13:58 (6)	08:09	15:09 (8)	07:04	06:41
	15:47	18	14:16 (6)	16:46	24	16:13 (15)
4	08:47	14:00 (6)	08:07	15:50 (15)	07:01	06:39
	15:49	17	14:17 (6)	16:48	23	16:13 (15)
5	08:47	14:01 (6)	08:05	15:11 (8)	06:58	06:36
	15:50	15	14:16 (6)	16:51	24	16:13 (15)
6	08:46	14:02 (6)	08:03	15:50 (15)	06:56	06:33
	15:51	14	14:16 (6)	16:53	23	16:13 (15)
7	08:46	14:03 (6)	08:01	15:51 (15)	06:53	06:31
	15:53	12	14:15 (6)	16:55	23	16:14 (15)
8	08:45	14:04 (6)	07:58	15:51 (15)	06:51	06:28
	15:54	11	14:15 (6)	16:57	22	16:13 (15)
9	08:44	14:06 (6)	07:56	15:52 (15)	06:48	06:25
	15:56	14	15:17 (8)	16:59	20	16:12 (15)
10	08:44	15:09 (8)	07:54	15:52 (15)	06:45	06:23
	15:58	5	15:14 (8)	17:02	19	16:11 (15)
11	08:43	15:08 (8)	07:52	15:53 (15)	06:43	06:20
	15:59	4	15:12 (8)	17:04	18	16:11 (15)
12	08:42	15:07 (8)	07:50	15:55 (15)	06:40	06:18
	16:01	4	15:11 (8)	17:06	14	16:09 (15)
13	08:41	15:07 (8)	07:47	15:57 (15)	06:37	06:15
	16:03	3	15:10 (8)	17:08	10	16:07 (15)
14	08:40	15:06 (8)	07:45	16:03	06:35	06:12
	16:04	3	15:09 (8)	17:11	18:12	20:17
15	08:39	15:06 (8)	07:43	16:03	06:32	06:10
	16:06	2	15:08 (8)	17:13	18:14	20:19
16	08:38	15:05 (8)	07:41	16:04	06:29	06:07
	16:08	2	15:07 (8)	17:15	18:16	20:21
17	08:36	15:05 (8)	07:38	16:05	06:27	06:05
	16:10	2	15:07 (8)	17:17	18:18	20:23
18	08:35	15:04 (8)	07:36	16:06	06:24	06:02
	16:12	3	15:07 (8)	17:20	18:20	20:25
19	08:34	15:05 (8)	07:33	16:07	06:21	06:00
	16:14	2	15:07 (8)	17:22	18:22	20:27
20	08:33	15:04 (8)	07:31	16:08	06:19	05:57
	16:16	2	15:06 (8)	17:24	18:25	20:29
21	08:31	15:04 (8)	07:29	16:09	06:16	05:54
	16:18	2	15:06 (8)	17:26	18:27	20:31
22	08:30	15:05 (8)	07:26	16:10	06:13	05:52
	16:20	2	15:07 (8)	17:29	18:29	20:33
23	08:28	15:04 (8)	07:24	16:11	06:11	05:49
	16:22	2	15:06 (8)	17:31	18:31	20:35
24	08:27	15:04 (8)	07:21	16:12	06:08	05:47
	16:24	2	15:06 (8)	17:33	18:33	20:38
25	08:25	15:04 (8)	07:19	16:13	06:05	05:45
	16:26	2	15:06 (8)	17:35	18:35	20:40
26	08:23	15:04 (8)	07:16	16:14	06:03	05:42
	16:28	2	15:06 (8)	17:37	18:37	20:42
27	08:22	15:05 (8)	07:14	16:15	06:00	05:40
	16:31	3	15:57 (15)	17:40	18:39	20:44
28	08:20	15:05 (8)	07:11	16:16	05:57	05:37
	16:33	7	15:59 (15)	17:42	18:41	20:46
29	08:18	15:05 (8)	07:08	16:17	05:55	05:35
	16:35	12	16:02 (15)	17:44	18:43	20:48
30	08:16	15:06 (8)	07:05	16:18	06:52	05:33
	16:37	14	16:04 (15)	17:46	19:45	20:50
31	08:14	15:06 (8)	07:02	16:19	06:49	04:34
	16:39	18	16:07 (15)	17:48	19:48	21:48
Potential sun hours	235	265	365	425	507	529
Total, worst case	237	263				
Sun reduction	0,15	0,24				
Oper. time red.	0,94	0,94				
Wind dir. red.	0,66	0,67				
Total reduction	0,10	0,15				
Total, real	23	40				

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

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

Calculation: Real Case Curtailment Shadow receptor: I - Kropini

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October		November		December				
1	04:27	05:12	06:14	07:14		07:19	15:22 (15)	08:21	14:49 (8)			
	22:07	21:26	20:12	18:52		16:34	19	15:41 (15)	15:42	4	14:53 (8)	
2	04:28	05:14	06:16	07:16		07:21		15:21 (15)	08:23		14:51 (8)	
	22:06	21:24	20:09	18:49		16:31	20	15:41 (15)	15:41	4	14:55 (8)	
3	04:28	05:16	06:18	07:18		07:24		15:21 (15)	08:24		13:53 (6)	
	22:06	21:22	20:07	18:46		16:29	21	15:42 (15)	15:40	9	15:02 (8)	
4	04:29	05:18	06:20	07:20		07:26		15:20 (15)	08:26		13:50 (6)	
	22:05	21:20	20:04	18:44		16:27	23	15:43 (15)	15:40	14	15:01 (8)	
5	04:30	05:20	06:22	07:22		07:28		15:20 (15)	08:28		13:49 (6)	
	22:04	21:17	20:01	18:41		16:25	23	15:43 (15)	15:39	11	14:00 (6)	
6	04:31	05:22	06:24	07:24		07:30		15:20 (15)	08:29		13:48 (6)	
	22:04	21:15	19:59	18:38		16:23	23	15:43 (15)	15:38	13	14:01 (6)	
7	04:32	05:24	06:26	07:26		07:32		14:40 (8)	08:31		13:48 (6)	
	22:03	21:13	19:56	18:36		16:21	24	15:43 (15)	15:37	15	14:03 (6)	
8	04:34	05:26	06:28	07:28		07:34		15:20 (15)	08:32		13:48 (6)	
	22:02	21:11	19:53	18:33		16:19	23	15:43 (15)	15:37	16	14:04 (6)	
9	04:35	05:28	06:30	07:30		07:37		14:39 (8)	08:34		13:47 (6)	
	22:01	21:09	19:51	18:30		16:17	24	15:43 (15)	15:36	18	14:05 (6)	
10	04:36	05:30	06:32	07:32		07:39		14:39 (8)	08:35		13:48 (6)	
	22:00	21:06	19:48	18:28		16:15	22	15:42 (15)	15:36	18	14:06 (6)	
11	04:37	05:32	06:34	07:34		07:41		14:38 (8)	08:36		13:47 (6)	
	21:59	21:04	19:45	18:25		16:13	18	15:39 (15)	15:36	20	14:07 (6)	
12	04:39	05:34	06:36	07:37		07:43		14:37 (8)	08:37		13:47 (6)	
	21:58	21:02	19:43	18:23		16:11	16	15:37 (15)	15:35	20	14:07 (6)	
13	04:40	05:36	06:38	07:39		07:45		14:38 (8)	08:39		13:48 (6)	
	21:57	20:59	19:40	18:20		16:09	12	15:35 (15)	15:35	20	14:08 (6)	
14	04:41	05:38	06:40	07:41		07:47		14:37 (8)	08:40		13:48 (6)	
	21:56	20:57	19:37	18:17		16:07	11	15:33 (15)	15:35	21	14:09 (6)	
15	04:43	05:40	06:42	07:43		07:50		14:38 (8)	08:41		13:48 (6)	
	21:54	20:55	19:35	18:15		16:05	5	15:31 (15)	15:35	21	14:09 (6)	
16	04:44	05:42	06:44	07:45		07:52		14:38 (8)	08:42		13:49 (6)	
	21:53	20:52	19:32	18:12		16:03	1	14:39 (8)	15:35	21	14:10 (6)	
17	04:46	05:44	06:46	07:47		07:54		14:37 (8)	08:43		13:49 (6)	
	21:52	20:50	19:29	18:10		16:02	2	14:39 (8)	15:35	22	14:11 (6)	
18	04:47	05:46	06:48	07:49		07:56		14:38 (8)	08:44		13:49 (6)	
	21:50	20:48	19:27	18:07		16:00	2	14:40 (8)	15:35	22	14:11 (6)	
19	04:49	05:48	06:50	07:51		07:58		14:38 (8)	08:44		13:49 (6)	
	21:49	20:45	19:24	18:05		15:58	2	14:40 (8)	15:35	22	14:11 (6)	
20	04:51	05:50	06:52	07:53		08:00		14:39 (8)	08:45		13:50 (6)	
	21:47	20:43	19:21	18:02		15:57	2	14:41 (8)	15:35	22	14:12 (6)	
21	04:52	05:52	06:54	07:55		08:02		14:40 (8)	08:46		13:51 (6)	
	21:46	20:40	19:18	18:00		15:55	2	14:42 (8)	15:36	22	14:13 (6)	
22	04:54	05:54	06:56	07:58		08:04		14:40 (8)	08:46		13:51 (6)	
	21:44	20:38	19:16	17:57		15:54	2	14:42 (8)	15:36	22	14:13 (6)	
23	04:56	05:56	06:58	08:00		08:06		14:41 (8)	08:47		13:52 (6)	
	21:42	20:35	19:13	17:55		15:52	2	14:43 (8)	15:37	22	14:14 (6)	
24	04:57	05:58	07:00	08:02		08:08		14:41 (8)	08:47		13:52 (6)	
	21:41	20:33	19:10	17:52		15:51	2	14:43 (8)	15:37	22	14:14 (6)	
25	04:59	06:00	07:02	08:04		08:10		14:43 (8)	08:48		13:52 (6)	
	21:39	20:30	19:08	17:50		15:49	2	14:45 (8)	15:38	22	14:14 (6)	
26	05:01	06:02	07:04	07:06		08:12		14:44 (8)	08:48		13:53 (6)	
	21:37	20:28	19:05	16:48		15:48	2	14:46 (8)	15:39	21	14:14 (6)	
27	05:03	06:04	07:06	07:08		08:14		14:44 (8)	08:48		13:53 (6)	
	21:35	20:25	19:02	16:45		15:47	3	14:47 (8)	15:39	22	14:15 (6)	
28	05:05	06:06	07:08	07:11		08:16		14:45 (8)	08:48		13:54 (6)	
	21:34	20:22	19:00	16:43		15:46	3	14:48 (8)	15:40	21	14:15 (6)	
29	05:07	06:08	07:10	07:13	15:29 (15)	08:17		14:46 (8)	08:48		13:54 (6)	
	21:32	20:20	18:57	16:41	6	15:35 (15)	3	14:49 (8)	15:41	21	14:15 (6)	
30	05:08	06:10	07:12	07:15		15:25 (15)	08:19	14:48 (8)	08:48		13:55 (6)	
	21:30	20:17	18:54	16:38	13	15:38 (15)	15:43	3	14:51 (8)	15:42	21	14:16 (6)
31	05:10	06:12	07:17	07:17	15:24 (15)				08:48		13:56 (6)	
	21:28	20:15	16:36	16	15:40 (15)				15:43	20	14:16 (6)	
Potential sun hours	530	470	385	324		248			216			
Total, worst case				35		317			569			
Sun reduction				0,27		0,09			0,09			
Oper. time red.				0,94		0,94			0,94			
Wind dir. red.				0,67		0,67			0,66			
Total reduction				0,17		0,06			0,05			
Total, real				6		18			30			

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

SKEPAST & PUKIM

Skepast & Puhkim OÜ

Laki põik 2

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Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: J - Ergli

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	12:48 (6)	08:13	08:46 (11)	07:09	06:47
	15:45	2 12:50 (6)	16:42	23 09:09 (11)	17:44	19:50
2	08:48		08:11	08:46 (11)	07:06	06:44
	15:46		16:44	24 09:10 (11)	17:46	19:52
3	08:48		08:09	08:46 (11)	07:04	06:41
	15:47		16:46	25 09:11 (11)	17:48	19:54
4	08:47		08:07	08:45 (11)	07:01	06:39
	15:49		16:48	25 09:10 (11)	17:51	19:56
5	08:47		08:05	08:46 (11)	06:58	06:36
	15:50		16:51	25 09:11 (11)	17:53	19:58
6	08:46		08:03	08:46 (11)	06:56	06:33
	15:51		16:53	25 09:11 (11)	17:55	20:00
7	08:46		08:01	08:47 (11)	06:53	06:31
	15:53		16:55	25 09:12 (11)	17:57	20:02
8	08:45		07:58	08:46 (11)	06:51	06:28
	15:54		16:57	25 09:11 (11)	17:59	20:04
9	08:44		07:56	08:47 (11)	06:48	06:25
	15:56		17:00	24 09:11 (11)	18:01	20:06
10	08:44		07:54	08:48 (11)	06:45	06:23
	15:58		17:02	22 09:10 (11)	18:03	20:08
11	08:43		07:52	08:48 (11)	06:43	06:20
	15:59		17:04	21 09:09 (11)	18:06	20:10
12	08:42		07:50	08:50 (11)	06:40	06:18
	16:01		17:06	18 09:08 (11)	18:08	20:13
13	08:41		07:47	08:51 (11)	06:37	06:15
	16:03		17:09	15 09:06 (11)	18:10	20:15
14	08:40		07:45	08:53 (11)	06:35	06:12
	16:05		17:11	12 09:05 (11)	18:12	20:17
15	08:39		07:43		06:32	06:10
	16:06		17:13		18:14	20:19
16	08:38		07:41		06:30	06:07
	16:08		17:15		18:16	20:21
17	08:36		07:38		06:27	06:05
	16:10		17:17		18:18	20:23
18	08:35		07:36		06:24	06:02
	16:12		17:20		18:20	20:25
19	08:34		07:33		06:22	06:00
	16:14		17:22		18:22	20:27
20	08:33		07:31		06:19	05:57
	16:16		17:24		18:25	20:29
21	08:31		07:29		06:16	05:55
	16:18		17:26		18:27	20:31
22	08:30		07:26		06:13	05:52
	16:20		17:29		18:29	20:33
23	08:28		07:24		06:11	05:50
	16:22		17:31		18:31	20:36
24	08:27		07:21		06:08	05:47
	16:24		17:33		18:33	20:38
25	08:25		07:19		06:05	05:45
	16:26		17:35		18:35	20:40
26	08:23	08:58 (11)	07:16		06:03	05:42
	16:29	1 08:59 (11)	17:37		18:37	20:42
27	08:22	08:56 (11)	07:14		06:00	05:40
	16:31	6 09:02 (11)	17:40		18:39	20:44
28	08:20	08:54 (11)	07:11		05:57	05:37
	16:33	10 09:04 (11)	17:42		18:41	20:46
29	08:18	08:52 (11)			05:55	05:35
	16:35	14 09:06 (11)			18:43	20:48
30	08:16	08:50 (11)			06:52	05:33
	16:37	17 09:07 (11)			19:45	20:50
31	08:14	08:48 (11)			06:49	04:34
	16:39	20 09:08 (11)			19:48	21:48
Potential sun hours	235		265		365	425
Total, worst case						507
Sun reduction	70		309			
Oper. time red.	0,15		0,24			
Wind dir. red.	0,94		0,94			
Total reduction	0,59		0,59			
Total, real	0,09		0,13			
	6		42			

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

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

Calculation: Real Case Curtailment Shadow receptor: J - Ergli

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	08:17 (11) 08:21
	22:07	21:26	20:12	18:52	16:34	22 08:39 (11) 15:42
2	04:28	05:14	06:16	07:16	07:21	08:16 (11) 08:23
	22:06	21:24	20:09	18:49	16:32	23 08:39 (11) 15:41
3	04:28	05:16	06:18	07:18	07:24	08:16 (11) 08:24
	22:06	21:22	20:07	18:46	16:29	25 08:41 (11) 15:40
4	04:29	05:18	06:20	07:20	07:26	08:16 (11) 08:26
	22:05	21:20	20:04	18:44	16:27	24 08:40 (11) 15:40
5	04:30	05:20	06:22	07:22	07:28	08:16 (11) 08:28
	22:04	21:17	20:01	18:41	16:25	25 08:41 (11) 15:39
6	04:31	05:22	06:24	07:24	07:30	08:16 (11) 08:29
	22:04	21:15	19:59	18:38	16:23	25 08:41 (11) 15:38
7	04:32	05:24	06:26	07:26	07:32	08:15 (11) 08:31
	22:03	21:13	19:56	18:36	16:21	26 08:41 (11) 15:37
8	04:34	05:26	06:28	07:28	07:35	08:16 (11) 08:32
	22:02	21:11	19:53	18:33	16:19	25 08:41 (11) 15:37
9	04:35	05:28	06:30	07:30	07:37	08:16 (11) 08:34
	22:01	21:09	19:51	18:30	16:17	24 08:40 (11) 15:36
10	04:36	05:30	06:32	07:32	07:39	08:17 (11) 08:35
	22:00	21:06	19:48	18:28	16:15	24 08:41 (11) 15:36
11	04:37	05:32	06:34	07:34	07:41	08:18 (11) 08:36
	21:59	21:04	19:45	18:25	16:13	22 08:40 (11) 15:36
12	04:39	05:34	06:36	07:37	07:43	08:21 (11) 08:37
	21:58	21:02	19:43	18:23	16:11	19 08:40 (11) 15:35
13	04:40	05:36	06:38	07:39	07:45	08:23 (11) 08:39
	21:57	21:00	19:40	18:20	16:09	16 08:39 (11) 15:35
14	04:41	05:38	06:40	07:41	07:47	08:25 (11) 08:40
	21:56	20:57	19:37	18:17	16:07	12 08:37 (11) 15:35
15	04:43	05:40	06:42	07:43	07:50	08:28 (11) 08:41
	21:54	20:55	19:35	18:15	16:05	9 08:37 (11) 15:35
16	04:44	05:42	06:44	07:45	07:52	08:30 (11) 08:42
	21:53	20:52	19:32	18:12	16:03	4 08:34 (11) 15:35
17	04:46	05:44	06:46	07:47	07:54	08:43
	21:52	20:50	19:29	18:10	16:02	15:35
18	04:47	05:46	06:48	07:49	07:56	08:44
	21:50	20:48	19:27	18:07	16:00	15:35
19	04:49	05:48	06:50	07:51	07:58	08:44
	21:49	20:45	19:24	18:05	15:58	15:35
20	04:51	05:50	06:52	07:53	08:00	08:45
	21:47	20:43	19:21	18:02	15:57	15:35
21	04:52	05:52	06:54	07:56	08:02	08:46
	21:46	20:40	19:18	18:00	15:55	15:36
22	04:54	05:54	06:56	07:58	08:04	08:46
	21:44	20:38	19:16	17:57	15:54	15:36
23	04:56	05:56	06:58	08:00	08:06	08:47
	21:43	20:35	19:13	17:55	15:52	15:37
24	04:58	05:58	07:00	08:02	08:08	08:47
	21:41	20:33	19:10	17:52	15:51	15:37
25	04:59	06:00	07:02	08:04	08:10	08:48
	21:39	20:30	19:08	17:50	15:49	15:38
26	05:01	06:02	07:04	07:06	08:12	08:48
	21:37	20:28	19:05	16:48	15:48	15:39
27	05:03	06:04	07:06	07:08	08:14	08:48
	21:35	20:25	19:02	16:45	15:47	15:40
28	05:05	06:06	07:08	07:11	08:16	08:48
	21:34	20:22	19:00	16:43	9 08:33 (11) 15:46	15:40
29	05:07	06:08	07:10	07:13	08:21 (11) 08:18	08:48
	21:32	20:20	18:57	16:41	15 08:36 (11) 15:44	15:41
30	05:08	06:10	07:12	07:15	08:19 (11) 08:19	08:48
	21:30	20:17	18:54	16:38	18 08:37 (11) 15:43	15:42
31	05:10	06:12	07:17	07:17	08:19 (11) 08:19	08:48
	21:28	20:15	16:36	20 08:39 (11) 15:43	8 12:53 (6)	
Potential sun hours	530	470	385	324	248	216
Total, worst case					325	255
Sun reduction				0,27	0,09	0,09
Oper. time red.				0,94	0,94	0,94
Wind dir. red.				0,59	0,59	0,64
Total reduction				0,15	0,05	0,05
Total, real				9	17	13

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: K - Nazari

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:41	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:48 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:25 15:40
4	08:47 15:51	08:07 16:57	07:01 17:59	06:39 20:00	05:23 21:02	04:30 21:56	04:29 22:04	05:18 21:15	06:20 19:59	07:20 18:38	07:26 16:23	08:26 15:38
5	08:47 15:50	08:05 16:50	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:18	06:22 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:37
8	08:45 15:54	07:58 16:57	06:51 17:59	06:28 20:04	05:14 21:07	04:26 21:59	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:35 16:19	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:34 15:36
10	08:44 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:11	04:25 22:01	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:10	05:08 21:13	04:24 22:02	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:17 20:13	05:06 21:15	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:37 18:22	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:15	05:04 21:17	04:23 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:01	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:44 20:40	04:42 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:45	08:48 15:40
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:32	06:08 20:20	07:10 18:57	07:13 16:40	08:18 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:48		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: L - Akoti

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:48 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:24 15:40
4	08:47 15:51	08:07 16:57	07:01 17:59	06:39 19:56	05:23 20:58	04:30 21:54	04:29 22:05	05:18 21:20	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:50	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:37
8	08:45 15:54	07:58 16:57	06:51 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:34 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:33 15:36
10	08:44 15:58	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:17 20:12	05:06 21:14	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:15	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:49 16:05	08:41 15:35
16	08:38 16:08	07:40 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:23 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:45	08:48 15:40
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:40	08:17 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:33 20:50	04:36 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: M - Linares

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:22	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:48	08:09	07:04	06:41	05:26	04:31	04:28	05:16	06:18	07:18	07:24	08:25
	15:47	16:46	17:48	19:54	20:56	21:53	22:06	21:22	20:07	18:46	16:29	15:40
4	08:47	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:39
5	08:47	08:05	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:28
	15:50	16:50	17:53	19:58	21:01	21:55	22:05	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:38	16:23	15:38
7	08:46	08:01	06:53	06:31	05:17	04:27	04:32	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:37
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	15:57	17:02	18:03	20:08	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
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	15:59	17:04	18:06	20:10	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:35
12	08:42	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:38
	16:01	17:06	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:35
13	08:41	07:47	06:38	06:15	05:04	04:23	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:08	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:41	07:48	08:40
	16:04	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:06	17:13	18:14	20:19	21:20	22:05	21:55	20:55	19:35	18:15	16:05	15:35
16	08:38	07:41	06:30	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:52	08:42
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03	15:35
17	08:37	07:38	06:27	06:05	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:43
	16:10	17:17	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:44
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19	08:34	07:34	06:22	06:00	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
20	08:33	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:35
21	08:31	07:29	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:56	08:02	08:46
	16:18	17:26	18:27	20:31	21:32	22:08	21:46	20:40	19:18	18:00	15:55	15:36
22	08:30	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:58	08:04	08:46
	16:20	17:29	18:29	20:33	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:36
23	08:28	07:24	06:11	05:49	04:46	04:22	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:52	15:37
24	08:27	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:10	17:52	15:51	15:37
25	08:25	07:19	06:05	05:45	04:43	04:23	04:59	06:00	07:02	08:04	08:10	08:48
	16:26	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:36	20:25	19:02	16:45	15:47	15:39
28	08:20	07:11	05:57	05:37	04:38	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:44	22:08	21:34	20:22	19:00	16:43	15:45	15:40
29	08:18		05:55	05:35	04:37	04:25	05:06	06:08	07:10	07:13	08:18	08:48
	16:35		18:43	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:44	15:41
30	08:16		06:52	05:33	04:36	04:26	05:08	06:10	07:12	07:15	08:19	08:49
	16:37		19:45	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:15		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:48		21:48		21:28	20:15		16:36		15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: N - Lamani 1

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:22 16:31	08:23 15:41
3	08:48 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:53	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:25 15:40
4	08:47 15:51	08:07 16:53	07:01 17:55	06:39 20:00	05:23 21:03	04:30 21:56	04:29 22:04	05:18 21:15	06:20 19:59	07:20 18:38	07:26 16:23	08:26 15:38
5	08:47 15:50	08:05 16:50	06:58 17:53	06:36 19:58	05:21 21:01	04:29 21:55	04:30 22:05	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:03	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:37
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11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:11	05:08 21:13	04:24 22:02	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:35
13	08:41 16:03	07:47 17:08	06:38 18:10	06:15 20:15	05:04 21:17	04:23 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:19	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:48 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05	04:43 21:55	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:37 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:34 17:22	06:22 18:22	06:00 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
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22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:47 21:34	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
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28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:45	08:48 15:40
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:33 20:50	04:36 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:49 15:42
31	08:15 16:39		06:49 19:48		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: O - Rožlejas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:48	08:09	07:04	06:41	05:26	04:31	04:28	05:16	06:18	07:18	07:24	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:06	21:22	20:07	18:46	16:29	15:40
4	08:47	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:50	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:39
5	08:47	08:05	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:28
	15:50	16:50	17:53	19:58	21:00	21:55	22:04	21:18	20:01	18:41	16:25	15:39
6	08:46	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:02	21:56	22:04	21:15	19:59	18:38	16:23	15:38
7	08:46	08:01	06:53	06:31	05:17	04:27	04:32	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:37
8	08:45	07:58	06:51	06:28	05:14	04:26	04:33	05:26	06:28	07:28	07:35	08:32
	15:54	16:57	17:59	20:04	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:37
9	08:44	07:56	06:48	06:25	05:12	04:26	04:35	05:28	06:30	07:30	07:37	08:34
	15:56	16:59	18:01	20:06	21:09	22:00	22:01	21:09	19:51	18:30	16:17	15:36
10	08:44	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:39	08:35
	15:57	17:02	18:03	20:08	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:08	04:24	04:37	05:32	06:34	07:34	07:41	08:36
	15:59	17:04	18:06	20:10	21:13	22:01	21:59	21:04	19:45	18:25	16:13	15:35
12	08:42	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:37
	16:01	17:06	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:22	16:11	15:35
13	08:41	07:47	06:37	06:15	05:04	04:23	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:08	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:41	07:47	08:40
	16:04	17:11	18:12	20:17	21:18	22:04	21:56	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:06	17:13	18:14	20:19	21:20	22:05	21:54	20:55	19:35	18:15	16:05	15:35
16	08:38	07:41	06:29	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:52	08:42
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03	15:35
17	08:36	07:38	06:27	06:05	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:43
	16:10	17:17	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:44
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19	08:34	07:33	06:21	05:59	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
20	08:33	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:35
21	08:31	07:29	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:56	08:02	08:46
	16:18	17:26	18:27	20:31	21:32	22:07	21:46	20:40	19:18	18:00	15:55	15:36
22	08:30	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:58	08:04	08:46
	16:20	17:29	18:29	20:33	21:33	22:08	21:44	20:38	19:16	17:57	15:53	15:36
23	08:28	07:24	06:11	05:49	04:46	04:22	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:35	21:35	22:08	21:43	20:35	19:13	17:55	15:52	15:37
24	08:27	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:10	17:52	15:51	15:37
25	08:25	07:19	06:05	05:45	04:43	04:23	04:59	06:00	07:02	08:04	08:10	08:48
	16:26	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:39
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29	08:18		05:55	05:35	04:37	04:25	05:06	06:08	07:10	07:13	08:18	08:48
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	16:37		19:45	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:14		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:48		21:48		21:28	20:15		16:36		15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: P - Aizupes

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:22	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:48	08:09	07:04	06:41	05:26	04:31	04:28	05:16	06:18	07:18	07:24	08:25
	15:47	16:46	17:48	19:54	20:56	21:53	22:06	21:22	20:07	18:46	16:29	15:40
4	08:47	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:39
5	08:47	08:05	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:28
	15:50	16:50	17:53	19:58	21:00	21:55	22:04	21:18	20:01	18:41	16:25	15:39
6	08:46	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:38	16:23	15:38
7	08:46	08:01	06:53	06:31	05:17	04:27	04:32	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:37
8	08:45	07:58	06:51	06:28	05:14	04:26	04:33	05:26	06:28	07:28	07:35	08:32
	15:54	16:57	17:59	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:25	05:12	04:26	04:35	05:28	06:30	07:30	07:37	08:34
	15:56	16:59	18:01	20:06	21:09	22:00	22:01	21:09	19:51	18:30	16:17	15:36
10	08:44	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:39	08:35
	15:57	17:02	18:03	20:08	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:08	04:24	04:37	05:32	06:34	07:34	07:41	08:36
	15:59	17:04	18:06	20:10	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:35
12	08:42	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:38
	16:01	17:06	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:35
13	08:41	07:47	06:38	06:15	05:04	04:23	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:08	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:41	07:48	08:40
	16:04	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:06	17:13	18:14	20:19	21:20	22:05	21:54	20:55	19:35	18:15	16:05	15:35
16	08:38	07:41	06:30	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:52	08:42
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03	15:35
17	08:37	07:38	06:27	06:05	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:43
	16:10	17:17	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:44
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19	08:34	07:33	06:22	06:00	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
20	08:33	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:35
21	08:31	07:29	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:56	08:02	08:46
	16:18	17:26	18:27	20:31	21:32	22:08	21:46	20:40	19:18	18:00	15:55	15:36
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	16:20	17:29	18:29	20:33	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:36
23	08:28	07:24	06:11	05:49	04:46	04:22	04:56	05:56	06:58	08:00	08:06	08:47
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	16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:10	17:52	15:51	15:37
25	08:25	07:19	06:05	05:45	04:43	04:23	04:59	06:00	07:02	08:04	08:10	08:48
	16:26	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	07:08	08:14	08:48
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31	08:15		06:49		04:34		05:10	06:12		07:17		08:48
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Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
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Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: Q - Kumelites

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:48 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:24 15:40
4	08:47 15:51	08:07 16:57	07:01 17:59	06:39 20:00	05:23 21:02	04:30 21:56	04:29 22:04	05:18 21:15	06:20 19:59	07:20 18:38	07:26 16:23	08:26 15:38
5	08:47 15:50	08:05 16:50	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:37
8	08:45 15:54	07:58 16:57	06:51 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:09	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:34 15:36
10	08:44 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:11	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:13	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:17 20:12	05:06 21:14	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:15	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:40 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
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27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:45	08:48 15:40
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:32	06:08 20:20	07:10 18:57	07:13 16:40	08:17 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: R - Dzila Vada

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:28	05:14	06:16	07:16	07:22	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:41
3	08:48	08:09	07:04	06:41	05:26	04:31	04:28	05:16	06:18	07:18	07:24	08:25
	15:47	16:46	17:48	19:54	20:57	21:53	22:06	21:22	20:07	18:46	16:29	15:40
4	08:48	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:49	16:48	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:59	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:01	21:55	22:05	21:18	20:02	18:41	16:25	15:39
6	08:47	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:03	21:56	22:04	21:16	19:59	18:38	16:23	15:38
7	08:46	08:01	06:53	06:31	05:17	04:27	04:32	05:24	06:26	07:26	07:33	08:31
	15:53	16:55	17:57	20:02	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:37
8	08:45	07:59	06:51	06:28	05:15	04:26	04:34	05:26	06:28	07:28	07:35	08:32
	15:54	16:57	17:59	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:45	07:56	06:48	06:26	05:12	04:26	04:35	05:28	06:30	07:30	07:37	08:34
	15:56	17:00	18:01	20:06	21:09	22:00	22:01	21:09	19:51	18:30	16:17	15:36
10	08:44	07:54	06:46	06:23	05:10	04:25	04:36	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:08	04:24	04:37	05:32	06:34	07:35	07:41	08:36
	15:59	17:04	18:06	20:11	21:13	22:02	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:38
	16:01	17:06	18:08	20:13	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:35
13	08:41	07:48	06:38	06:15	05:04	04:23	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:06	17:13	18:14	20:19	21:21	22:05	21:55	20:55	19:35	18:15	16:05	15:35
16	08:38	07:41	06:30	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:52	08:42
	16:08	17:15	18:16	20:21	21:23	22:05	21:53	20:53	19:32	18:12	16:03	15:35
17	08:37	07:38	06:27	06:05	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:43
	16:10	17:18	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:44
	16:12	17:20	18:20	20:25	21:26	22:07	21:51	20:48	19:27	18:07	16:00	15:35
19	08:34	07:34	06:22	06:00	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:45
	16:14	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
20	08:33	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:54	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:48	20:43	19:21	18:02	15:57	15:35
21	08:31	07:29	06:16	05:55	04:49	04:22	04:52	05:52	06:54	07:56	08:02	08:46
	16:18	17:26	18:27	20:31	21:32	22:08	21:46	20:40	19:19	18:00	15:55	15:36
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	16:20	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:36
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:52	15:37
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	16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:52	15:51	15:37
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	16:26	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38
26	08:24	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:41	22:08	21:38	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:36	20:25	19:02	16:45	15:47	15:40
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	16:33	17:42	18:41	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:40
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	16:35		18:44	20:48	21:45	22:08	21:32	20:20	18:57	16:41	15:44	15:41
30	08:17		06:52	05:33	04:36	04:26	05:08	06:10	07:12	07:15	08:20	08:49
	16:37		19:46	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:15		06:49		04:34		05:10	06:12		07:17		08:49
	16:39		19:48		21:48		21:28	20:15		16:36		15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: S - Vecumi

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	08:46 (10) 17:44	07:09 19:50	06:47 20:52	05:30 21:50	04:33 22:07	04:27 21:26	05:12 20:12	06:14 18:52	07:14 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	08:44 (10) 17:46	07:06 19:52	06:44 20:54	05:28 21:51	04:32 22:06	04:28 21:24	05:14 20:09	06:16 18:49	07:21 16:32	08:23 15:41
3	08:48 15:47	08:09 16:46	08:42 (10) 17:48	07:04 19:54	06:41 20:56	05:26 21:52	04:31 22:06	04:28 21:22	05:16 20:07	06:18 18:46	07:18 16:29	08:25 15:40
4	08:47 15:49	08:07 16:48	08:40 (10) 17:51	07:01 19:56	06:39 20:58	05:23 21:54	04:30 22:05	04:29 21:20	05:18 20:04	06:20 18:44	07:20 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	08:39 (10) 17:53	06:58 19:58	06:36 21:00	05:21 21:55	04:29 22:04	04:30 21:18	05:20 20:02	06:22 18:41	07:22 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	08:40 (10) 17:55	06:56 20:00	06:33 21:03	05:19 21:56	04:28 22:04	04:31 21:15	05:22 19:59	06:24 18:38	07:24 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	08:41 (10) 17:57	06:53 20:02	06:31 21:05	05:17 21:57	04:27 22:03	04:32 21:13	05:24 19:56	06:26 18:36	07:26 16:21	08:31 15:37
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12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:09	06:38 18:10	06:15 20:15	05:04 21:17	04:23 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:05	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:23 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:36 16:10	07:38 17:18	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:55 20:31	04:49 21:32	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:23 16:29	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:36	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:40
29	08:18 16:35	08:52 (10) 16:45	05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:44	08:48 15:41
30	08:16 16:37	08:50 (10) 16:48	05:52 19:45	05:33 20:50	04:36 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:15 16:39	08:48 (10) 16:59	05:49 19:48	05:34 21:48	04:34 21:48	04:27 21:48	05:10 21:28	06:12 20:15	07:17 16:36	07:17 16:36	08:17 15:43	08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case	20	43								64		
Sun reduction	0,15	0,24								0,09		
Oper. time red.	0,94	0,94								0,94		
Wind dir. red.	0,60	0,60								0,60		
Total reduction	0,09	0,14								0,05		
Total, real	2	6								3		

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: T - Rutini

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:48 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:25 15:40
4	08:47 15:51	08:07 16:57	07:01 17:59	06:39 20:00	05:23 21:02	04:30 21:56	04:29 22:04	05:18 21:15	06:20 19:59	07:20 18:38	07:26 16:23	08:26 15:38
5	08:47 15:50	08:05 16:50	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:18	06:22 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:37
8	08:45 15:54	07:58 16:57	06:51 17:59	06:28 20:04	05:14 21:07	04:26 21:59	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:35 16:19	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:34 15:36
10	08:44 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:11	04:25 22:01	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:10	05:08 21:13	04:24 22:02	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:17 20:13	05:06 21:15	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:37 18:22	07:43 16:11	08:38 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:15	05:04 21:17	04:23 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:56 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:36	04:46 21:35	04:22 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:36	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:45	08:48 15:40
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:32	06:08 20:20	07:10 18:57	07:13 16:40	08:18 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:15 16:39		06:49 19:48		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

SKEPAST & PUKIM

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: U - Viksnes

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	13:57 (6)	08:13	15:53 (15)	07:09	06:47
	15:45	20	14:17 (6)	16:42	16	16:09 (15)
2	08:48	13:58 (6)	08:11	15:52 (15)	07:06	06:44
	15:46	20	14:18 (6)	16:44	20	16:12 (15)
3	08:48	13:58 (6)	08:09	15:52 (15)	07:04	06:41
	15:47	20	14:18 (6)	16:46	23	16:15 (15)
4	08:47	14:00 (6)	08:07	15:51 (15)	07:01	06:39
	15:49	18	14:18 (6)	16:48	23	16:14 (15)
5	08:47	14:00 (6)	08:05	15:52 (15)	06:58	06:36
	15:50	18	14:18 (6)	16:51	23	16:15 (15)
6	08:46	14:01 (6)	08:03	15:52 (15)	06:56	06:33
	15:51	17	14:18 (6)	16:53	23	16:15 (15)
7	08:46	14:02 (6)	08:01	15:52 (15)	06:53	06:31
	15:53	15	14:17 (6)	16:55	24	16:16 (15)
8	08:45	14:03 (6)	07:58	15:52 (15)	06:51	06:28
	15:54	14	14:17 (6)	16:57	23	16:15 (15)
9	08:44	14:05 (6)	07:56	15:53 (15)	06:48	06:25
	15:56	11	14:16 (6)	16:59	22	16:15 (15)
10	08:44	14:07 (6)	07:54	15:53 (15)	06:45	06:23
	15:58	7	14:14 (6)	17:02	21	16:14 (15)
11	08:43		07:52	15:54 (15)	06:43	06:20
	15:59		17:04	16:13 (15)	18:06	20:10
12	08:42		07:50	15:56 (15)	06:40	06:18
	16:01		17:06	16:13 (15)	18:08	20:13
13	08:41		07:47	15:57 (15)	06:37	06:15
	16:03		17:08	16:10 (15)	18:10	20:15
14	08:40		07:45	16:00 (15)	06:35	06:12
	16:04		17:11	16:08 (15)	18:12	20:17
15	08:39		07:43	06:32	06:10	05:00
	16:06		17:13	18:14	20:19	21:20
16	08:38		07:41	06:29	06:07	04:58
	16:08		17:15	18:16	20:21	21:22
17	08:36		07:38	06:27	06:05	04:56
	16:10		17:17	18:18	20:23	21:24
18	08:35		07:36	06:24	06:02	04:54
	16:12		17:20	18:20	20:25	21:26
19	08:34		07:33	06:21	06:00	04:53
	16:14		17:22	18:22	20:27	21:28
20	08:33		07:31	06:19	05:57	04:51
	16:16		17:24	18:25	20:29	21:30
21	08:31		07:29	06:16	05:54	04:49
	16:18		17:26	18:27	20:31	21:32
22	08:30		07:26	06:13	05:52	04:47
	16:20		17:29	18:29	20:33	21:33
23	08:28		07:24	06:11	05:49	04:46
	16:22		17:31	18:31	20:35	21:35
24	08:27		07:21	06:08	05:47	04:44
	16:24		17:33	18:33	20:38	21:37
25	08:25		07:19	06:05	05:45	04:43
	16:26		17:35	18:35	20:40	21:39
26	08:23		07:16	06:03	05:42	04:41
	16:28		17:37	18:37	20:42	21:40
27	08:22		07:14	06:00	05:40	04:40
	16:31		17:40	18:39	20:44	21:42
28	08:20	15:56 (15)	07:11	05:57	05:37	04:38
	16:33	3	15:59 (15)	17:42	18:41	20:46
29	08:18	15:55 (15)		05:55	05:35	04:37
	16:35	7	16:02 (15)		18:43	20:48
30	08:16	15:54 (15)		06:52	05:33	04:36
	16:37	10	16:04 (15)		19:45	20:50
31	08:14	15:53 (15)		06:49		04:34
	16:39	14	16:07 (15)		19:48	21:48
Potential sun hours	235		265		365	425
Total, worst case	194		275			507
Sun reduction	0,15		0,24			
Oper. time red.	0,94		0,94			
Wind dir. red.	0,66		0,67			
Total reduction	0,10		0,15			
Total, real	19		42			

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

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

Calculation: Real Case Curtailment Shadow receptor: U - Viksnes

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	15:23 (15) 08:21
	22:07	21:26	20:12	18:52	16:34	20 15:43 (15) 15:42
2	04:28	05:14	06:16	07:16	07:21	15:22 (15) 08:23
	22:06	21:24	20:09	18:49	16:31	22 15:44 (15) 15:41 2 13:55 (6)
3	04:28	05:16	06:18	07:18	07:24	15:22 (15) 08:24 13:50 (6)
	22:06	21:22	20:07	18:46	16:29	23 15:45 (15) 15:40 9 13:59 (6)
4	04:29	05:18	06:20	07:20	07:26	15:21 (15) 08:26 13:49 (6)
	22:05	21:20	20:04	18:44	16:27	24 15:45 (15) 15:40 12 14:01 (6)
5	04:30	05:20	06:22	07:22	07:28	15:22 (15) 08:28 13:49 (6)
	22:04	21:17	20:01	18:41	16:25	23 15:45 (15) 15:39 13 14:02 (6)
6	04:31	05:22	06:24	07:24	07:30	15:22 (15) 08:29 13:47 (6)
	22:04	21:15	19:59	18:38	16:23	23 15:45 (15) 15:38 16 14:03 (6)
7	04:32	05:24	06:26	07:26	07:32	15:21 (15) 08:31 13:48 (6)
	22:03	21:13	19:56	18:36	16:21	24 15:45 (15) 15:37 16 14:04 (6)
8	04:34	05:26	06:28	07:28	07:34	15:22 (15) 08:32 13:48 (6)
	22:02	21:11	19:53	18:33	16:19	23 15:45 (15) 15:37 18 14:06 (6)
9	04:35	05:28	06:30	07:30	07:37	15:22 (15) 08:34 13:47 (6)
	22:01	21:09	19:51	18:30	16:17	21 15:43 (15) 15:36 19 14:06 (6)
10	04:36	05:30	06:32	07:32	07:39	15:23 (15) 08:35 13:48 (6)
	22:00	21:06	19:48	18:28	16:15	19 15:42 (15) 15:36 19 14:07 (6)
11	04:37	05:32	06:34	07:34	07:41	15:24 (15) 08:36 13:47 (6)
	21:59	21:04	19:45	18:25	16:13	15 15:39 (15) 15:36 21 14:08 (6)
12	04:39	05:34	06:36	07:37	07:43	15:24 (15) 08:37 13:47 (6)
	21:58	21:02	19:43	18:23	16:11	13 15:37 (15) 15:35 21 14:08 (6)
13	04:40	05:36	06:38	07:39	07:45	15:26 (15) 08:39 13:48 (6)
	21:57	20:59	19:40	18:20	16:09	9 15:35 (15) 15:35 22 14:10 (6)
14	04:41	05:38	06:40	07:41	07:47	15:27 (15) 08:40 13:48 (6)
	21:56	20:57	19:37	18:17	16:07	6 15:33 (15) 15:35 22 14:10 (6)
15	04:43	05:40	06:42	07:43	07:50	15:30 (15) 08:41 13:48 (6)
	21:54	20:55	19:35	18:15	16:05	1 15:31 (15) 15:35 23 14:11 (6)
16	04:44	05:42	06:44	07:45	07:52	08:42 13:49 (6)
	21:53	20:52	19:32	18:12	16:03	15:35 22 14:11 (6)
17	04:46	05:44	06:46	07:47	07:54	08:43 13:49 (6)
	21:52	20:50	19:29	18:10	16:02	15:35 23 14:12 (6)
18	04:47	05:46	06:48	07:49	07:56	08:44 13:50 (6)
	21:50	20:48	19:27	18:07	16:00	15:35 23 14:13 (6)
19	04:49	05:48	06:50	07:51	07:58	08:44 13:49 (6)
	21:49	20:45	19:24	18:05	15:58	15:35 23 14:12 (6)
20	04:51	05:50	06:52	07:53	08:00	08:45 13:50 (6)
	21:47	20:43	19:21	18:02	15:57	15:35 23 14:13 (6)
21	04:52	05:52	06:54	07:55	08:02	08:46 13:51 (6)
	21:46	20:40	19:18	18:00	15:55	15:36 23 14:14 (6)
22	04:54	05:54	06:56	07:58	08:04	08:46 13:51 (6)
	21:44	20:38	19:16	17:57	15:54	15:36 23 14:14 (6)
23	04:56	05:56	06:58	08:00	08:06	08:47 13:52 (6)
	21:42	20:35	19:13	17:55	15:52	15:37 23 14:15 (6)
24	04:57	05:58	07:00	08:02	08:08	08:47 13:52 (6)
	21:41	20:33	19:10	17:52	15:51	15:37 23 14:15 (6)
25	04:59	06:00	07:02	08:04	08:10	08:48 13:52 (6)
	21:39	20:30	19:08	17:50	15:49	15:38 23 14:15 (6)
26	05:01	06:02	07:04	07:06	08:12	08:48 13:53 (6)
	21:37	20:28	19:05	16:48	15:48	15:39 23 14:16 (6)
27	05:03	06:04	07:06	07:08	08:14	08:48 13:53 (6)
	21:35	20:25	19:02	16:45	15:47	15:39 23 14:16 (6)
28	05:05	06:06	07:08	07:11	15:30 (15) 08:16	08:48 13:54 (6)
	21:34	20:22	19:00	16:43	6 15:36 (15) 15:46	15:40 22 14:16 (6)
29	05:07	06:08	07:10	07:13	15:27 (15) 08:17	08:48 13:54 (6)
	21:32	20:20	18:57	16:41	13 15:40 (15) 15:44	15:41 23 14:17 (6)
30	05:08	06:10	07:12	07:15	15:25 (15) 08:19	08:48 13:55 (6)
	21:30	20:17	18:54	16:38	16 15:41 (15) 15:43	15:42 22 14:17 (6)
31	05:10	06:12	07:17	07:17	15:24 (15)	08:48 13:56 (6)
	21:28	20:15	16:36	19 15:43 (15)	15:43 22 14:18 (6)	
Potential sun hours	530	470	385	324	248	216
Total, worst case				54	266	597
Sun reduction				0,27	0,09	0,09
Oper. time red.				0,94	0,94	0,94
Wind dir. red.				0,67	0,67	0,66
Total reduction				0,17	0,06	0,05
Total, real				9	16	32

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: V - Dimanti

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:22 16:31	08:23 15:41
3	08:48 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:53	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:25 15:40
4	08:47 15:51	08:07 16:57	07:01 17:59	06:39 20:00	05:23 20:58	04:30 21:54	04:29 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:21 21:01	04:29 21:55	04:30 22:05	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:03	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:58	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:37
8	08:45 15:54	07:59 16:57	06:51 17:59	06:28 20:04	05:14 21:07	04:26 21:59	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 16:19	08:32 15:37
9	08:45 15:56	07:56 17:00	06:48 18:01	06:25 20:06	05:12 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:34 15:36
10	08:44 15:58	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:11	04:25 22:01	04:36 22:00	05:30 21:07	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:11	05:08 21:13	04:24 22:02	04:37 21:59	05:32 21:04	06:34 19:46	07:35 18:25	07:41 16:13	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:35
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:04 21:17	04:23 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:19	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:48 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:21	04:23 22:05	04:43 21:55	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:53	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:37 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:45 15:35
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:55 20:31	04:49 21:32	04:22 22:08	04:52 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:34	04:47 21:34	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:23 16:29	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:36	06:04 20:25	07:06 19:02	07:09 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:40
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:44	08:49 15:41
30	08:16 16:37		06:52 19:46	05:33 20:50	04:36 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:49 15:42
31	08:15 16:39		06:49 19:48		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: W - Rudziši

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:22	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:48	08:09	07:04	06:41	05:26	04:31	04:28	05:16	06:18	07:18	07:24	08:25
	15:47	16:46	17:48	19:54	20:56	21:53	22:06	21:22	20:07	18:46	16:29	15:40
4	08:47	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:39
5	08:47	08:05	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:28
	15:50	16:50	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:38	16:23	15:38
7	08:46	08:01	06:53	06:31	05:17	04:27	04:32	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:37
8	08:45	07:58	06:51	06:28	05:14	04:26	04:33	05:26	06:28	07:28	07:35	08:32
	15:54	16:57	17:59	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:45	07:56	06:48	06:25	05:12	04:26	04:35	05:28	06:30	07:30	07:37	08:34
	15:56	16:59	18:01	20:06	21:09	22:00	22:01	21:09	19:51	18:30	16:17	15:36
10	08:44	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:39	08:35
	15:57	17:02	18:03	20:08	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:08	04:24	04:37	05:32	06:34	07:34	07:41	08:36
	15:59	17:04	18:06	20:10	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:35
12	08:42	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:38
	16:01	17:06	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:35
13	08:41	07:47	06:38	06:15	05:04	04:23	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:08	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:41	07:48	08:40
	16:04	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:06	17:13	18:14	20:19	21:20	22:05	21:55	20:55	19:35	18:15	16:05	15:35
16	08:38	07:41	06:30	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:52	08:42
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03	15:35
17	08:37	07:38	06:27	06:05	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:43
	16:10	17:17	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:44
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19	08:34	07:34	06:22	06:00	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
20	08:33	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:35
21	08:31	07:29	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:56	08:02	08:46
	16:18	17:26	18:27	20:31	21:32	22:08	21:46	20:40	19:18	18:00	15:55	15:36
22	08:30	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:58	08:04	08:46
	16:20	17:29	18:29	20:33	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:36
23	08:28	07:24	06:11	05:49	04:46	04:22	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:52	15:37
24	08:27	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:10	17:52	15:51	15:37
25	08:25	07:19	06:05	05:45	04:43	04:23	04:59	06:00	07:02	08:04	08:10	08:48
	16:26	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:36	20:25	19:02	16:45	15:47	15:39
28	08:20	07:11	05:57	05:37	04:38	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:44	22:08	21:34	20:22	19:00	16:43	15:45	15:40
29	08:18		05:55	05:35	04:37	04:25	05:06	06:08	07:10	07:13	08:18	08:48
	16:35		18:43	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:44	15:41
30	08:16		06:52	05:33	04:36	04:26	05:08	06:10	07:12	07:15	08:19	08:48
	16:37		19:45	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:15		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:48		21:48		21:28	20:15		16:36		15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
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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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: X - Podnieki

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: Y - Stimbinaja

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

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N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: Z - Marsnica

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Operational time

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373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:41	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:51	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:48	08:09	07:04	06:41	05:25	04:31	04:28	05:16	06:18	07:18	07:24	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:06	21:22	20:07	18:46	16:29	15:40
4	08:47	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:50	19:56	20:58	21:54	22:05	21:20	20:04	18:43	16:27	15:39
5	08:47	08:05	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:28
	15:50	16:50	17:53	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:02	21:56	22:04	21:15	19:59	18:38	16:23	15:38
7	08:46	08:00	06:53	06:31	05:17	04:27	04:32	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:36	16:21	15:37
8	08:45	07:58	06:51	06:28	05:14	04:26	04:33	05:26	06:28	07:28	07:34	08:32
	15:54	16:57	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:19	15:37
9	08:44	07:56	06:48	06:25	05:12	04:26	04:35	05:28	06:30	07:30	07:37	08:34
	15:56	16:59	18:01	20:06	21:08	21:59	22:01	21:09	19:51	18:30	16:16	15:36
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	15:57	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:14	15:36
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16	08:38	07:40	06:29	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:52	08:42
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	16:10	17:17	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:01	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:44
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19	08:34	07:33	06:21	05:59	04:52	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
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	16:33	17:42	18:41	20:46	21:44	22:08	21:34	20:22	18:59	16:43	15:45	15:40
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	16:35		18:43	20:48	21:45	22:07	21:32	20:20	18:57	16:40	15:44	15:41
30	08:16		06:52	05:32	04:35	04:26	05:08	06:10	07:12	07:15	08:19	08:48
	16:37		19:45	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:14		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:47		21:48		21:28	20:15		16:36		15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AA - Vilkmuiža

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:09 17:44	06:47 19:49	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:48 15:47	08:09 16:46	07:03 17:48	06:41 19:54	05:25 20:56	04:31 21:52	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:24 15:40
4	08:47 15:48	08:07 16:48	07:01 17:50	06:38 19:56	05:23 20:58	04:30 21:54	04:29 22:05	05:18 21:20	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:39
5	08:47 15:50	08:05 16:50	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:16 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:35	07:32 16:21	08:31 15:37
8	08:45 15:54	07:58 16:57	06:51 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:18	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:25 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:16	08:33 15:36
10	08:44 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:12	08:36 15:35
12	08:42 16:01	07:50 17:06	06:40 18:08	06:17 20:12	05:06 21:14	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:14	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:38 18:20	07:45 16:09	08:39 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:40 15:35
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16	08:38 16:08	07:40 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:04 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:01	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:26	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 21:30	04:22 22:07	04:50 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:56	08:45 15:35
21	08:31 16:18	07:29 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:28	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:44 20:40	04:42 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:23 22:08	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:47	08:12 15:48	08:48 15:38
27	08:22 16:30	07:14 17:39	06:00 18:39	05:40 20:44	04:39 21:42	04:24 22:08	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:08	05:05 21:34	06:06 20:22	07:08 18:59	07:10 16:43	08:16 15:45	08:48 15:40
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:32	06:08 20:20	07:10 18:57	07:13 16:40	08:17 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:47	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AB - Vecergli

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:41	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:51	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:48	08:09	07:03	06:41	05:25	04:31	04:28	05:16	06:18	07:18	07:24	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:06	21:22	20:07	18:46	16:29	15:40
4	08:47	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:50	19:56	20:58	21:54	22:05	21:20	20:04	18:43	16:27	15:39
5	08:47	08:05	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:28
	15:50	16:50	17:53	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:02	21:56	22:04	21:15	19:59	18:38	16:23	15:38
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	15:57	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:14	15:36
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	16:01	17:06	18:08	20:12	21:14	22:02	21:58	21:02	19:43	18:22	16:11	15:35
13	08:41	07:47	06:37	06:15	05:04	04:23	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:08	18:10	20:15	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:35
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20	08:32	07:31	06:19	05:57	04:51	04:22	04:50	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:24	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:56	15:35
21	08:31	07:29	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:55	08:02	08:46
	16:18	17:26	18:27	20:31	21:32	22:07	21:46	20:40	19:18	18:00	15:55	15:36
22	08:30	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:58	08:04	08:46
	16:20	17:28	18:29	20:33	21:33	22:08	21:44	20:38	19:16	17:57	15:53	15:36
23	08:28	07:24	06:11	05:49	04:46	04:22	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:35	21:35	22:08	21:42	20:35	19:13	17:55	15:52	15:37
24	08:27	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:37	21:37	22:08	21:41	20:33	19:10	17:52	15:50	15:37
25	08:25	07:19	06:05	05:44	04:42	04:23	04:59	06:00	07:02	08:04	08:10	08:48
	16:26	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:23	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:27	19:05	16:47	15:48	15:38
27	08:22	07:14	06:00	05:40	04:39	04:24	05:03	06:04	07:06	07:08	08:14	08:48
	16:30	17:39	18:39	20:44	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:39
28	08:20	07:11	05:57	05:37	04:38	04:24	05:05	06:06	07:08	07:10	08:16	08:48
	16:33	17:42	18:41	20:46	21:44	22:08	21:34	20:22	18:59	16:43	15:45	15:40
29	08:18		05:55	05:35	04:37	04:25	05:06	06:08	07:10	07:13	08:17	08:48
	16:35		18:43	20:48	21:45	22:07	21:32	20:20	18:57	16:40	15:44	15:41
30	08:16		06:52	05:32	04:35	04:26	05:08	06:10	07:12	07:15	08:19	08:48
	16:37		19:45	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:14		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:47		21:48		21:28	20:15		16:36		15:43
Potential sun hours	235	265	365	426	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AC - Kvie š i

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:47	08:09 16:46	07:04 17:49	06:42 19:54	05:26 20:56	04:31 21:53	04:29 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:25 15:41
4	08:47 15:49	08:07 16:48	07:01 17:51	06:39 19:56	05:24 20:59	04:30 21:54	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:21 21:01	04:29 21:55	04:31 22:05	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	04:28 21:56	04:32 22:04	05:22 21:16	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:58	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:33 16:21	08:31 15:38
8	08:45 15:55	07:59 16:57	06:51 17:59	06:28 20:04	05:15 21:07	04:27 21:59	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 16:19	08:32 15:37
9	08:45 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:31 18:31	07:37 16:17	08:34 15:37
10	08:44 15:58	07:54 17:02	06:46 18:04	06:23 20:09	05:10 21:11	04:25 22:01	04:36 22:00	05:30 21:07	06:32 19:48	07:33 18:28	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:11	05:08 21:13	04:25 22:02	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:35
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:04 21:17	04:24 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:02 21:19	04:23 22:04	04:42 21:56	05:38 20:57	06:40 19:38	07:41 18:18	07:48 16:07	08:40 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:21	04:23 22:05	04:43 21:55	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:23 22:05	04:45 21:53	05:42 20:53	06:44 19:32	07:45 18:12	07:52 16:04	08:42 15:35
17	08:37 16:10	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:21	06:02 20:25	04:55 21:26	04:22 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:45 15:35
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:54 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31	04:49 21:32	04:22 22:08	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:34	04:23 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:06 18:35	05:45 20:40	04:43 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:38
26	08:24 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:36	06:04 20:25	07:06 19:02	07:09 16:45	08:14 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:58 18:41	05:38 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:35		05:55 18:44	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:49 15:41
30	08:17 16:37		06:52 19:46	05:33 20:50	04:36 21:47	04:26 22:07	05:09 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:44	08:49 15:42
31	08:15 16:40		06:50 19:48		04:35 21:48		05:11 21:28	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: AD - Me ž a Rasas

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	08:13	08:49 (15)	07:09	07:50 (8)	06:47
	15:45	16:42	17:44	25	08:15 (8)	19:50
2	08:48	08:11	08:47 (15)	07:06	07:50 (8)	06:44
	15:46	16:44	17:46	24	08:14 (8)	19:52
3	08:48	08:09	08:46 (15)	07:04	07:50 (8)	06:41
	15:47	16:46	17:49	23	08:13 (8)	19:54
4	08:47	09:29 (7)	08:07	08:44 (15)	07:01	07:51 (8)
	15:49	16:48	17:51	22	08:13 (8)	19:56
5	08:47	09:28 (7)	08:05	08:43 (15)	06:59	07:52 (8)
	15:50	16:51	17:53	19	08:11 (8)	19:58
6	08:46	09:27 (7)	08:03	08:42 (15)	06:56	07:53 (8)
	15:51	16:53	17:55	16	08:09 (8)	20:00
7	08:46	09:26 (7)	08:01	09:04 (15)	06:53	07:55 (8)
	15:53	16:55	17:57	12	08:07 (8)	20:02
8	08:45	09:25 (7)	07:59	09:05 (15)	06:51	06:28
	15:55	16:57	17:59	7	09:12 (15)	20:04
9	08:45	09:25 (7)	07:56	09:07 (15)	06:48	06:26
	15:56	17:00	18:01	6	09:13 (15)	20:06
10	08:44	09:26 (7)	07:54	09:09 (15)	06:46	06:23
	15:58	17:02	18:04	5	09:14 (15)	20:08
11	08:43	09:26 (7)	07:52	09:09 (15)	06:43	06:20
	15:59	17:04	18:06	4	09:13 (15)	20:11
12	08:42	09:26 (7)	07:50	09:10 (15)	06:40	06:18
	16:01	17:06	18:08	4	09:14 (15)	20:13
13	08:41	09:26 (7)	07:48	09:10 (15)	06:38	06:15
	16:03	17:09	18:10	3	09:13 (15)	20:15
14	08:40	09:26 (7)	07:45	09:11 (15)	06:35	06:12
	16:05	17:11	18:12	3	09:14 (15)	20:17
15	08:39	09:26 (7)	07:43	09:11 (15)	06:32	06:10
	16:07	17:13	18:14	3	09:14 (15)	20:19
16	08:38	09:27 (7)	07:41	09:12 (15)	06:30	06:07
	16:08	17:15	18:16	1	09:13 (15)	20:21
17	08:37	09:27 (7)	07:38	06:27	06:05	04:56
	16:10	17:18	18:18	20:23	20:23	21:24
18	08:35	09:27 (7)	07:36	06:24	06:02	04:55
	16:12	17:20	18:21	20:25	20:25	21:26
19	08:34	09:27 (7)	07:34	06:22	06:00	04:53
	16:14	17:22	18:23	20:27	20:27	21:28
20	08:33	09:27 (7)	07:31	08:01 (8)	06:19	05:57
	16:16	17:24	18:25	8	08:09 (8)	20:29
21	08:31	09:29 (7)	07:29	07:58 (8)	06:16	05:55
	16:18	17:27	18:27	13	08:11 (8)	20:31
22	08:30	09:29 (7)	07:26	07:56 (8)	06:14	05:52
	16:20	17:29	18:29	17	08:13 (8)	20:34
23	08:28	09:29 (7)	07:24	07:53 (8)	06:11	05:50
	16:22	17:31	18:31	20	08:13 (8)	20:36
24	08:27	09:29 (7)	07:21	07:52 (8)	06:08	05:47
	16:24	17:33	18:33	23	08:15 (8)	20:38
25	08:25	09:30 (7)	07:19	07:50 (8)	06:06	05:45
	16:27	17:35	18:35	25	08:15 (8)	20:40
26	08:23	07:16	07:50 (8)	06:03	05:42	04:41
	16:29	17:38	18:37	25	08:15 (8)	20:42
27	08:22	07:14	07:50 (8)	06:00	05:40	04:40
	16:31	17:40	18:39	25	08:15 (8)	20:44
28	08:20	07:11	07:49 (8)	05:57	05:37	04:38
	16:33	17:42	18:41	26	08:15 (8)	20:46
29	08:18		05:55		05:35	04:37
	16:35		18:44		20:48	21:45
30	08:16		06:52		05:33	04:36
	16:37		19:46		20:50	21:47
31	08:15	08:52 (15)	06:49			04:35
	16:40	08:59 (15)	19:48			21:48
Potential sun hours	235	265	365	425	507	529
Total, worst case	49	326	141			
Sun reduction	0,15	0,24	0,39			
Oper. time red.	0,94	0,94	0,94			
Wind dir. red.	0,60	0,61	0,62			
Total reduction	0,09	0,14	0,23			
Total, real	4	45	32			

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

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

Calculation: Real Case Curtailment Shadow receptor: AD - Me ž a Rasas

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	08:38 (15) 08:21 09:08 (7)
	22:07	21:26	20:12	18:52	16:34 5 08:43 (15) 15:42 2 09:10 (7)	
2	04:28	05:14	06:16	07:16	07:22	08:38 (15) 08:23 09:08 (7)
	22:06	21:24	20:10	18:49	16:32 5 08:43 (15) 15:41 3 09:11 (7)	
3	04:29	05:16	06:18	07:18	07:24	08:36 (15) 08:25 09:09 (7)
	22:06	21:22	20:07	18:46	16:29 6 08:42 (15) 15:41 3 09:12 (7)	
4	04:30	05:18	06:20	07:20	07:26	08:34 (15) 08:26 09:10 (7)
	22:05	21:20	20:04	18:44	16:27 7 08:41 (15) 15:40 3 09:13 (7)	
5	04:30	05:20	06:22	07:22	07:28	08:33 (15) 08:28 09:11 (7)
	22:04	21:18	20:02	18:41	16:25 8 08:41 (15) 15:39 3 09:14 (7)	
6	04:32	05:22	06:24	07:24	07:30	08:13 (15) 08:29 09:12 (7)
	22:04	21:15	19:59	18:38	16:23 11 08:40 (15) 15:38 2 09:14 (7)	
7	04:33	05:24	06:26	07:26	08:31 (8) 07:32 08:14 (15) 08:31 09:14 (7)	
	22:03	21:13	19:56	18:36 11 08:42 (8) 16:21 17 08:39 (15) 15:38 2 09:16 (7)		
8	04:34	05:26	06:28	07:28	08:29 (8) 07:35 08:15 (15) 08:32 09:16 (7)	
	22:02	21:11	19:54	18:33 16 08:45 (8) 16:19 23 08:38 (15) 15:37 1 09:17 (7)		
9	04:35	05:28	06:30	07:30	08:27 (8) 07:37 08:16 (15) 08:34 09:17 (7)	
	22:01	21:09	19:51	18:30 19 08:46 (8) 16:17 20 08:36 (15) 15:36 1 09:18 (7)		
10	04:36	05:30	06:32	07:33	08:25 (8) 07:39 08:19 (15) 08:35 09:18 (7)	
	22:00	21:07	19:48	18:28 22 08:47 (8) 16:15 16 08:35 (15) 15:36 09:18 (7)		
11	04:37	05:32	06:34	07:35	08:24 (8) 07:41 08:21 (15) 08:36 09:19 (7)	
	21:59	21:04	19:46	18:25 23 08:47 (8) 16:13 11 08:32 (15) 15:36 09:19 (7)		
12	04:39	05:34	06:36	07:37	08:23 (8) 07:43 08:18 (15) 08:38 09:20 (7)	
	21:58	21:02	19:43	18:23 24 08:47 (8) 16:11 15:35 09:20 (7)		
13	04:40	05:36	06:38	07:39	08:22 (8) 07:45 08:17 (15) 08:39 09:21 (7)	
	21:57	21:00	19:40	18:20 25 08:47 (8) 16:09 15:35 09:21 (7)		
14	04:42	05:38	06:40	07:41	08:23 (8) 07:48 08:16 (15) 08:40 09:22 (7)	
	21:56	20:57	19:37	18:18 25 08:48 (8) 16:07 15:35 09:22 (7)		
15	04:43	05:40	06:42	07:43	08:22 (8) 07:50 08:15 (15) 08:41 09:23 (7)	
	21:54	20:55	19:35	18:15 26 08:48 (8) 16:05 15:35 09:23 (7)		
16	04:45	05:42	06:44	07:45	08:22 (8) 07:52 09:04 (7) 08:42 09:24 (7)	
	21:53	20:53	19:32	18:12 25 08:47 (8) 16:04 1 09:05 (7) 15:35 09:24 (7)		
17	04:46	05:44	06:46	07:47	08:22 (8) 07:54 08:14 (15) 08:43 09:25 (7)	
	21:52	20:50	19:29	18:10 24 08:46 (8) 16:02 15:35 09:25 (7)		
18	04:48	05:46	06:48	07:49	08:23 (8) 07:56 09:04 (7) 08:44 09:26 (7)	
	21:50	20:48	19:27	18:07 23 08:46 (8) 16:00 1 09:05 (7) 15:35 09:26 (7)		
19	04:49	05:48	06:50	07:51	08:24 (8) 07:58 09:03 (7) 08:44 09:27 (7)	
	21:49	20:45	19:24	18:05 21 08:45 (8) 15:58 1 09:04 (7) 15:35 09:27 (7)		
20	04:51	05:50	06:52	07:54	08:26 (8) 08:00 09:04 (7) 08:45 09:28 (7)	
	21:47	20:43	19:21	18:02 18 08:44 (8) 15:57 1 09:05 (7) 15:36 1 09:30 (7)		
21	04:52	05:52	06:54	07:56	08:28 (8) 08:02 09:04 (7) 08:46 09:30 (7)	
	21:46	20:40	19:19	18:00 14 08:42 (8) 15:55 1 09:05 (7) 15:36 1 09:31 (7)		
22	04:54	05:54	06:56	07:58	08:31 (8) 08:04 09:04 (7) 08:46 09:30 (7)	
	21:44	20:38	19:16	17:57 9 08:40 (8) 15:54 1 09:05 (7) 15:36 1 09:31 (7)		
23	04:56	05:56	06:58	08:00	08:33 (8) 08:06 09:04 (7) 08:47 09:31 (7)	
	21:43	20:35	19:13	17:55 3 08:36 (8) 15:52 1 09:05 (7) 15:37 1 09:32 (7)		
24	04:58	05:58	07:00	08:02	08:08 09:05 (7) 08:47 09:31 (7)	
	21:41	20:33	19:11	17:53 1 09:06 (7) 15:37 1 09:32 (7)		
25	04:59	06:00	07:02	08:04	08:10 09:05 (7) 08:48 09:32 (7)	
	21:39	20:30	19:08	17:50 2 09:07 (7) 15:38 09:32 (7)		
26	05:01	06:02	07:04	07:06 1 08:42 (15) 08:12 09:05 (7) 08:48 09:33 (7)		
	21:37	20:28	19:05	16:48 1 08:43 (15) 15:48 2 09:07 (7) 15:39 09:33 (7)		
27	05:03	06:04	07:06	07:09 2 08:41 (15) 08:14 09:05 (7) 08:48 09:34 (7)		
	21:36	20:25	19:02	16:45 2 08:43 (15) 15:47 3 09:08 (7) 15:40 09:34 (7)		
28	05:05	06:06	07:08	07:11 2 08:41 (15) 08:16 09:06 (7) 08:48 09:35 (7)		
	21:34	20:23	19:00	16:43 2 08:43 (15) 15:46 2 09:08 (7) 15:40 09:35 (7)		
29	05:07	06:08	07:10	07:13 2 08:41 (15) 08:18 09:06 (7) 08:48 09:36 (7)		
	21:32	20:20	18:57	16:41 2 08:43 (15) 15:45 3 09:09 (7) 15:41 09:36 (7)		
30	05:09	06:10	07:12	07:15 4 08:39 (15) 08:19 09:07 (7) 08:48 09:37 (7)		
	21:30	20:17	18:54	16:38 4 08:43 (15) 15:43 2 09:09 (7) 15:42 09:37 (7)		
31	05:10	06:12	07:17	07:17 4 08:39 (15) 08:19 09:07 (7) 08:48 09:38 (7)		
	21:28	20:15	16:36 4 08:43 (15) 15:43 216			
Potential sun hours	530	470	385	324	248	216
Total, worst case				343	151	25
Sun reduction				0,27	0,09	0,09
Oper. time red.				0,94	0,94	0,94
Wind dir. red.				0,62	0,60	0,60
Total reduction				0,16	0,05	0,05
Total, real				54	8	1

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

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

Calculation: Real Case Curtailment Shadow receptor: AE - Dravnieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	10:07 (5)	08:13	07:09	07:41 (8)	06:47
	15:45	19	10:26 (5)	16:42	17:44	25
2	08:48	10:08 (5)	08:11	07:06	08:06 (8)	19:50
	15:46	19	10:27 (5)	16:44	07:39 (8)	06:44
3	08:48	10:08 (5)	08:09	07:04	08:06 (8)	19:52
	15:47	18	10:26 (5)	16:46	07:38 (8)	06:41
4	08:47	10:10 (5)	08:07	07:01	08:06 (8)	19:54
	15:49	17	10:27 (5)	16:48	07:38 (8)	06:39
5	08:47	10:10 (5)	08:05	08:37 (6)	06:59	07:38 (8)
	15:50	17	10:27 (5)	16:51	2	08:06 (8)
6	08:46	10:11 (5)	08:03	08:35 (6)	06:56	19:58
	15:51	15	10:26 (5)	16:53	7	07:37 (8)
7	08:46	10:12 (5)	08:01	08:33 (6)	06:53	06:33
	15:53	14	10:26 (5)	16:55	11	08:06 (8)
8	08:45	10:13 (5)	07:59	08:30 (6)	06:51	19:58
	15:55	12	10:25 (5)	16:57	14	07:38 (8)
9	08:44	10:15 (5)	07:56	08:28 (6)	06:48	06:28
	15:56	10	10:25 (5)	17:00	17	08:05 (8)
10	08:44	10:17 (5)	07:54	08:26 (6)	06:46	20:04
	15:58	6	10:23 (5)	17:02	20	07:38 (8)
11	08:43		07:52	08:24 (6)	06:43	06:26
	15:59		17:04	08:46 (6)	18:06	23
12	08:42		07:50	08:24 (6)	06:40	07:40 (8)
	16:01		17:06	08:47 (6)	18:08	20
13	08:41		07:48	08:24 (6)	06:38	07:42 (8)
	16:03		17:09	08:46 (6)	18:10	15
14	08:40		07:45	08:24 (6)	06:35	07:45 (8)
	16:05		17:11	08:47 (6)	18:12	9
15	08:39		07:43	08:24 (6)	06:32	20:17
	16:07		17:13	08:46 (6)	18:14	06:10
16	08:38		07:41	08:25 (6)	06:30	20:19
	16:08		17:15	08:46 (6)	18:16	06:07
17	08:37		07:38	08:26 (6)	06:27	20:21
	16:10		17:18	08:46 (6)	18:18	20:21
18	08:35		07:36	08:27 (6)	06:24	20:23
	16:12		17:20	08:44 (6)	18:20	06:05
19	08:34		07:34	08:27 (6)	06:22	20:25
	16:14		17:22	08:42 (6)	18:23	06:00
20	08:33		07:31	08:30 (6)	06:19	20:27
	16:16		17:24	08:40 (6)	18:25	20:27
21	08:31		07:29		06:16	05:55
	16:18		17:27		18:27	20:31
22	08:30		07:26		06:14	05:52
	16:20		17:29		18:29	20:34
23	08:28		07:24		06:11	05:50
	16:22		17:31		18:31	20:36
24	08:27		07:21		06:08	05:47
	16:24		17:33		18:33	20:38
25	08:25		07:19	07:48 (8)	06:06	05:45
	16:27		17:35	11	07:59 (8)	18:35
26	08:23		07:16	07:45 (8)	06:03	20:40
	16:29		17:38	16	08:01 (8)	18:37
27	08:22		07:14	07:43 (8)	06:00	05:42
	16:31		17:40	21	08:04 (8)	18:39
28	08:20		07:11	07:41 (8)	05:57	20:44
	16:33		17:42	23	08:04 (8)	18:41
29	08:18				05:55	05:35
	16:35				18:43	20:48
30	08:16				06:52	05:33
	16:37				19:46	20:50
31	08:15				06:49	05:35
	16:40				19:48	21:48
Potential sun hours	235	265	365	425	507	529
Total, worst case	147	337	338			
Sun reduction	0,15	0,24	0,39			
Oper. time red.	0,94	0,94	0,94			
Wind dir. red.	0,61	0,61	0,62			
Total reduction	0,09	0,14	0,23			
Total, real	13	47	77			

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

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

Calculation: Real Case Curtailment Shadow receptor: AE - Dravnieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	08:22 (8)	07:19
	22:07	21:26	20:12	18:52	15	08:37 (8)
2	04:28	05:14	06:16	07:16	08:19 (8)	07:22
	22:06	21:24	20:10	18:49	20	08:39 (8)
3	04:29	05:16	06:18	07:18	08:17 (8)	07:24
	22:06	21:22	20:07	18:46	23	08:40 (8)
4	04:30	05:18	06:20	07:20	08:16 (8)	07:26
	22:05	21:20	20:04	18:44	24	08:40 (8)
5	04:30	05:20	06:22	07:22	08:15 (8)	07:28
	22:04	21:18	20:02	18:41	26	08:41 (8)
6	04:32	05:22	06:24	07:24	08:14 (8)	07:30
	22:04	21:15	19:59	18:38	27	08:41 (8)
7	04:33	05:24	06:26	07:26	08:13 (8)	07:32
	22:03	21:13	19:56	18:36	28	08:41 (8)
8	04:34	05:26	06:28	07:28	08:13 (8)	07:35
	22:02	21:11	19:54	18:33	29	08:42 (8)
9	04:35	05:28	06:30	07:30	08:13 (8)	07:37
	22:01	21:09	19:51	18:30	28	08:41 (8)
10	04:36	05:30	06:32	07:32	08:13 (8)	07:39
	22:00	21:07	19:48	18:28	28	08:41 (8)
11	04:37	05:32	06:34	07:35	08:13 (8)	07:41
	21:59	21:04	19:46	18:25	27	08:40 (8)
12	04:39	05:34	06:36	07:37	08:13 (8)	07:43
	21:58	21:02	19:43	18:23	26	08:39 (8)
13	04:40	05:36	06:38	07:39	08:13 (8)	07:45
	21:57	21:00	19:40	18:20	25	08:38 (8)
14	04:42	05:38	06:40	07:41	08:14 (8)	07:48
	21:56	20:57	19:37	18:18	24	08:38 (8)
15	04:43	05:40	06:42	07:43	08:15 (8)	07:50
	21:54	20:55	19:35	18:15	21	08:36 (8)
16	04:45	05:42	06:44	07:45	08:17 (8)	07:52
	21:53	20:53	19:32	18:12	17	08:34 (8)
17	04:46	05:44	06:46	07:47	08:19 (8)	07:54
	21:52	20:50	19:29	18:10	12	08:31 (8)
18	04:48	05:46	06:48	07:49	08:23 (8)	07:56
	21:50	20:48	19:27	18:07	5	08:28 (8)
19	04:49	05:48	06:50	07:51	07:58	08:44
	21:49	20:45	19:24	18:05	15:58	15:35
20	04:51	05:50	06:52	07:53	08:00	08:45
	21:47	20:43	19:21	18:02	15:57	15:36
21	04:52	05:52	06:54	07:56	08:02	08:46
	21:46	20:40	19:19	18:00	15:55	15:36
22	04:54	05:54	06:56	07:58	09:02 (6)	08:04
	21:44	20:38	19:16	17:57	8	09:10 (6)
23	04:56	05:56	06:58	08:00	08:59 (6)	08:06
	21:43	20:35	19:13	17:55	13	09:12 (6)
24	04:58	05:58	07:00	08:02	08:57 (6)	08:08
	21:41	20:33	19:10	17:53	16	09:13 (6)
25	04:59	06:00	07:02	08:04	08:56 (6)	08:10
	21:39	20:30	19:08	17:50	19	09:15 (6)
26	05:01	06:02	07:04	07:06	07:55 (6)	08:12
	21:37	20:28	19:05	16:48	20	08:15 (6)
27	05:03	06:04	07:06	07:09	07:54 (6)	08:14
	21:36	20:25	19:02	16:45	22	08:16 (6)
28	05:05	06:06	07:08	07:11	07:54 (6)	08:16
	21:34	20:23	19:00	16:43	23	08:17 (6)
29	05:07	06:08	07:10	07:13	07:54 (6)	08:18
	21:32	20:20	18:57	16:41	22	08:16 (6)
30	05:09	06:10	07:12	07:15	07:53 (6)	08:19
	21:30	20:17	18:54	9 08:34 (8)	23	08:16 (6)
31	05:10	06:12		07:17	07:54 (6)	08:19
	21:28	20:15		16:36	22	08:16 (6)
Potential sun hours	530	470	385	324	248	216
Total, worst case				593	82	562
Sun reduction			0,43	0,27	0,09	0,09
Oper. time red.			0,94	0,94	0,94	0,94
Wind dir. red.			0,62	0,62	0,61	0,61
Total reduction			0,25	0,16	0,05	0,05
Total, real			2	93	4	28

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AF - Ogu Purvs

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:48 15:45 23	10:18 (19) 08:13 07:09	08:13 07:09 06:47	06:47 05:30 04:33	05:30 04:33 04:27	04:33 04:27 05:12	04:27 05:12 06:14	05:12 06:14 07:14	06:14 07:14 07:19	07:14 07:19 08:21	07:19 08:21 08:23	08:21 08:23 10:14 (19)	
2	08:48 15:46 21	10:41 (19) 08:11 07:06	08:11 07:06 06:44	06:44 05:28 04:32	05:28 04:32 04:28	04:32 04:28 05:14	04:28 05:14 06:16	05:14 06:16 07:16	06:16 07:16 07:22	07:16 07:22 08:23	07:22 08:23 10:12 (19)		
3	08:48 15:47 21	10:41 (19) 08:09 07:04	08:09 07:04 06:42	06:42 05:26 04:31	05:26 04:31 04:29	04:31 04:29 05:16	04:29 05:16 06:18	05:16 06:18 07:18	06:18 07:18 07:24	07:18 07:24 08:25	07:24 08:25 10:11 (19)		
4	08:47 15:49 21	10:41 (19) 08:07 07:01	08:07 07:01 06:49	06:49 05:24 04:30	05:24 04:30 04:30	04:30 04:30 05:18	04:30 05:18 06:20	05:18 06:20 07:20	06:20 07:20 07:26	07:20 07:26 08:26	07:26 08:26 10:10 (19)		
5	08:47 15:50 19	10:41 (19) 08:05 06:59	08:05 06:59 06:51	06:51 05:21 04:29	05:21 04:29 04:31	04:29 04:31 05:20	04:31 05:20 06:22	05:20 06:22 07:22	06:22 07:22 07:28	07:22 07:28 08:28	07:28 08:28 10:10 (19)		
6	08:46 15:52 18	10:41 (19) 08:03 06:53	08:03 06:53 06:53	06:53 05:19 04:28	05:19 04:28 04:32	04:28 04:32 05:22	04:32 05:22 06:24	05:22 06:24 07:24	06:24 07:24 07:30	07:24 07:30 08:29	07:30 08:29 10:09 (19)		
7	08:46 15:53 17	10:41 (19) 08:01 06:55	08:01 06:55 06:57	06:57 05:17 04:27	05:17 04:27 04:33	04:27 04:33 05:24	04:33 05:24 06:26	05:24 06:26 07:26	06:26 07:26 07:33	07:26 07:33 08:31	07:33 08:31 10:09 (19)		
8	08:45 15:55 15	10:41 (19) 07:59 06:51	07:59 06:51 06:57	06:51 05:15 04:27	05:15 04:27 04:34	04:27 04:34 05:26	04:34 05:26 06:28	05:26 06:28 07:28	06:28 07:28 07:35	07:28 07:35 08:32	07:35 08:32 10:09 (19)		
9	08:45 15:56 14	10:41 (19) 07:56 06:48	07:56 06:48 06:56	06:48 05:13 04:26	05:13 04:26 04:35	04:26 04:35 05:28	04:35 05:28 06:30	05:28 06:30 07:31	06:30 07:31 07:37	07:31 07:37 08:34	07:37 08:34 10:09 (19)		
10	08:44 15:58 11	10:41 (19) 07:54 06:46	07:54 06:46 06:56	06:46 05:10 04:25	05:10 04:25 04:36	04:25 04:36 05:30	04:36 05:30 06:32	05:30 06:32 07:33	06:32 07:33 07:39	07:33 07:39 08:35	07:39 08:35 10:10 (19)		
11	08:43 15:59 8	10:38 (19) 07:52 06:43	07:52 06:43 06:56	06:43 05:08 04:25	05:08 04:25 04:38	04:25 04:38 05:32	04:38 05:32 06:34	05:32 06:34 07:35	06:34 07:35 07:41	07:35 07:41 08:36	07:41 08:36 10:09 (19)		
12	08:42 16:01 08:41	10:38 (19) 07:50 06:40	07:50 06:40 06:56	06:40 05:06 04:24	05:06 04:24 04:39	04:24 04:39 05:34	04:39 05:34 06:36	05:34 06:36 07:37	06:36 07:37 07:43	07:37 07:43 08:38	07:43 08:38 10:09 (19)		
13	08:41 16:03 08:40	10:38 (19) 07:48 06:38	07:48 06:38 06:56	06:38 05:04 04:24	05:04 04:24 04:40	04:24 04:40 05:36	04:40 05:36 06:38	05:36 06:38 07:39	06:38 07:39 07:45	07:39 07:45 08:39	07:45 08:39 10:10 (19)		
14	08:40 16:05 08:39	10:38 (19) 07:45 06:35	07:45 06:35 06:56	06:35 05:02 04:23	05:02 04:23 04:42	04:23 04:42 05:38	04:42 05:38 06:40	05:38 06:40 07:41	06:40 07:41 07:48	07:41 07:48 08:40	07:48 08:40 10:10 (19)		
15	08:39 16:07 08:38	10:38 (19) 07:43 06:32	07:43 06:32 06:56	06:32 05:00 04:23	05:00 04:23 04:43	04:23 04:43 05:40	04:43 05:40 06:42	05:40 06:42 07:43	06:42 07:43 07:50	07:43 07:50 08:41	07:50 08:41 10:10 (19)		
16	08:38 16:08 08:37	10:38 (19) 07:41 06:30	07:41 06:30 06:56	06:30 05:00 04:23	05:00 04:23 04:45	04:23 04:45 05:42	04:45 05:42 06:44	05:42 06:44 07:45	06:44 07:45 07:52	07:45 07:52 08:42	07:52 08:42 10:11 (19)		
17	08:37 16:10 08:35	10:38 (19) 07:38 06:27	07:38 06:27 06:56	06:27 05:00 04:23	05:00 04:23 04:46	04:23 04:46 05:44	04:46 05:44 06:46	05:44 06:46 07:47	06:46 07:47 07:54	07:47 07:54 08:43	07:54 08:43 10:11 (19)		
18	08:35 16:12 08:34	10:38 (19) 07:36 06:24	07:36 06:24 06:56	06:24 05:00 04:23	05:00 04:23 04:48	04:23 04:48 05:46	04:48 05:46 06:48	05:46 06:48 07:49	06:48 07:49 07:56	07:49 07:56 08:44	07:56 08:44 10:12 (19)		
19	08:34 16:14 08:33	10:38 (19) 07:34 06:22	07:34 06:22 06:56	06:22 05:00 04:23	05:00 04:23 04:49	04:23 04:49 05:48	04:49 05:48 06:50	05:48 06:50 07:51	06:50 07:51 07:58	07:51 07:58 08:44	07:58 08:44 10:12 (19)		
20	08:33 16:16 08:31	10:38 (19) 07:31 06:19	07:31 06:19 06:56	06:19 05:00 04:23	05:00 04:23 04:51	04:23 04:51 05:50	04:51 05:50 06:52	05:50 06:52 07:54	06:52 07:54 08:00	07:54 08:00 08:45	08:00 08:45 10:12 (19)		
21	08:31 16:18 08:30	10:38 (19) 07:29 06:16	07:29 06:16 06:56	06:16 05:00 04:23	05:00 04:23 04:53	04:23 04:53 05:52	04:53 05:52 06:54	05:52 06:54 07:56	06:54 07:56 08:02	07:56 08:02 08:46	08:02 08:46 10:13 (19)		
22	08:30 16:20 08:28	10:38 (19) 07:26 06:14	07:26 06:14 06:56	06:14 05:00 04:23	05:00 04:23 04:54	04:23 04:54 05:54	04:54 05:54 06:56	05:54 06:56 07:58	06:56 07:58 08:04	07:58 08:04 08:46	08:04 08:46 10:13 (19)		
23	08:28 16:22 08:27	10:38 (19) 07:24 06:11	07:24 06:11 06:56	06:11 05:00 04:23	05:00 04:23 04:56	04:23 04:56 05:56	04:56 05:56 06:58	05:56 06:58 08:00	06:58 08:00 08:06	08:00 08:06 08:47	08:06 08:47 10:14 (19)		
24	08:27 16:24 08:25	10:38 (19) 07:21 06:08	07:21 06:08 06:56	06:08 05:00 04:23	05:00 04:23 04:58	04:23 04:58 05:58	04:58 05:58 07:00	05:58 07:00 08:02	07:00 08:02 08:08	08:02 08:08 08:47	08:08 08:47 10:14 (19)		
25	08:25 16:27 08:24	10:38 (19) 07:19 06:06	07:19 06:06 06:56	06:06 05:00 04:23	05:00 04:23 04:58	04:23 04:58 05:58	04:58 05:58 07:00	05:58 07:00 08:02	07:00 08:02 08:08	08:02 08:08 08:47	08:08 08:47 10:14 (19)		
26	08:24 16:29 08:22	10:38 (19) 07:16 06:03	07:16 06:03 06:56	06:03 05:00 04:23	05:00 04:23 04:58	04:23 04:58 05:58	04:58 05:58 07:00	05:58 07:00 08:02	07:00 08:02 08:08	08:02 08:08 08:47	08:08 08:47 10:14 (19)		
27	08:22 16:31 08:20	10:38 (19) 07:14 06:00	07:14 06:00 06:56	06:00 05:00 04:23	05:00 04:23 04:58	04:23 04:58 05:58	04:58 05:58 07:00	05:58 07:00 08:02	07:00 08:02 08:08	08:02 08:08 08:47	08:08 08:47 10:14 (19)		
28	08:20 16:33 08:18	10:38 (19) 07:11 05:58	07:11 05:58 06:56	05:58 05:00 04:23	05:00 04:23 04:58	04:23 04:58 05:58	04:58 05:58 07:00	05:58 07:00 08:02	07:00 08:02 08:08	08:02 08:08 08:47	08:08 08:47 10:14 (19)		
29	08:18 16:35 08:16	10:38 (19) 07:09 05:56	07:09 05:56 06:56	05:56 05:00 04:23	05:00 04:23 04:58	04:23 04:58 05:58	04:58 05:58 07:00	05:58 07:00 08:02	07:00 08:02 08:08	08:02 08:08 08:47	08:08 08:47 10:14 (19)		
30	08:16 16:37 08:15	10:38 (19) 07:06 05:53	07:06 05:53 06:56	05:53 05:00 04:23	05:00 04:23 04:58	04:23 04:58 05:58	04:58 05:58 07:00	05:58 07:00 08:02	07:00 08:02 08:08	08:02 08:08 08:47	08:08 08:47 10:14 (19)		
31	08:15 16:40	10:38 (19) 07:03 05:50	07:03 05:50 06:56	05:50 05:00 04:23	05:00 04:23 04:58	04:23 04:58 05:58	04:58 05:58 07:00	05:58 07:00 08:02	07:00 08:02 08:08	08:02 08:08 08:47	08:08 08:47 10:14 (19)		
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216	
Total, worst case	188												650
Sun reduction	0,15												0,09
Oper. time red.	0,94												0,94
Wind dir. red.	0,61												0,61
Total reduction	0,09												0,05
Total, real	17												32

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AG - Jaunmedni

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:28	05:14	06:16	07:16	07:22	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:41
3	08:48	08:09	07:04	06:41	05:26	04:31	04:29	05:16	06:18	07:18	07:24	08:25
	15:47	16:46	17:49	19:54	20:56	21:53	22:06	21:22	20:07	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:49	16:48	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:59	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:01	21:55	22:05	21:18	20:02	18:41	16:25	15:39
6	08:47	08:03	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:38	16:23	15:38
7	08:46	08:01	06:53	06:31	05:17	04:27	04:33	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:35	08:32
	15:54	16:57	17:59	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:45	07:56	06:48	06:26	05:12	04:26	04:35	05:28	06:30	07:30	07:37	08:34
	15:56	17:00	18:01	20:06	21:09	22:00	22:01	21:09	19:51	18:30	16:17	15:36
10	08:44	07:54	06:46	06:23	05:10	04:25	04:36	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:08	04:25	04:37	05:32	06:34	07:35	07:41	08:36
	15:59	17:04	18:06	20:11	21:13	22:02	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:38
	16:01	17:06	18:08	20:13	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:35
13	08:41	07:48	06:38	06:15	05:04	04:24	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:42	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:06	17:13	18:14	20:19	21:21	22:05	21:55	20:55	19:35	18:15	16:05	15:35
16	08:38	07:41	06:30	06:07	04:58	04:23	04:44	05:42	06:44	07:45	07:52	08:42
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:53	19:32	18:12	16:03	15:35
17	08:37	07:38	06:27	06:05	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:43
	16:10	17:18	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:22	04:48	05:46	06:48	07:49	07:56	08:44
	16:12	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19	08:34	07:34	06:22	06:00	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:45
	16:14	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
20	08:33	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:54	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:36
21	08:31	07:29	06:16	05:55	04:49	04:22	04:52	05:52	06:54	07:56	08:02	08:46
	16:18	17:27	18:27	20:31	21:32	22:08	21:46	20:40	19:19	18:00	15:55	15:36
22	08:30	07:26	06:14	05:52	04:48	04:22	04:54	05:54	06:56	07:58	08:04	08:46
	16:20	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:36
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:52	15:37
24	08:27	07:21	06:08	05:47	04:44	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:37
25	08:25	07:19	06:06	05:45	04:43	04:23	04:59	06:00	07:02	08:04	08:10	08:48
	16:27	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38
26	08:24	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:36	20:25	19:02	16:45	15:47	15:40
28	08:20	07:11	05:58	05:37	04:38	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:40
29	08:18		05:55	05:35	04:37	04:25	05:07	06:08	07:10	07:13	08:18	08:49
	16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:41
30	08:16		06:52	05:33	04:36	04:26	05:09	06:10	07:12	07:15	08:19	08:49
	16:37		19:46	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:15		06:49		04:34		05:10	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: AH - Graudini

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	08:13	09:28 (7)	07:09	07:40 (8)	06:47
	15:45	16:42	9 09:37 (7)	17:44	25 08:05 (8)	19:50
2	08:48	08:11	09:29 (7)	07:06	07:39 (8)	06:44
	15:46	16:44	10 09:39 (7)	17:46	26 08:05 (8)	19:52
3	08:48	08:09	09:31 (7)	07:04	07:38 (8)	06:41
	15:47	16:46	10 09:41 (7)	17:49	26 08:04 (8)	19:54
4	08:47	09:29 (7)	08:07	09:33 (7)	07:01	07:39 (8)
	15:49	1 09:30 (7)	16:48	11 09:44 (7)	17:51	26 08:05 (8)
5	08:47	09:28 (7)	08:05	06:59	07:38 (8)	06:36
	15:50	1 09:29 (7)	16:51	17:53	26 08:04 (8)	19:58
6	08:46	09:27 (7)	08:03	08:40 (15)	06:56	07:38 (8)
	15:51	2 09:29 (7)	16:53	3 08:43 (15)	17:55	26 08:04 (8)
7	08:46	09:26 (7)	08:01	06:53	07:39 (8)	06:31
	15:53	3 09:29 (7)	16:55	17:57	25 08:04 (8)	20:02
8	08:45	09:25 (7)	07:59	06:51	07:39 (8)	06:28
	15:55	3 09:28 (7)	16:57	17:59	23 08:02 (8)	20:04
9	08:44	09:24 (7)	07:56	06:48	07:39 (8)	06:26
	15:56	4 09:28 (7)	17:00	18:01	22 08:01 (8)	20:06
10	08:44	09:23 (7)	07:54	06:46	07:41 (8)	06:23
	15:58	5 09:28 (7)	17:02	18:04	19 08:00 (8)	20:08
11	08:43	09:22 (7)	07:52	06:43	07:42 (8)	06:20
	15:59	6 09:28 (7)	17:04	18:06	16 07:58 (8)	20:11
12	08:42	09:22 (7)	07:50	06:40	07:44 (8)	06:18
	16:01	7 09:29 (7)	17:06	18:08	11 07:55 (8)	20:13
13	08:41	09:22 (7)	07:48	06:38	06:15	05:04
	16:03	7 09:29 (7)	17:09	18:10	20:15	21:17
14	08:40	09:21 (7)	07:45	06:35	06:12	05:02
	16:05	7 09:28 (7)	17:11	18:12	20:17	21:19
15	08:39	09:21 (7)	07:43	06:32	06:10	05:00
	16:07	8 09:29 (7)	17:13	18:14	20:19	21:20
16	08:38	09:22 (7)	07:41	06:30	06:07	04:58
	16:08	7 09:29 (7)	17:15	18:16	20:21	21:22
17	08:37	09:21 (7)	07:38	06:27	06:05	04:56
	16:10	8 09:29 (7)	17:18	18:18	20:23	21:24
18	08:35	09:22 (7)	07:36	06:24	06:02	04:55
	16:12	6 09:28 (7)	17:20	18:20	20:25	21:26
19	08:34	09:22 (7)	07:34	06:22	06:00	04:53
	16:14	7 09:29 (7)	17:22	18:23	20:27	21:28
20	08:33	09:21 (7)	07:31	06:19	05:57	04:51
	16:16	8 09:29 (7)	17:24	18:25	20:29	21:30
21	08:31	09:22 (7)	07:29	06:16	05:55	04:49
	16:18	8 09:30 (7)	17:27	18:27	20:31	21:32
22	08:30	09:22 (7)	07:26	06:14	05:52	04:48
	16:20	8 09:30 (7)	17:29	18:29	20:34	21:34
23	08:28	09:22 (7)	07:24	06:11	05:50	04:46
	16:22	8 09:30 (7)	17:31	18:31	20:36	21:35
24	08:27	09:22 (7)	07:21	07:51 (8)	06:08	05:47
	16:24	8 09:30 (7)	17:33	6 07:57 (8)	18:33	20:38
25	08:25	09:23 (7)	07:19	07:48 (8)	06:06	05:45
	16:27	8 09:31 (7)	17:35	12 08:00 (8)	18:35	20:40
26	08:23	09:23 (7)	07:16	07:45 (8)	06:03	05:42
	16:29	8 09:31 (7)	17:38	16 08:01 (8)	18:37	20:42
27	08:22	09:23 (7)	07:14	07:43 (8)	06:00	05:40
	16:31	9 09:32 (7)	17:40	20 08:03 (8)	18:39	20:44
28	08:20	09:24 (7)	07:11	07:40 (8)	05:57	05:37
	16:33	8 09:32 (7)	17:42	23 08:03 (8)	18:41	20:46
29	08:18	09:25 (7)		05:55	05:35	04:37
	16:35	8 09:33 (7)		18:44	20:48	21:45
30	08:16	09:25 (7)		06:52	05:33	04:36
	16:37	9 09:34 (7)		19:46	20:50	21:47
31	08:15	09:27 (7)		06:49		04:35
	16:40	8 09:35 (7)		19:48		21:48
Potential sun hours	235	265	365	425	507	529
Total, worst case	180	120	271			
Sun reduction	0,15	0,24	0,39			
Oper. time red.	0,94	0,94	0,94			
Wind dir. red.	0,59	0,61	0,62			
Total reduction	0,09	0,14	0,23			
Total, real	15	17	62			

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

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

Calculation: Real Case Curtailment Shadow receptor: AH - Graudini

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	08:21
	22:07	21:26	20:12	18:52	16:34	15:42
2	04:28	05:14	06:16	07:16	08:23 (8)	07:22
	22:06	21:24	20:10	18:49	11 08:34 (8)	16:32
3	04:29	05:16	06:18	07:18	08:20 (8)	07:24
	22:06	21:22	20:07	18:46	16 08:36 (8)	16:29
4	04:30	05:18	06:20	07:20	08:18 (8)	07:26
	22:05	21:20	20:04	18:44	19 08:37 (8)	16:27
5	04:30	05:20	06:22	07:22	08:16 (8)	07:28
	22:04	21:18	20:02	18:41	22 08:38 (8)	16:25
6	04:32	05:22	06:24	07:24	08:15 (8)	07:30
	22:04	21:15	19:59	18:38	24 08:39 (8)	16:23
7	04:33	05:24	06:26	07:26	08:14 (8)	07:32
	22:03	21:13	19:56	18:36	25 08:39 (8)	16:21
8	04:34	05:26	06:28	07:28	08:14 (8)	07:35
	22:02	21:11	19:54	18:33	26 08:40 (8)	16:19
9	04:35	05:28	06:30	07:30	08:13 (8)	07:37
	22:01	21:09	19:51	18:30	27 08:40 (8)	16:17
10	04:36	05:30	06:32	07:33	08:13 (8)	07:39
	22:00	21:07	19:48	18:28	26 08:39 (8)	16:15
11	04:37	05:32	06:34	07:35	08:12 (8)	07:41
	21:59	21:04	19:46	18:25	27 08:39 (8)	16:13
12	04:39	05:34	06:36	07:37	08:12 (8)	07:43
	21:58	21:02	19:43	18:23	26 08:38 (8)	16:11
13	04:40	05:36	06:38	07:39	08:12 (8)	07:45
	21:57	21:00	19:40	18:20	25 08:37 (8)	16:09
14	04:42	05:38	06:40	07:41	08:14 (8)	07:48
	21:56	20:57	19:37	18:18	23 08:37 (8)	16:07
15	04:43	05:40	06:42	07:43	08:15 (8)	07:50
	21:54	20:55	19:35	18:15	21 08:36 (8)	16:05
16	04:45	05:42	06:44	07:45	08:17 (8)	07:52
	21:53	20:53	19:32	18:12	17 08:34 (8)	16:04
17	04:46	05:44	06:46	07:47	08:19 (8)	07:54
	21:52	20:50	19:29	18:10	13 08:32 (8)	16:02
18	04:48	05:46	06:48	07:49	08:22 (8)	07:56
	21:50	20:48	19:27	18:07	8 08:30 (8)	16:00
19	04:49	05:48	06:50	07:51		07:58
	21:49	20:45	19:24	18:05		15:58
20	04:51	05:50	06:52	07:53		08:00
	21:47	20:43	19:21	18:02		15:57
21	04:53	05:52	06:54	07:56		08:02
	21:46	20:40	19:19	18:00		15:55
22	04:54	05:54	06:56	07:58		08:04
	21:44	20:38	19:16	17:57		15:54
23	04:56	05:56	06:58	08:00		08:06
	21:43	20:35	19:13	17:55		15:52
24	04:58	05:58	07:00	08:02		08:08
	21:41	20:33	19:10	17:53		15:51
25	04:59	06:00	07:02	08:04		08:10
	21:39	20:30	19:08	17:50		15:49
26	05:01	06:02	07:04	07:06		08:12
	21:37	20:28	19:05	16:48		15:48
27	05:03	06:04	07:06	07:09		08:14
	21:36	20:25	19:02	16:45		15:47
28	05:05	06:06	07:08	07:11		08:16
	21:34	20:23	19:00	16:43		15:46
29	05:07	06:08	07:10	07:13		08:18
	21:32	20:20	18:57	16:41		15:45
30	05:09	06:10	07:12	07:15		08:19
	21:30	20:17	18:54	16:38		15:43
31	05:10	06:12		07:17		
	21:28	20:15		16:36		
Potential sun hours	530	470	385	324	248	216
Total, worst case				356	200	30
Sun reduction				0,27	0,09	0,09
Oper. time red.				0,94	0,94	0,94
Wind dir. red.				0,62	0,59	0,59
Total reduction				0,16	0,05	0,05
Total, real				56	10	1

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AI - Birznieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	08:13	08:48 (15)	07:09	08:00 (8)	06:47
	15:45	16:42	22 09:10 (15)	17:44	18 08:18 (8)	19:50
2	08:48	08:11	08:47 (15)	07:06	08:01 (8)	06:44
	15:46	16:44	24 09:11 (15)	17:46	14 08:15 (8)	19:52
3	08:48	08:09	08:47 (15)	07:04	08:04 (8)	06:41
	15:47	16:46	26 09:13 (15)	17:49	8 08:12 (8)	19:54
4	08:47	09:29 (7)	08:07	08:45 (15)	07:01	06:39
	15:49	1 09:30 (7)	16:48	28 09:13 (15)	17:51	19:56
5	08:47	09:28 (7)	08:05	08:45 (15)	06:59	06:36
	15:50	1 09:29 (7)	16:51	16 09:14 (15)	17:53	19:58
6	08:46	09:27 (7)	08:03	09:02 (15)	06:56	06:33
	15:51	2 09:29 (7)	16:53	12 09:14 (15)	17:55	20:00
7	08:46	09:26 (7)	08:01	09:04 (15)	06:53	06:31
	15:53	3 09:29 (7)	16:55	11 09:15 (15)	17:57	20:02
8	08:45	09:25 (7)	07:59	09:05 (15)	06:51	06:28
	15:55	3 09:28 (7)	16:57	10 09:15 (15)	17:59	20:04
9	08:45	09:24 (7)	07:56	09:07 (15)	06:48	06:26
	15:56	4 09:28 (7)	17:00	8 09:15 (15)	18:01	20:06
10	08:44	09:25 (7)	07:54	09:09 (15)	06:46	06:23
	15:58	3 09:28 (7)	17:02	7 09:16 (15)	18:04	20:08
11	08:43	09:25 (7)	07:52	09:09 (15)	06:43	06:20
	15:59	3 09:28 (7)	17:04	6 09:15 (15)	18:06	20:11
12	08:42	09:25 (7)	07:50	09:10 (15)	06:40	06:18
	16:01	4 09:29 (7)	17:06	5 09:15 (15)	18:08	20:13
13	08:41	09:26 (7)	07:48	09:10 (15)	06:38	06:15
	16:03	3 09:29 (7)	17:09	4 09:14 (15)	18:10	20:15
14	08:40	09:25 (7)	07:45	09:11 (15)	06:35	06:12
	16:05	3 09:28 (7)	17:11	3 09:14 (15)	18:12	20:17
15	08:39	09:26 (7)	07:43	09:11 (15)	06:32	06:10
	16:07	3 09:29 (7)	17:13	2 09:13 (15)	18:14	20:19
16	08:38	09:27 (7)	07:41	08:11 (8)	06:30	06:07
	16:08	2 09:29 (7)	17:15	2 08:13 (8)	18:16	20:21
17	08:37	09:26 (7)	07:38	08:09 (8)	06:27	06:05
	16:10	3 09:29 (7)	17:18	8 08:17 (8)	18:18	20:23
18	08:35	09:27 (7)	07:36	08:06 (8)	06:24	06:02
	16:12	1 09:28 (7)	17:20	12 08:18 (8)	18:21	20:25
19	08:34	09:27 (7)	07:34	08:04 (8)	06:22	06:00
	16:14	2 09:29 (7)	17:22	16 08:20 (8)	18:23	20:27
20	08:33	09:27 (7)	07:31	08:01 (8)	06:19	05:57
	16:16	2 09:29 (7)	17:24	19 08:20 (8)	18:25	20:29
21	08:31	09:29 (7)	07:29	07:58 (8)	06:16	05:55
	16:18	1 09:30 (7)	17:27	22 08:20 (8)	18:27	20:31
22	08:30	09:29 (7)	07:26	07:58 (8)	06:14	05:52
	16:20	1 09:30 (7)	17:29	23 08:21 (8)	18:29	20:34
23	08:28		07:24	07:57 (8)	06:11	05:50
	16:22		17:31	24 08:21 (8)	18:31	20:36
24	08:27		07:21	07:58 (8)	06:08	05:47
	16:24		17:33	24 08:22 (8)	18:33	20:38
25	08:25		07:19	07:57 (8)	06:06	05:45
	16:27		17:35	24 08:21 (8)	18:35	20:40
26	08:23		07:16	07:57 (8)	06:03	05:42
	16:29		17:38	23 08:20 (8)	18:37	20:42
27	08:22		07:14	07:58 (8)	06:00	05:40
	16:31		17:40	22 08:20 (8)	18:39	20:44
28	08:20	08:55 (15)	07:11	07:59 (8)	05:58	05:37
	16:33	6 09:01 (15)	17:42	19 08:18 (8)	18:41	20:46
29	08:18	08:52 (15)			05:55	05:35
	16:35	12 09:04 (15)			18:44	20:48
30	08:16	08:50 (15)			06:52	05:33
	16:37	17 09:07 (15)			19:46	20:50
31	08:15	08:49 (15)			06:49	
	16:40	20 09:09 (15)			19:48	
Potential sun hours	235	265	365	425	507	529
Total, worst case	100	422	40			
Sun reduction	0,15	0,24	0,39			
Oper. time red.	0,94	0,94	0,94			
Wind dir. red.	0,59	0,61	0,62			
Total reduction	0,09	0,14	0,23			
Total, real	9	58	9			

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

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

Calculation: Real Case Curtailment Shadow receptor: AI - Birznieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	08:38 (15) 08:21 09:07 (7)
	22:07	21:26	20:12	18:52	16:34 6 08:44 (15) 15:42 3 09:10 (7)	
2	04:28	05:14	06:16	07:16	07:22	08:38 (15) 08:23 09:07 (7)
	22:06	21:24	20:10	18:49	16:32 7 08:45 (15) 15:41 4 09:11 (7)	
3	04:29	05:16	06:18	07:18	07:24	08:36 (15) 08:25 09:08 (7)
	22:06	21:22	20:07	18:46	16:29 9 08:45 (15) 15:41 4 09:12 (7)	
4	04:30	05:18	06:20	07:20	07:26	08:34 (15) 08:26 09:09 (7)
	22:05	21:20	20:04	18:44	16:27 10 08:44 (15) 15:40 4 09:13 (7)	
5	04:30	05:20	06:22	07:22	07:28	08:33 (15) 08:28 09:11 (7)
	22:04	21:18	20:02	18:41	16:25 12 08:45 (15) 15:39 3 09:14 (7)	
6	04:32	05:22	06:24	07:24	07:30	08:30 (15) 08:29 09:12 (7)
	22:04	21:15	19:59	18:38	16:23 14 08:44 (15) 15:38 2 09:14 (7)	
7	04:33	05:24	06:26	07:26	07:32	08:16 (15) 08:31 09:14 (7)
	22:03	21:13	19:56	18:36	16:21 20 08:44 (15) 15:38 2 09:16 (7)	
8	04:34	05:26	06:28	07:28	07:35	08:16 (15) 08:32 09:16 (7)
	22:02	21:11	19:54	18:33	16:19 27 08:43 (15) 15:37 1 09:17 (7)	
9	04:35	05:28	06:30	07:30	07:37	08:17 (15) 08:34 09:17 (7)
	22:01	21:09	19:51	18:30	16:17 25 08:42 (15) 15:36 1 09:18 (7)	
10	04:36	05:30	06:32	07:33	07:39	08:18 (15) 08:35 09:18 (7)
	22:00	21:07	19:48	18:28	16:15 24 08:42 (15) 15:36 08:36	
11	04:37	05:32	06:34	07:35	08:38 (8) 07:41	08:19 (15) 08:36 08:36
	21:59	21:04	19:46	18:25 8	08:46 (8) 16:13 21 08:40 (15) 15:36 08:38	
12	04:39	05:34	06:36	07:37	08:35 (8) 07:43	08:21 (15) 08:38 08:38
	21:58	21:02	19:43	18:23 14	08:49 (8) 16:11 19 08:40 (15) 15:35 08:39	
13	04:40	05:36	06:38	07:39	08:33 (8) 07:45	08:23 (15) 08:39 08:39
	21:57	21:00	19:40	18:20 17	08:50 (8) 16:09 15 08:38 (15) 15:35 08:40	
14	04:42	05:38	06:40	07:41	08:32 (8) 07:48	08:25 (15) 08:40 08:40
	21:56	20:57	19:38	18:18 20	08:52 (8) 16:07 10 08:35 (15) 15:35 08:41	
15	04:43	05:40	06:42	07:43	08:31 (8) 07:50	08:26 (15) 08:41 08:41
	21:55	20:55	19:35	18:15 21	08:52 (8) 16:05 08:30 (8) 07:52 15:35 08:42	
16	04:45	05:42	06:44	07:45	08:30 (8) 07:52	08:27 (15) 08:42 08:42
	21:53	20:53	19:32	18:12 22	08:52 (8) 16:04 08:29 (8) 07:54 15:35 08:43	
17	04:46	05:44	06:46	07:47	08:29 (8) 07:54	08:28 (15) 08:43 08:43
	21:52	20:50	19:29	18:10 23	08:52 (8) 16:02 08:29 (8) 07:56 15:35 08:44	
18	04:48	05:46	06:48	07:49	08:29 (8) 07:56	08:26 (15) 08:44 08:44
	21:50	20:48	19:27	18:07 24	08:53 (8) 16:00 08:29 (8) 07:58 15:35 08:44	
19	04:49	05:48	06:50	07:51	08:29 (8) 07:58	08:28 (15) 08:44 08:44
	21:49	20:45	19:24	18:05 24	08:53 (8) 15:58 08:29 (8) 08:00 15:35 08:45	
20	04:51	05:50	06:52	07:54	08:29 (8) 08:00	09:04 (7) 08:45 09:29 (7)
	21:47	20:43	19:21	18:02 23	08:52 (8) 15:57 1 09:05 (7) 15:36 1 09:30 (7)	
21	04:52	05:52	06:54	07:56	08:29 (8) 08:02	09:04 (7) 08:46 09:30 (7)
	21:46	20:40	19:19	18:00 22	08:51 (8) 15:55 1 09:05 (7) 15:36 1 09:31 (7)	
22	04:54	05:54	06:56	07:58	08:31 (8) 08:04	09:04 (7) 08:46 09:30 (7)
	21:44	20:38	19:16	17:57 20	08:51 (8) 15:54 1 09:05 (7) 15:36 1 09:31 (7)	
23	04:56	05:56	06:58	08:00	08:33 (8) 08:06	09:04 (7) 08:47 09:31 (7)
	21:43	20:35	19:13	17:55 17	08:50 (8) 15:52 1 09:05 (7) 15:37 1 09:32 (7)	
24	04:58	05:58	07:00	08:02	08:35 (8) 08:08	09:05 (7) 08:47 09:31 (7)
	21:41	20:33	19:11	17:53 13	08:48 (8) 15:51 1 09:06 (7) 15:37 1 09:32 (7)	
25	04:59	06:00	07:02	08:04	08:38 (8) 08:10	09:05 (7) 08:48 08:48
	21:39	20:30	19:08	17:50 9	08:47 (8) 15:49 2 09:07 (7) 15:38 08:48	
26	05:01	06:02	07:04	07:06	07:40 (8) 08:12	09:05 (7) 08:48 08:48
	21:37	20:28	19:05	16:48 4	07:44 (8) 15:48 2 09:07 (7) 15:39 08:48	
27	05:03	06:04	07:06	07:09	08:41 (15) 08:14	09:05 (7) 08:48 08:48
	21:36	20:25	19:02	16:45 1	08:42 (15) 15:47 3 09:08 (7) 15:40 08:48	
28	05:05	06:06	07:08	07:11	08:41 (15) 08:16	09:05 (7) 08:48 08:48
	21:34	20:23	19:00	16:43 2	08:43 (15) 15:46 3 09:08 (7) 15:40 08:48	
29	05:07	06:08	07:10	07:13	08:41 (15) 08:18	09:06 (7) 08:48 08:48
	21:32	20:20	18:57	16:41 3	08:44 (15) 15:45 3 09:09 (7) 15:41 08:48	
30	05:09	06:10	07:12	07:15	08:39 (15) 08:19	09:06 (7) 08:48 08:48
	21:30	20:17	18:54	16:38 5	08:44 (15) 15:43 3 09:09 (7) 15:42 08:48	
31	05:10	06:12	07:17	07:17	08:39 (15) 08:19	09:09 (7) 15:42 08:48
	21:28	20:15	16:36 6	08:45 (15) 15:43 216		
Potential sun hours	530	470	385	324	248	216
Total, worst case				298	240	29
Sun reduction				0,27	0,09	0,09
Oper. time red.				0,94	0,94	0,94
Wind dir. red.				0,62	0,59	0,60
Total reduction				0,16	0,05	0,05
Total, real				47	12	1

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AJ - Irbites

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:42
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:41
3	08:48 15:47	08:09 16:46	07:04 17:49	06:41 19:54	05:26 20:56	04:31 21:53	04:29 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:25 15:41
4	08:47 15:49	08:07 16:48	07:01 17:51	06:39 19:56	05:23 20:59	04:30 21:54	04:29 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:21 21:01	04:29 21:55	04:30 22:05	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:47 15:51	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:03	04:28 21:56	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:58	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	08:45 15:54	07:59 16:57	06:51 17:59	06:28 20:04	05:15 21:07	04:26 21:59	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 16:19	08:32 15:37
9	08:45 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:12 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:34 15:36
10	08:44 15:58	07:54 17:02	06:46 18:04	06:23 20:09	05:10 21:11	04:25 22:01	04:36 22:00	05:30 21:07	06:32 19:48	07:33 18:28	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:11	05:08 21:13	04:25 22:02	04:37 21:59	05:32 21:04	06:34 19:46	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:03	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:35
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:04 21:17	04:24 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:05	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:19	04:23 22:04	04:42 21:56	05:38 20:57	06:40 19:38	07:41 18:18	07:48 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:21	04:23 22:05	04:43 21:55	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:08	07:41 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:23 22:05	04:44 21:53	05:42 20:53	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	08:37 16:10	07:38 17:18	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:21	06:02 20:25	04:55 21:26	04:22 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	08:34 16:14	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:45 15:35
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:54 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31	04:49 21:32	04:22 22:08	04:52 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:34	04:22 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:06 18:35	05:45 20:40	04:43 21:39	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	08:24 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:36	06:04 20:25	07:06 19:02	07:09 16:45	08:14 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:40
29	08:18 16:35		05:55 18:44	05:35 20:48	04:37 21:45	04:25 22:08	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:49 15:41
30	08:16 16:37		06:52 19:46	05:33 20:50	04:36 21:47	04:26 22:07	05:09 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:49 15:42
31	08:15 16:40		06:49 19:48		04:34 21:48		05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: AK - Ruki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	08:13	09:22 (7)	07:09	07:39 (8)	06:47
	15:45	16:42	15	09:37 (7)	17:44	23
2	08:48	08:11	09:23 (7)	07:06	07:38 (8)	06:44
	15:46	16:44	16	09:39 (7)	17:46	24
3	08:48	08:09	09:25 (7)	07:04	07:37 (8)	06:41
	15:47	16:46	16	09:41 (7)	17:49	25
4	08:47	08:07	09:26 (7)	07:01	07:37 (8)	06:39
	15:49	16:48	15	09:41 (7)	17:51	26
5	08:47	08:05	09:29 (7)	06:59	07:36 (8)	06:36
	15:50	16:51	10	09:39 (7)	17:53	26
6	08:46	08:03	09:30 (7)	06:56	07:36 (8)	06:33
	15:52	16:53	25	08:01 (8)	20:00	21:03
7	08:46	09:26 (7)	08:01	06:53	07:37 (8)	06:31
	15:53	1	09:27 (7)	16:55	17:57	25
8	08:45	09:25 (7)	07:59	06:51	07:37 (8)	06:28
	15:55	3	09:28 (7)	16:57	17:59	23
9	08:44	09:24 (7)	07:56	06:48	07:37 (8)	06:26
	15:56	4	09:28 (7)	17:00	18:01	22
10	08:44	09:23 (7)	07:54	06:46	07:39 (8)	06:23
	15:58	5	09:28 (7)	17:02	18:04	19
11	08:43	09:22 (7)	07:52	06:43	07:40 (8)	06:20
	15:59	6	09:28 (7)	17:04	18:06	16
12	08:42	09:21 (7)	07:50	06:40	07:42 (8)	06:18
	16:01	8	09:29 (7)	17:06	18:08	11
13	08:41	09:20 (7)	07:48	06:38	06:15	05:04
	16:03	9	09:29 (7)	17:09	18:10	20:15
14	08:40	09:18 (7)	07:45	06:35	06:12	05:02
	16:05	10	09:28 (7)	17:11	18:12	20:17
15	08:39	09:18 (7)	07:43	06:32	06:10	05:00
	16:07	11	09:29 (7)	17:13	18:14	20:19
16	08:38	09:18 (7)	07:41	06:30	06:07	04:58
	16:08	11	09:29 (7)	17:15	18:16	20:21
17	08:37	09:17 (7)	07:38	06:27	06:05	04:56
	16:10	12	09:29 (7)	17:18	18:18	20:23
18	08:35	09:18 (7)	07:36	06:24	06:02	04:55
	16:12	10	09:28 (7)	17:20	18:21	20:25
19	08:34	09:17 (7)	07:34	06:22	06:00	04:53
	16:14	12	09:29 (7)	17:22	18:23	20:27
20	08:33	09:17 (7)	07:31	06:19	05:57	04:51
	16:16	12	09:29 (7)	17:24	18:25	20:29
21	08:31	09:18 (7)	07:29	06:16	05:55	04:49
	16:18	12	09:30 (7)	17:27	18:27	20:31
22	08:30	09:18 (7)	07:26	06:14	05:52	04:48
	16:20	12	09:30 (7)	17:29	18:29	20:34
23	08:28	09:18 (7)	07:24	06:11	05:50	04:46
	16:22	12	09:30 (7)	17:31	18:31	20:36
24	08:27	09:18 (7)	07:21	06:08	05:47	04:44
	16:24	12	09:30 (7)	17:33	18:33	20:38
25	08:25	09:18 (7)	07:19	06:06	05:45	04:43
	16:27	13	09:31 (7)	17:35	8	07:56 (8)
26	08:23	09:18 (7)	07:16	06:03	05:42	04:41
	16:29	13	09:31 (7)	17:38	13	07:58 (8)
27	08:22	09:18 (7)	07:14	06:00	05:40	04:40
	16:31	14	09:32 (7)	17:40	17	08:00 (8)
28	08:20	09:19 (7)	07:11	05:58	05:37	04:38
	16:33	13	09:32 (7)	17:42	21	08:01 (8)
29	08:18	09:19 (7)		05:55	05:35	04:37
	16:35	14	09:33 (7)		20:48	21:45
30	08:16	09:20 (7)		06:52	05:33	04:36
	16:37	14	09:34 (7)		20:50	21:47
31	08:15	09:21 (7)		06:49		04:35
	16:40	14	09:35 (7)			21:48
Potential sun hours	235	265	365	425	507	529
Total, worst case	257	131	265			
Sun reduction	0,15	0,24	0,39			
Oper. time red.	0,94	0,94	0,94			
Wind dir. red.	0,59	0,60	0,62			
Total reduction	0,09	0,14	0,23			
Total, real	22	18	60			

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

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

Calculation: Real Case Curtailment Shadow receptor: AK - Ruki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	08:21
	22:07	21:26	20:12	18:52	16:34	15:42
2	04:28	05:14	06:16	07:16	08:20 (8)	07:22
	22:06	21:24	20:10	18:49	12	15:41
3	04:29	05:16	06:18	07:18	08:18 (8)	07:24
	22:06	21:22	20:07	18:46	16	15:41
4	04:30	05:18	06:20	07:20	08:16 (8)	07:26
	22:05	21:20	20:04	18:44	19	15:40
5	04:31	05:20	06:22	07:22	08:14 (8)	07:28
	22:04	21:18	20:02	18:41	22	15:39
6	04:32	05:22	06:24	07:24	08:13 (8)	07:30
	22:04	21:15	19:59	18:38	23	15:38
7	04:33	05:24	06:26	07:26	08:12 (8)	07:32
	22:03	21:13	19:56	18:36	25	15:38
8	04:34	05:26	06:28	07:28	08:12 (8)	07:35
	22:02	21:11	19:54	18:33	26	15:37
9	04:35	05:28	06:30	07:30	08:12 (8)	07:37
	22:01	21:09	19:51	18:30	25	15:37
10	04:36	05:30	06:32	07:33	08:11 (8)	07:39
	22:00	21:07	19:48	18:28	26	15:36
11	04:37	05:32	06:34	07:35	08:11 (8)	07:41
	21:59	21:04	19:46	18:25	25	15:36
12	04:39	05:34	06:36	07:37	08:11 (8)	07:43
	21:58	21:02	19:43	18:23	25	15:35
13	04:40	05:36	06:38	07:39	08:11 (8)	07:45
	21:57	21:00	19:40	18:20	23	15:35
14	04:42	05:38	06:40	07:41	08:13 (8)	07:48
	21:56	20:57	19:37	18:18	21	15:35
15	04:43	05:40	06:42	07:43	08:15 (8)	07:50
	21:54	20:55	19:35	18:15	18	15:35
16	04:45	05:42	06:44	07:45	08:17 (8)	07:52
	21:53	20:53	19:32	18:12	14	15:35
17	04:46	05:44	06:46	07:47	08:19 (8)	07:54
	21:52	20:50	19:29	18:10	9	15:35
18	04:48	05:46	06:48	07:49	08:22 (8)	07:56
	21:50	20:48	19:27	18:07	2	15:35
19	04:49	05:48	06:50	07:51	07:58	08:52 (7)
	21:49	20:45	19:24	18:05	12	15:35
20	04:51	05:50	06:52	07:54	08:00	08:53 (7)
	21:47	20:43	19:21	18:02	12	15:36
21	04:53	05:52	06:54	07:56	08:02	08:53 (7)
	21:46	20:40	19:19	18:00	12	15:36
22	04:54	05:54	06:56	07:58	08:04	08:53 (7)
	21:44	20:38	19:16	17:57	12	15:36
23	04:56	05:56	06:58	08:00	08:06	08:53 (7)
	21:43	20:35	19:13	17:55	12	15:37
24	04:58	05:58	07:00	08:02	08:08	08:55 (7)
	21:41	20:33	19:11	17:53	11	15:37
25	04:59	06:00	07:02	08:04	08:10	08:55 (7)
	21:39	20:30	19:08	17:50	12	15:38
26	05:01	06:02	07:04	07:06	08:12	08:56 (7)
	21:37	20:28	19:05	16:48	11	15:39
27	05:03	06:04	07:06	07:09	08:14	08:57 (7)
	21:36	20:25	19:02	16:45	11	15:40
28	05:05	06:06	07:08	07:11	08:16	08:57 (7)
	21:34	20:23	19:00	16:43	11	15:40
29	05:07	06:08	07:10	07:13	08:18	08:59 (7)
	21:32	20:20	18:57	16:41	10	15:41
30	05:09	06:10	07:12	07:15	08:19	09:01 (7)
	21:30	20:17	18:54	16:38	8	15:42
31	05:10	06:12		07:17		08:48
	21:28	20:15		16:36		15:43
Potential sun hours	530	470	385	324	248	216
Total, worst case				331	311	25
Sun reduction				0,27	0,09	0,09
Oper. time red.				0,94	0,94	0,94
Wind dir. red.				0,62	0,59	0,59
Total reduction				0,16	0,05	0,05
Total, real				52	16	1

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

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

Calculation: Real Case Curtailment Shadow receptor: AL - Vipmali

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	11:14 (1)	08:13	07:09	06:47	07:23 (18)
	15:45	13	11:27 (1)	16:42	17:44	21:50
2	08:48	11:16 (1)	08:11	07:06	06:44	07:23 (18)
	15:46	11	11:27 (1)	16:44	17:46	21:51
3	08:48	11:17 (1)	08:09	07:04	06:42	07:23 (18)
	15:48	8	11:25 (1)	16:46	17:49	21:52
4	08:47	11:21 (1)	08:07	07:01	06:39	07:23 (18)
	15:49	2	11:23 (1)	16:49	17:51	21:54
5	08:47		08:05	06:59	06:36	07:24 (18)
	15:50		16:51	17:53	19:58	21:01
6	08:46		08:03	06:56	06:34	07:24 (18)
	15:52		16:53	17:55	20:00	21:03
7	08:46		08:01	06:53	06:31	07:25 (18)
	15:53		16:55	17:57	20:02	21:05
8	08:45		07:59	06:51	06:28	07:26 (18)
	15:55		16:58	17:59	20:04	21:07
9	08:44		07:56	06:48	06:26	07:28 (18)
	15:56		17:00	18:02	20:06	21:09
10	08:44		07:54	06:46	06:23	05:11
	15:58		17:02	18:04	20:09	21:11
11	08:43		07:52	06:43	06:20	05:08
	16:00		17:04	18:06	20:11	21:13
12	08:42		07:50	06:40	06:18	05:06
	16:01		17:07	18:08	20:13	21:15
13	08:41		07:48	06:38	06:15	05:04
	16:03		17:09	18:10	20:15	21:17
14	08:40		07:45	06:35	06:13	05:02
	16:05		17:11	18:12	20:17	21:19
15	08:39		07:43	06:32	06:10	05:00
	16:07		17:13	18:14	20:19	21:20
16	08:38		07:41	06:30	06:07	04:59
	16:09		17:15	18:16	20:21	21:22
17	08:37		07:38	06:27	06:05	04:57
	16:10		17:18	18:18	20:23	21:24
18	08:35		07:36	06:24	06:02	04:55
	16:12		17:20	18:21	20:25	21:26
19	08:34		07:34	06:22	06:00	04:53
	16:14		17:22	18:23	20:27	21:28
20	08:33		07:31	06:19	05:57	04:51
	16:16		17:24	18:25	20:29	21:30
21	08:31		07:29	06:16	05:55	04:49
	16:18		17:27	18:27	20:31	21:32
22	08:30		07:26	06:14	05:52	04:48
	16:20		17:29	18:29	20:34	21:34
23	08:28		07:24	06:11	05:50	04:46
	16:22		17:31	18:31	20:36	21:35
24	08:27		07:21	06:08	06:36 (18)	05:47
	16:25		17:33	18:33	20:38	21:37
25	08:25		07:19	06:06	06:33 (18)	05:45
	16:27		17:35	18:35	20:40	21:39
26	08:23		07:16	06:03	06:30 (18)	05:42
	16:29		17:38	18:37	20:42	21:40
27	08:22		07:14	06:00	06:28 (18)	05:40
	16:31		17:40	18:39	20:44	21:42
28	08:20		07:11	05:58	06:26 (18)	05:38
	16:33		17:42	18:41	20:46	21:44
29	08:18			05:55	06:25 (18)	05:35
	16:35			18:44	20:48	21:45
30	08:16			06:52	07:25 (18)	05:33
	16:37			19:46	20:50	21:47
31	08:15			06:50	07:24 (18)	05:35
	16:40			19:48	21:48	
Potential sun hours	235	265	365	425	507	529
Total, worst case	34		170	202		
Sun reduction	0,15		0,39	0,48		
Oper. time red.	0,94		0,94	0,94		
Wind dir. red.	0,61		0,66	0,66		
Total reduction	0,09		0,24	0,30		
Total, real	3		41	60		

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

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

Calculation: Real Case Curtailment Shadow receptor: AL - Vipmali

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:13	06:14	07:14	07:19	08:21
	22:07	21:26	20:12	18:52	16:34	15:43
2	04:28	05:14	06:16	07:16	07:22	08:23
	22:06	21:24	20:10	18:49	16:32	15:42
3	04:29	05:16	06:18	07:29 (18)	07:18	08:25
	22:06	21:22	20:07	07:36 (18)	18:46	16:30
4	04:30	05:18	06:20	07:25 (18)	07:20	08:26
	22:05	21:20	20:04	07:39 (18)	18:44	16:27
5	04:31	05:20	06:22	07:23 (18)	07:22	08:28
	22:04	21:18	20:02	07:41 (18)	18:41	16:25
6	04:32	05:22	06:24	07:21 (18)	07:24	08:29
	22:04	21:15	19:59	07:42 (18)	18:38	16:23
7	04:33	05:24	06:26	07:20 (18)	07:26	08:31
	22:03	21:13	19:56	07:43 (18)	18:36	16:21
8	04:34	05:26	06:28	07:19 (18)	07:28	08:32
	22:02	21:11	19:54	07:44 (18)	18:33	16:19
9	04:35	05:28	06:30	07:17 (18)	07:31	08:34
	22:01	21:09	19:51	07:43 (18)	18:31	16:17
10	04:36	05:30	06:32	07:16 (18)	07:33	08:35
	22:00	21:07	19:48	07:43 (18)	18:28	16:15
11	04:38	05:32	06:34	07:15 (18)	07:35	08:36
	21:59	21:04	19:46	07:43 (18)	18:25	16:13
12	04:39	05:34	06:36	07:15 (18)	07:37	08:38
	21:58	21:02	19:43	07:43 (18)	18:23	16:11
13	04:40	05:36	06:38	07:15 (18)	07:39	08:39
	21:57	21:00	19:40	07:42 (18)	18:20	16:09
14	04:42	05:38	06:40	07:15 (18)	07:41	08:40
	21:56	20:57	19:38	07:42 (18)	18:18	16:07
15	04:43	05:40	06:42	07:15 (18)	07:43	08:41
	21:54	20:55	19:35	07:41 (18)	18:15	16:05
16	04:45	05:42	06:44	07:16 (18)	07:45	08:42
	21:53	20:53	19:32	07:40 (18)	18:13	16:04
17	04:46	05:44	06:46	07:17 (18)	07:47	08:43
	21:52	20:50	19:29	07:39 (18)	18:10	16:02
18	04:48	05:46	06:48	07:19 (18)	07:49	08:44
	21:50	20:48	19:27	07:37 (18)	18:07	16:00
19	04:49	05:48	06:50	07:21 (18)	07:51	08:44
	21:49	20:45	19:24	07:35 (18)	18:05	15:59
20	04:51	05:50	06:52	07:23 (18)	07:54	08:45
	21:47	20:43	19:21	07:32 (18)	18:02	15:57
21	04:53	05:52	06:54		07:56	08:02
	21:46	20:40	19:19		18:00	15:55
22	04:54	05:54	06:56		07:58	08:04
	21:44	20:38	19:16		17:58	15:54
23	04:56	05:56	06:58		08:00	08:06
	21:43	20:35	19:13		17:55	15:52
24	04:58	05:58	07:00		08:02	08:08
	21:41	20:33	19:11		17:53	15:51
25	05:00	06:00	07:02		08:04	08:10
	21:39	20:30	19:08		17:50	15:50
26	05:01	06:02	07:04		07:06	08:12
	21:37	20:28	19:05		16:48	15:48
27	05:03	06:04	07:06		07:09	08:14
	21:36	20:25	19:02		16:46	15:47
28	05:05	06:06	07:08		07:11	08:16
	21:34	20:23	19:00		16:43	15:46
29	05:07	06:08	07:10		07:13	08:18
	21:32	20:20	18:57		16:41	15:45
30	05:09	06:10	07:12		07:15	08:19
	21:30	20:17	18:54		16:39	15:44
31	05:11	06:12			07:17	
	21:28	20:15			16:36	
Potential sun hours	530	470	385	324	248	216
Total, worst case			384			364
Sun reduction			0,43			0,09
Oper. time red.			0,94			0,94
Wind dir. red.			0,66			0,61
Total reduction			0,26			0,05
Total, real			101			18

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AM - Galvani 1

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:20	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:46	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:31	04:29	05:16	06:18	07:18	07:24	08:25
	15:48	16:46	17:49	19:54	20:57	21:53	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:29	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:16	19:59	18:39	16:23	15:39
7	08:46	08:01	06:54	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:33	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:29	07:35	08:32
	15:55	16:58	18:00	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:45	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:34
	15:56	17:00	18:02	20:07	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:13	22:02	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:24	04:39	05:34	06:36	07:37	07:43	08:38
	16:01	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:21	22:05	21:55	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:35
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:52	07:58	08:44
	16:14	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:16	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:32	21:32	22:08	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:22	06:08	05:47	04:45	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:38
26	08:24	07:17	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:07	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:40	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:12	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:18	08:49
	16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:17		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:49
	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	529	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: AN - Pludmales 1

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	08:13	07:09	06:47	07:14 (21)	05:31
	15:45	16:42	17:44	19:50	08:05 (2)	20:52
2	08:48	08:11	07:06	06:44	07:12 (21)	05:28
	15:46	16:44	17:46	19:52	08:01 (2)	20:54
3	08:48	08:09	07:04	06:42	07:09 (21)	05:26
	15:48	16:46	17:49	19:54	07:24 (21)	20:56
4	08:47	08:07	07:01	06:39	07:06 (21)	05:24
	15:49	16:49	17:51	19:56	07:24 (21)	20:58
5	08:47	08:05	06:59	06:36	07:04 (21)	05:21
	15:50	16:51	17:53	19:58	07:25 (21)	21:00
6	08:46	08:03	06:56	06:34	07:02 (21)	05:19
	15:52	16:53	17:55	20:00	07:25 (21)	21:03
7	08:46	08:01	06:53	06:31	07:02 (21)	05:17
	15:53	16:55	17:57	20:02	07:25 (21)	21:05
8	08:45	07:58	06:51	06:28	07:01 (21)	05:15
	15:55	16:58	17:59	20:04	07:25 (21)	21:07
9	08:44	07:56	06:48	06:26	07:01 (21)	05:13
	15:56	17:00	18:02	20:06	07:24 (21)	21:09
10	08:44	07:54	06:46	06:23	07:02 (21)	05:11
	15:58	17:02	18:04	20:09	07:24 (21)	21:11
11	08:43	07:52	06:43	06:20	07:01 (21)	05:09
	16:00	17:04	18:06	20:11	07:22 (21)	21:13
12	08:42	07:50	06:40	06:18	07:02 (21)	05:07
	16:01	17:07	18:08	20:13	07:22 (21)	21:15
13	08:41	07:48	06:38	06:15	07:03 (21)	05:04
	16:03	17:09	18:10	20:15	07:20 (21)	21:17
14	08:40	07:45	06:35	06:13	07:05 (21)	05:02
	16:05	17:11	18:12	20:17	07:18 (21)	21:18
15	08:39	07:43	06:32	06:10	07:07 (21)	05:01
	16:07	17:13	18:14	20:19	07:15 (21)	21:20
16	08:38	07:41	06:30	06:08		04:59
	16:09	17:16	18:16	11 07:08 (2)		21:22
17	08:36	07:38	06:27	06:05		04:57
	16:11	17:18	18:18	16 07:11 (2)		21:24
18	08:35	07:36	06:24	06:02		04:55
	16:12	17:20	18:21	20 07:12 (2)		21:26
19	08:34	07:34	06:22	06:00		04:53
	16:14	17:22	18:23	23 07:13 (2)		21:28
20	08:33	07:31	06:19	05:57		04:51
	16:16	17:24	18:25	25 07:15 (2)		21:30
21	08:31	07:29	06:16	05:55		04:50
	16:18	17:27	18:27	27 07:15 (2)		21:32
22	08:30	07:26	06:14	05:52		04:48
	16:21	17:29	18:29	28 07:15 (2)		21:33
23	08:28	07:24	06:11	05:50		04:46
	16:23	17:31	18:31	28 07:14 (2)		21:35
24	08:27	07:21	06:08	05:47		04:45
	16:25	17:33	18:33	29 07:15 (2)		21:37
25	08:25	07:19	06:06	05:45		04:43
	16:27	17:36	18:35	28 07:14 (2)		21:39
26	08:23	07:16	06:03	05:42		04:42
	16:29	17:38	18:37	28 07:13 (2)		21:40
27	08:22	07:14	06:00	05:40		04:40
	16:31	17:40	18:39	27 07:13 (2)		21:42
28	08:20	07:11	05:58	05:38		04:39
	16:33	17:42	18:41	26 07:12 (2)		21:44
29	08:18		05:55	05:35		04:37
	16:35		18:44	24 07:10 (2)		21:45
30	08:16		06:52	05:33		04:36
	16:38		19:46	22 08:10 (2)		21:47
31	08:15		06:50	07:49 (2)		04:35
	16:40		19:48	18 08:07 (2)		21:48
Potential sun hours	235	265	365	425	507	528
Total, worst case			380		287	
Sun reduction			0,39		0,48	
Oper. time red.			0,94		0,94	
Wind dir. red.			0,64		0,66	
Total reduction			0,23		0,30	
Total, real			89		86	

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

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

Calculation: Real Case Curtailment Shadow receptor: AN - Pludmales 1

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:13	06:14	07:01 (21)	07:14	07:19
	22:07	21:26	20:12	07:21 (21)	18:52	16:34
2	04:28	05:15	06:16	07:00 (21)	07:16	07:22
	22:06	21:24	20:10	07:22 (21)	18:49	16:32
3	04:29	05:16	06:18	06:59 (21)	07:18	07:24
	22:06	21:22	20:07	07:22 (21)	18:46	16:30
4	04:30	05:18	06:20	06:59 (21)	07:20	07:26
	22:05	21:20	20:04	07:22 (21)	18:44	16:27
5	04:31	05:20	06:22	06:58 (21)	07:22	07:28
	22:04	21:18	20:02	07:22 (21)	18:41	16:25
6	04:32	05:22	06:24	06:58 (21)	07:24	07:30
	22:04	21:15	19:59	07:21 (21)	18:39	16:23
7	04:33	05:24	06:26	06:58 (21)	07:26	07:32
	22:03	21:13	19:56	07:21 (21)	18:36	16:21
8	04:34	05:26	06:28	07:00 (21)	07:28	07:35
	22:02	21:11	19:54	07:20 (21)	18:33	16:19
9	04:35	05:28	06:30	07:01 (21)	07:30	07:37
	22:01	21:09	19:51	07:18 (21)	18:31	16:17
10	04:37	05:30	06:32	07:03 (21)	07:33	07:39
	22:00	21:06	19:48	07:16 (21)	18:28	16:15
11	04:38	05:32	06:34	07:05 (21)	07:35	07:41
	21:59	21:04	19:46	07:55 (2)	18:25	16:13
12	04:39	05:34	06:36	07:07 (21)	07:37	07:43
	21:58	21:02	19:43	07:58 (2)	18:23	16:11
13	04:40	05:36	06:38	07:39 (2)	07:39	07:45
	21:57	21:00	19:40	07:59 (2)	18:20	16:09
14	04:42	05:38	06:40	07:38 (2)	07:41	07:47
	21:56	20:57	19:38	08:00 (2)	18:18	16:07
15	04:43	05:40	06:42	07:36 (2)	07:43	07:50
	21:54	20:55	19:35	08:01 (2)	18:15	16:06
16	04:45	05:42	06:44	07:35 (2)	07:45	07:52
	21:53	20:52	19:32	08:02 (2)	18:13	16:04
17	04:46	05:44	06:46	07:35 (2)	07:47	07:54
	21:52	20:50	19:29	08:02 (2)	18:10	16:02
18	04:48	05:46	06:48	07:34 (2)	07:49	07:56
	21:50	20:48	19:27	08:02 (2)	18:08	16:00
19	04:50	05:48	06:50	07:33 (2)	07:51	07:58
	21:49	20:45	19:24	08:02 (2)	18:05	15:59
20	04:51	05:50	06:52	07:33 (2)	07:54	08:00
	21:47	20:43	19:21	08:01 (2)	18:03	15:57
21	04:53	05:52	06:54	07:33 (2)	07:56	08:02
	21:46	20:40	19:19	08:01 (2)	18:00	15:56
22	04:54	05:54	06:56	07:33 (2)	07:58	08:04
	21:44	20:38	19:16	08:00 (2)	17:58	15:54
23	04:56	05:56	06:58	07:33 (2)	08:00	08:06
	21:42	20:35	19:13	07:59 (2)	17:55	15:53
24	04:58	05:58	07:00	07:33 (2)	08:02	08:08
	21:41	20:33	19:11	07:58 (2)	17:53	15:51
25	05:00	06:00	07:02	07:34 (2)	08:04	08:10
	21:39	20:30	19:08	07:57 (2)	17:50	15:50
26	05:02	06:02	07:04	07:35 (2)	07:06	08:12
	21:37	20:28	19:05	07:55 (2)	16:48	15:48
27	05:03	06:04	07:06	07:37 (2)	07:09	08:14
	21:35	20:25	19:03	07:53 (2)	16:46	15:47
28	05:05	06:06	07:12 (21)	07:39 (2)	07:11	08:16
	21:34	20:23	19:00	07:50 (2)	16:43	15:46
29	05:07	06:08	07:10 (21)	07:13	08:17	08:48
	21:32	20:20	18:57	16:41	15:45	15:42
30	05:09	06:10	07:12 (21)	07:15	08:19	08:48
	21:30	20:17	18:54	16:39	15:44	15:43
31	05:11	06:12	07:14 (21)	07:17		08:48
	21:28	20:15	18:52	16:36		15:44
Potential sun hours	529	470	385	324	248	216
Total, worst case		46	631			
Sun reduction		0,51	0,43			
Oper. time red.		0,94	0,94			
Wind dir. red.		0,66	0,65			
Total reduction		0,32	0,26			
Total, real		15	165			

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

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

Calculation: Real Case Curtailment Shadow receptor: AO - Pludmales

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	08:13	07:09	06:47	07:14 (21)	05:31
	15:45	16:42	17:44	19:50	08:05 (2)	20:52
2	08:48	08:11	07:06	06:44	07:12 (21)	05:28
	15:46	16:44	17:46	19:52	08:03 (2)	20:54
3	08:48	08:09	07:04	06:42	07:09 (21)	05:26
	15:48	16:46	17:49	19:54	07:22 (21)	20:56
4	08:47	08:07	07:01	06:39	07:06 (21)	05:24
	15:49	16:49	17:51	19:56	07:23 (21)	20:58
5	08:47	08:05	06:59	06:36	07:04 (21)	05:21
	15:50	16:51	17:53	19:58	07:24 (21)	21:00
6	08:46	08:03	06:56	06:34	07:01 (21)	05:19
	15:52	16:53	17:55	20:00	07:24 (21)	21:02
7	08:46	08:01	06:53	06:31	07:01 (21)	05:17
	15:53	16:55	17:57	20:02	07:25 (21)	21:05
8	08:45	07:58	06:51	06:28	07:00 (21)	05:15
	15:55	16:58	17:59	20:04	07:24 (21)	21:07
9	08:44	07:56	06:48	06:26	07:00 (21)	05:13
	15:56	17:00	18:02	20:06	07:23 (21)	21:09
10	08:44	07:54	06:46	06:23	07:00 (21)	05:11
	15:58	17:02	18:04	20:08	07:23 (21)	21:11
11	08:43	07:52	06:43	06:20	07:00 (21)	05:09
	16:00	17:04	18:06	20:11	07:22 (21)	21:13
12	08:42	07:50	06:40	06:18	07:01 (21)	05:06
	16:01	17:07	18:08	20:13	07:21 (21)	21:15
13	08:41	07:48	06:38	06:15	07:01 (21)	05:04
	16:03	17:09	18:10	20:15	07:20 (21)	21:17
14	08:40	07:45	06:35	06:13	07:03 (21)	05:02
	16:05	17:11	18:12	20:17	07:19 (21)	21:18
15	08:39	07:43	06:32	06:10	07:04 (21)	05:01
	16:07	17:13	18:14	20:19	07:16 (21)	21:20
16	08:38	07:41	06:30	06:08	07:08 (21)	04:59
	16:09	17:16	18:16	8 07:06 (2)	07:12 (21)	21:22
17	08:36	07:38	06:27	06:05		04:57
	16:11	17:18	18:18	15 07:10 (2)		21:24
18	08:35	07:36	06:24	06:02		04:55
	16:12	17:20	18:21	19 07:11 (2)		21:26
19	08:34	07:34	06:22	06:00		04:53
	16:14	17:22	18:23	22 07:12 (2)		21:28
20	08:33	07:31	06:19	05:57		04:51
	16:16	17:24	18:25	25 07:14 (2)		21:30
21	08:31	07:29	06:16	05:55		04:50
	16:18	17:27	18:27	26 07:14 (2)		21:32
22	08:30	07:26	06:14	05:52		04:48
	16:21	17:29	18:29	27 07:14 (2)		21:33
23	08:28	07:24	06:11	05:50		04:46
	16:23	17:31	18:31	28 07:14 (2)		21:35
24	08:27	07:21	06:08	05:47		04:45
	16:25	17:33	18:33	28 07:14 (2)		21:37
25	08:25	07:19	06:06	05:45		04:43
	16:27	17:36	18:35	29 07:14 (2)		21:39
26	08:23	07:16	06:03	05:42		04:42
	16:29	17:38	18:37	28 07:13 (2)		21:40
27	08:22	07:14	06:00	05:40		04:40
	16:31	17:40	18:39	28 07:13 (2)		21:42
28	08:20	07:11	05:58	05:38		04:39
	16:33	17:42	18:41	27 07:12 (2)		21:44
29	08:18		05:55	05:35		04:37
	16:35		18:44	25 07:10 (2)		21:45
30	08:16		06:52	05:33		04:36
	16:38		19:46	24 08:10 (2)		21:47
31	08:15		06:50	07:47 (2)		04:35
	16:40		19:48	21 08:08 (2)		21:48
Potential sun hours	235	265	365	425	507	528
Total, worst case			380		302	
Sun reduction			0,39		0,48	
Oper. time red.			0,94		0,94	
Wind dir. red.			0,64		0,66	
Total reduction			0,23		0,30	
Total, real			89		90	

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

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

Calculation: Real Case Curtailment Shadow receptor: AO - Pludmales

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:13	06:14	07:00 (21)	07:14	07:19
	22:07	21:26	20:12	18:52	16:34	15:43
2	04:28	05:15	06:16	06:59 (21)	07:16	07:22
	22:06	21:24	20:10	18:49	16:32	15:42
3	04:29	05:16	06:18	06:58 (21)	07:18	07:24
	22:06	21:22	20:07	18:46	16:30	15:41
4	04:30	05:18	06:20	06:58 (21)	07:20	07:26
	22:05	21:20	20:04	18:44	16:27	15:40
5	04:31	05:20	06:22	06:58 (21)	07:22	07:28
	22:04	21:18	20:02	18:41	16:25	15:39
6	04:32	05:22	06:24	06:58 (21)	07:24	07:30
	22:04	21:15	19:59	18:39	16:23	15:39
7	04:33	05:24	06:26	06:58 (21)	07:26	07:32
	22:03	21:13	19:56	18:36	16:21	15:38
8	04:34	05:26	06:28	07:00 (21)	07:28	07:35
	22:02	21:11	19:54	18:33	16:19	15:37
9	04:35	05:28	06:30	07:01 (21)	07:30	07:37
	22:01	21:09	19:51	18:31	16:17	15:37
10	04:37	05:30	06:32	07:03 (21)	07:33	07:39
	22:00	21:06	19:48	18:28	16:15	15:36
11	04:38	05:32	06:34	07:05 (21)	07:35	07:41
	21:59	21:04	19:46	18:25	16:13	15:36
12	04:39	05:34	06:36	07:07 (21)	07:37	07:43
	21:58	21:02	19:43	18:23	16:11	15:36
13	04:40	05:36	06:38	07:38 (2)	07:39	07:45
	21:57	21:00	19:40	18:20	16:09	15:35
14	04:42	05:38	06:40	07:37 (2)	07:41	07:47
	21:56	20:57	19:38	18:18	16:07	15:35
15	04:43	05:40	06:42	07:35 (2)	07:43	07:50
	21:54	20:55	19:35	18:15	16:06	15:35
16	04:45	05:42	06:44	07:34 (2)	07:45	07:52
	21:53	20:52	19:32	18:13	16:04	15:35
17	04:46	05:44	06:46	07:34 (2)	07:47	07:54
	21:52	20:50	19:29	18:10	16:02	15:35
18	04:48	05:46	06:48	07:33 (2)	07:49	07:56
	21:50	20:48	19:27	18:08	16:00	15:35
19	04:50	05:48	06:50	07:33 (2)	07:51	07:58
	21:49	20:45	19:24	18:05	15:59	15:36
20	04:51	05:50	06:52	07:32 (2)	07:54	08:00
	21:47	20:43	19:21	18:03	15:57	15:36
21	04:53	05:52	06:54	07:32 (2)	07:56	08:02
	21:46	20:40	19:19	18:00	15:56	15:36
22	04:54	05:54	06:56	07:32 (2)	07:58	08:04
	21:44	20:38	19:16	17:58	15:54	15:37
23	04:56	05:56	06:58	07:33 (2)	08:00	08:06
	21:42	20:35	19:13	17:55	15:53	15:37
24	04:58	05:58	07:00	07:33 (2)	08:02	08:08
	21:41	20:33	19:11	17:53	15:51	15:38
25	05:00	06:00	07:02	07:34 (2)	08:04	08:10
	21:39	20:30	19:08	17:50	15:50	15:38
26	05:02	06:02	07:04	07:35 (2)	07:06	08:12
	21:37	20:28	19:05	16:48	15:48	15:39
27	05:03	06:04	07:06	07:37 (2)	07:09	08:14
	21:35	20:25	19:03	16:46	15:47	15:40
28	05:05	06:06	07:08 (21)	07:40 (2)	07:11	08:16
	21:34	20:23	19:00	16:43	15:46	15:41
29	05:07	06:08	07:05 (21)	07:13	08:17	08:48
	21:32	20:20	18:57	16:41	15:45	15:42
30	05:09	06:10	07:02 (21)	07:15	08:19	08:48
	21:30	20:17	18:54	16:39	15:44	15:43
31	05:11	06:12	07:01 (21)	07:17		08:48
	21:28	20:15	19:07:20 (21)	16:36		15:44
Potential sun hours	529	470	385	324	248	216
Total, worst case			630			
Sun reduction		0,51	0,43			
Oper. time red.		0,94	0,94			
Wind dir. red.		0,66	0,65			
Total reduction		0,32	0,26			
Total, real		18	165			

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AP - Kalna Galvani

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:50	04:27 22:07	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:48	08:09 16:46	07:04 17:49	06:42 19:54	05:26 20:56	04:31 21:52	04:29 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:30	08:25 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:59	04:30 21:54	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:21 21:01	04:29 21:55	04:31 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	04:28 21:56	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:39	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	08:45 15:55	07:59 16:58	06:51 17:59	06:28 20:04	05:15 21:07	04:27 21:59	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:02	06:26 20:06	05:13 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:31 18:31	07:37 16:17	08:34 15:37
10	08:44 15:58	07:54 17:02	06:46 18:04	06:23 20:09	05:11 21:11	04:25 22:01	04:36 22:00	05:30 21:07	06:32 19:48	07:33 18:28	07:39 16:15	08:35 15:36
11	08:43 16:00	07:52 17:04	06:43 18:06	06:20 20:11	05:08 21:13	04:25 22:02	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:07	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:36
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:04 21:17	04:24 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:02 21:19	04:23 22:04	04:42 21:56	05:38 20:57	06:40 19:38	07:41 18:18	07:48 16:07	08:40 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:21	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	08:38 16:09	07:41 17:16	06:30 18:16	06:07 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:53	06:44 19:32	07:45 18:13	07:52 16:04	08:42 15:35
17	08:37 16:10	07:38 17:18	06:27 18:19	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:21	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:08	07:56 16:00	08:44 15:35
19	08:34 16:14	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:54 18:03	08:00 15:57	08:45 15:36
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31	04:50 21:32	04:23 22:07	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:34	04:23 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:58	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:25	07:21 17:33	06:08 18:33	05:47 20:38	04:45 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:36	06:06 18:35	05:45 20:40	04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:38
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:42 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:25 22:08	05:03 21:36	06:04 20:25	07:06 19:03	07:09 16:46	08:14 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:58 18:42	05:38 20:46	04:39 21:44	04:25 22:08	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:35		05:55 18:44	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:48 15:42
30	08:16 16:38		06:52 19:46	05:33 20:50	04:36 21:47	04:26 22:07	05:09 21:30	06:10 20:17	07:12 18:54	07:15 16:39	08:19 15:44	08:48 15:43
31	08:15 16:40		06:50 19:48		04:35 21:48		05:11 21:28	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AQ - Ziedini

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:20	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:25
	15:48	16:47	17:49	19:54	20:57	21:52	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:19	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:16	19:59	18:39	16:23	15:39
7	08:46	08:01	06:54	06:31	05:17	04:28	04:33	05:24	06:26	07:27	07:33	08:31
	15:53	16:56	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
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	15:55	16:58	18:00	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:45	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:34
	15:57	17:00	18:02	20:07	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
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	16:00	17:04	18:06	20:11	21:13	22:02	21:59	21:04	19:46	18:26	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:38
	16:02	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:36
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	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
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	16:07	17:13	18:14	20:19	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:17	20:21	21:22	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:25	06:03	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:52	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:22	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:32	21:32	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:22	06:08	05:48	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:24	07:17	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:07	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:40	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:12	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
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	16:36		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:17		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:18	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AR - Strautini

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:20	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:25
	15:48	16:47	17:49	19:54	20:57	21:52	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:19	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:51	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
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	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
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	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:33	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:21	22:05	21:55	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:17	20:21	21:22	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:25	06:03	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:52	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:22	18:03	15:57	15:36
21	08:31	07:29	06:17	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:32	21:32	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:22	06:08	05:48	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:24	07:17	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:07	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:40	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:12	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:38	04:26	05:07	06:08	07:10	07:13	08:18	08:48
	16:36		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:17		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:18	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AS - Druvas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March			April			May	June	July	August	September			October	November	December
1	08:48	08:13	07:09			06:47		07:49 (1)	05:31	04:34	04:27	05:13	06:14			07:14	07:19	08:21
	15:45	16:42	17:44			19:50	13	08:02 (1)	20:52	21:50	22:07	21:26	20:12			18:52	16:34	15:43
2	08:48	08:11	07:06			06:44		07:54 (1)	05:28	04:33	04:28	05:15	06:16			07:16	07:22	08:23
	15:46	16:44	17:47			19:52	4	07:58 (1)	20:54	21:51	22:06	21:24	20:10			18:49	16:32	15:42
3	08:48	08:09	07:04			06:42			05:26	04:31	04:29	05:16	06:18			07:18	07:24	08:25
	15:48	16:46	17:49			19:54			20:56	21:52	22:06	21:22	20:07			18:47	16:30	15:41
4	08:47	08:07	07:01			06:39			05:24	04:30	04:30	05:18	06:20			07:20	07:26	08:26
	15:49	16:49	17:51			19:56			20:59	21:54	22:05	21:20	20:04			18:44	16:27	15:40
5	08:47	08:05	06:59			06:36			05:22	04:29	04:31	05:20	06:22			07:22	07:28	08:28
	15:50	16:51	17:53			19:58			21:01	21:55	22:04	21:18	20:02			18:41	16:25	15:39
6	08:46	08:03	06:56			06:34			05:19	04:29	04:32	05:22	06:24			07:24	07:30	08:29
	15:52	16:53	17:55			20:00			21:03	21:56	22:04	21:15	19:59			18:39	16:23	15:39
7	08:46	08:01	06:54			06:31			05:17	04:28	04:33	05:24	06:26			07:26	07:32	08:31
	15:53	16:55	17:57			20:02			21:05	21:57	22:03	21:13	19:56			18:36	16:21	15:38
8	08:45	07:59	06:51			06:28			05:15	04:27	04:34	05:26	06:28			07:29	07:35	08:32
	15:55	16:58	17:59			20:04			21:07	21:59	22:02	21:11	19:54			18:33	16:19	15:37
9	08:44	07:56	06:48			06:26			05:13	04:26	04:35	05:28	06:30			07:31	07:37	08:34
	15:56	17:00	18:02			20:07			21:09	22:00	22:01	21:09	19:51			18:31	16:17	15:37
10	08:44	07:54	06:46			06:23			05:11	04:26	04:37	05:30	06:32			07:33	07:39	08:35
	15:58	17:02	18:04			20:09			21:11	22:01	22:00	21:07	19:48			18:28	16:15	15:36
11	08:43	07:52	06:43			06:21			05:09	04:25	04:38	05:32	06:34		07:44 (1)	07:35	07:41	08:36
	16:00	17:04	18:06			20:11			21:13	22:01	21:59	21:04	19:46	8	07:52 (1)	18:25	16:13	15:36
12	08:42	07:50	06:40			06:18			05:07	04:24	04:39	05:34	06:36		07:40 (1)	07:37	07:43	08:38
	16:01	17:07	18:08			20:13			21:15	22:02	21:58	21:02	19:43	15	07:55 (1)	18:23	16:11	15:36
13	08:41	07:48	06:38			06:15			05:05	04:24	04:40	05:36	06:38		07:38 (1)	07:39	07:45	08:39
	16:03	17:09	18:10			20:15			21:17	22:03	21:57	21:00	19:40	19	07:57 (1)	18:20	16:09	15:35
14	08:40	07:45	06:35			06:13			05:03	04:24	04:42	05:38	06:40		07:37 (1)	07:41	07:48	08:40
	16:05	17:11	18:12			20:17			21:19	22:04	21:56	20:57	19:38	21	07:58 (1)	18:18	16:07	15:35
15	08:39	07:43	06:32			06:10			05:01	04:23	04:43	05:40	06:42		07:35 (1)	07:43	07:50	08:41
	16:07	17:13	18:14			20:19			21:21	22:05	21:54	20:55	19:35	24	07:59 (1)	18:15	16:06	15:35
16	08:38	07:41	06:30		06:57 (1)	06:08			04:59	04:23	04:45	05:42	06:44		07:34 (1)	07:45	07:52	08:42
	16:09	17:16	18:16	8	07:05 (1)	20:21			21:22	22:05	21:53	20:53	19:32	25	07:59 (1)	18:13	16:04	15:35
17	08:37	07:38	06:27		06:55 (1)	06:05			04:57	04:23	04:46	05:44	06:46		07:33 (1)	07:47	07:54	08:43
	16:11	17:18	18:19	14	07:09 (1)	20:23			21:24	22:06	21:52	20:50	19:30	27	08:00 (1)	18:10	16:02	15:35
18	08:35	07:36	06:24		06:52 (1)	06:02			04:55	04:23	04:48	05:46	06:48		07:33 (1)	07:49	07:56	08:44
	16:13	17:20	18:21	18	07:10 (1)	20:25			21:26	22:06	21:50	20:48	19:27	27	08:00 (1)	18:08	16:00	15:35
19	08:34	07:34	06:22		06:49 (1)	06:00			04:53	04:23	04:50	05:48	06:50		07:32 (1)	07:51	07:58	08:44
	16:14	17:22	18:23	22	07:11 (1)	20:27			21:27	22:07	21:49	20:45	19:24	28	08:00 (1)	18:05	15:57	15:36
20	08:33	07:31	06:19		06:48 (1)	05:57			04:51	04:23	04:51	05:50	06:52		07:32 (1)	07:54	08:00	08:45
	16:16	17:25	18:25	24	07:12 (1)	20:29			21:30	22:07	21:47	20:43	19:21	27	07:59 (1)	18:03	15:57	15:36
21	08:31	07:29	06:16		06:47 (1)	05:55			04:50	04:23	04:53	05:52	06:54		07:31 (1)	07:56	08:02	08:46
	16:19	17:27	18:27	25	07:12 (1)	20:32			21:32	22:07	21:46	20:40	19:19	28	07:59 (1)	18:00	15:56	15:36
22	08:30	07:26	06:14		06:46 (1)	05:52			04:48	04:23	04:55	05:54	06:56		07:31 (1)	07:58	08:04	08:46
	16:21	17:29	18:29	26	07:12 (1)	20:34			21:34	22:08	21:44	20:38	19:16	27	07:58 (1)	17:58	15:54	15:37
23	08:28	07:24	06:11		06:46 (1)	05:50			04:46	04:23	04:56	05:56	06:58		07:32 (1)	08:00	08:06	08:47
	16:23	17:31	18:31	27	07:13 (1)	20:36			21:35	22:08	21:43	20:35	19:13	25	07:57 (1)	17:55	15:53	15:37
24	08:27	07:21	06:08		06:45 (1)	05:47			04:45	04:23	04:58	05:58	07:00		07:32 (1)	08:02	08:08	08:47
	16:25	17:33	18:33	28	07:13 (1)	20:38			21:37	22:08	21:41	20:33	19:11	24	07:56 (1)	17:53	15:51	15:38
25	08:25	07:19	06:06		06:45 (1)	05:45			04:43	04:24	05:00	06:00	07:02		07:33 (1)	08:04	08:10	08:48
	16:27	17:36	18:35	27	07:12 (1)	20:40			21:39	22:08	21:39	20:30	19:08	21	07:54 (1)	17:50	15:50	15:38
26	08:23	07:17	06:03		06:44 (1)	05:43			04:42	04:24	05:02	06:02	07:04		07:35 (1)	07:06	08:12	08:48
	16:29	17:38	18:37	27	07:11 (1)	20:42			21:40	22:08	21:37	20:28	19:05	18	07:53 (1)	16:48	15:48	15:39
27	08:22	07:14	06:00		06:45 (1)	05:40			04:40	04:25	05:03	06:04	07:06		07:37 (1)	07:09	08:14	08:48
	16:31	17:40	18:39	26	07:11 (1)	20:44			21:42	22:08	21:36	20:25	19:03	13	07:50 (1)	16:46	15:47	15:40
28	08:20	07:11	05:58		06:45 (1)	05:38			04:39	04:25	05:05	06:06	07:08		07:39 (1)	07:11	08:16	08:48
	16:33	17:42	18:42	25	07:10 (1)	20:46			21:44	22:08	21:34	20:23	19:00	7	07:46 (1)	16:43	15:46	15:41
29	08:18		05:55		06:45 (1)	05:35			04:37	04:26	05:07	06:08	07:10			07:13	08:18	08:48
	16:35	18:44		23	07:08 (1)	20:48			21:45	22:07	21:32	20:20	18:57			16:41	15:45	15:42
30	08:16		06:52		07:47 (1)	05:33			04:36	04:27	05:09	06:10	07:12			07:15	08:19	08:48
	16:38		19:46	20	08:07 (1)	20:50			21:46	22:07	21:30	20:17	18:55			16:39	15:44	15:43
31	08:15		06:50		07:47 (1)				04:35		05:11	06:12				07:17		08:48
	16:40		19:48	18	08:05 (1)				21:48		21:28	20:15				16:36		15:44
Potential sun hours	235	265	365			425			507	528	529	470	385			324	248	216
Total, worst case				358			17							384				
Sun reduction				0,39			0,48							0,43				
Oper. time red.				0,94			0,94							0,94				
Wind dir. red.				0,64			0,64							0,64				
Total reduction				0,23			0,29							0,26				
Total, real				84			5							99				

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AT - Saulkrasti

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:20	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:25
	15:48	16:47	17:49	19:54	20:57	21:53	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:19	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:51	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:16	19:59	18:39	16:23	15:39
7	08:46	08:01	06:54	06:31	05:17	04:28	04:33	05:24	06:26	07:27	07:33	08:31
	15:53	16:56	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:29	07:35	08:32
	15:55	16:58	18:00	20:05	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:45	07:57	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:34
	15:57	17:00	18:02	20:07	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:05	18:06	20:11	21:13	22:02	21:59	21:04	19:46	18:26	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:38
	16:02	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:46	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:33	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:21	22:05	21:55	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:17	20:21	21:22	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:25	06:03	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:52	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:17	17:25	18:25	20:30	21:30	22:07	21:47	20:43	19:22	18:03	15:57	15:36
21	08:31	07:29	06:17	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:32	21:32	22:08	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:22	06:08	05:48	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:24	07:17	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:07	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:40	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:12	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:38	04:26	05:07	06:08	07:10	07:13	08:18	08:49
	16:36		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:17		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:49
	16:38		19:46	20:50	21:47	22:07	21:30	20:18	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AU - Jaundruvas 1

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

		January	February	March		April		May	June	July	August	September		October	November	December
1	08:48	08:13	07:09		06:47		07:29 (1)	05:31	04:34	04:27	05:13	06:14		07:14	07:19	08:21
	15:45	16:42	17:44		19:50	27	07:56 (1)	20:52	21:50	22:07	21:26	20:12		18:52	16:34	15:43
2	08:48	08:11	07:06		06:44		07:29 (1)	05:28	04:33	04:28	05:15	06:16		07:16	07:22	08:23
	15:46	16:44	17:47		19:52	27	07:56 (1)	20:54	21:51	22:06	21:24	20:10		18:49	16:32	15:42
3	08:48	08:09	07:04		06:42		07:29 (1)	05:26	04:31	04:29	05:16	06:18		07:18	07:24	08:25
	15:48	16:46	17:49		19:54	26	07:55 (1)	20:56	21:52	22:06	21:22	20:07		18:47	16:30	15:41
4	08:47	08:07	07:01		06:39		07:30 (1)	05:24	04:30	04:30	05:18	06:20		07:20	07:26	08:26
	15:49	16:49	17:51		19:56	25	07:55 (1)	20:59	21:54	22:05	21:20	20:04		18:44	16:27	15:40
5	08:47	08:05	06:59		06:36		07:31 (1)	05:22	04:29	04:31	05:20	06:22		07:32 (1)	07:22	08:28
	15:50	16:51	17:53		19:58	22	07:53 (1)	21:01	21:55	22:04	21:18	20:02	12	07:44 (1)	18:41	16:25
6	08:46	08:03	06:56		06:34		07:31 (1)	05:19	04:29	04:32	05:22	06:24		07:29 (1)	07:24	08:30
	15:52	16:53	17:55		20:00	20	07:51 (1)	21:03	21:56	22:04	21:15	19:59	17	07:46 (1)	18:39	16:23
7	08:46	08:01	06:54		06:31		07:34 (1)	05:17	04:28	04:33	05:24	06:26		07:27 (1)	07:26	07:32
	15:53	16:55	17:57		20:02	15	07:49 (1)	21:05	21:57	22:03	21:13	19:56	20	07:47 (1)	18:36	16:21
8	08:45	07:59	06:51		06:28		07:36 (1)	05:15	04:27	04:34	05:26	06:28		07:25 (1)	07:29	07:35
	15:55	16:58	17:59		20:04	9	07:45 (1)	21:07	21:58	22:02	21:11	19:54	23	07:48 (1)	18:33	16:19
9	08:44	07:56	06:48		06:26		05:13	04:26	04:35	05:28	06:30	07:32		07:24 (1)	07:31	07:37
	15:56	17:00	18:02		20:07		21:09	22:00	22:05	22:07	21:09	19:51	25	07:49 (1)	18:31	16:17
10	08:44	07:54	06:46		06:23		05:11	04:26	04:37	05:30	06:32	07:34		07:22 (1)	07:33	07:39
	15:58	17:02	18:04		20:09		21:11	22:01	22:00	21:07	19:48	18:39	27	07:49 (1)	18:28	16:15
11	08:43	07:52	06:43		06:21		05:09	04:25	04:38	05:32	06:34	07:36		07:21 (1)	07:35	07:41
	16:00	17:04	18:06		20:11		21:13	22:01	21:59	21:04	19:46	18:37	28	07:49 (1)	18:25	16:13
12	08:42	07:50	06:40		06:18		05:07	04:24	04:39	05:34	06:36	07:38		07:21 (1)	07:37	07:43
	16:01	17:07	18:08		20:13		21:15	22:02	21:58	21:02	19:43	18:34	28	07:49 (1)	18:23	16:11
13	08:41	07:48	06:38		06:15		05:05	04:24	04:41	05:36	06:38	07:40		07:20 (1)	07:39	07:45
	16:03	17:09	18:10		20:15		21:17	22:03	21:57	21:00	19:40	18:31	29	07:49 (1)	18:20	16:09
14	08:40	07:45	06:35		06:13		05:03	04:24	04:42	05:38	06:40	07:42		07:20 (1)	07:41	07:48
	16:05	17:11	18:12		20:17		21:19	22:04	21:56	20:57	19:38	18:29	28	07:48 (1)	18:18	16:07
15	08:39	07:43	06:32		06:10		05:01	04:23	04:43	05:40	06:42	07:44		07:20 (1)	07:43	07:50
	16:07	17:13	18:14		20:19		21:20	22:05	21:54	20:55	19:35	18:26	28	07:48 (1)	18:15	16:06
16	08:38	07:41	06:30		06:08		04:59	04:23	04:45	05:42	06:44	07:46		07:20 (1)	07:45	07:52
	16:09	17:16	18:16		20:21		21:22	22:05	21:53	20:53	19:32	18:23	27	07:47 (1)	18:13	16:04
17	08:37	07:38	06:27		06:05		04:57	04:23	04:46	05:44	06:46	07:48		07:20 (1)	07:47	07:54
	16:11	17:18	18:19		20:23		21:24	22:06	21:52	20:50	19:30	18:21	26	07:46 (1)	18:10	16:02
18	08:35	07:36	06:24		06:02		04:55	04:23	04:48	05:46	06:48	07:50		07:21 (1)	07:49	07:56
	16:13	17:20	18:21		20:25		21:26	22:06	21:50	20:48	19:27	18:18	27	07:45 (1)	18:08	16:00
19	08:34	07:34	06:22		06:00		04:53	04:23	04:50	05:48	06:50	07:52		07:21 (1)	07:51	07:58
	16:14	17:22	18:23		20:27		21:28	22:07	21:49	20:45	19:24	18:15	23	07:44 (1)	18:05	16:00
20	08:33	07:31	06:19		05:57		04:51	04:23	04:53	05:50	06:52	07:54		07:23 (1)	07:54	08:00
	16:16	17:25	18:25		20:29		21:30	22:07	21:47	20:43	19:21	18:12	19	07:42 (1)	18:03	15:57
21	08:31	07:29	06:16		05:55		04:50	04:23	04:53	05:52	06:54	07:56		07:25 (1)	07:56	08:02
	16:19	17:27	18:27		20:31		21:32	22:07	21:46	20:40	19:19	18:10	15	07:40 (1)	18:00	15:56
22	08:30	07:26	06:14		06:41 (1)	05:52	04:48	04:23	04:55	05:54	06:56	07:58		07:27 (1)	07:58	08:04
	16:21	17:29	18:29	11	06:52 (1)	20:34	21:34	22:08	21:44	20:38	19:16	18:07	10	07:37 (1)	17:58	15:54
23	08:28	07:24	06:11		06:39 (1)	05:50	04:46	04:23	04:56	05:56	06:58	07:60		08:00	08:06	08:47
	16:23	17:31	18:31	16	06:55 (1)	20:36	21:35	22:08	21:43	20:35	19:13	18:04		17:55	15:53	15:37
24	08:27	07:21	06:08		06:36 (1)	05:47	04:45	04:23	04:58	05:58	07:00	08:02		08:02	08:08	08:47
	16:25	17:33	18:33	20	06:56 (1)	20:38	21:37	22:08	21:41	20:33	19:11	18:02		17:53	15:51	15:38
25	08:25	07:19	06:06		06:34 (1)	05:45	04:43	04:24	05:00	06:00	07:02	08:04		08:04	08:10	08:48
	16:27	17:36	18:35	23	06:57 (1)	20:40	21:39	22:08	21:39	20:30	19:08	18:00		17:50	15:50	15:38
26	08:23	07:17	06:03		06:32 (1)	05:43	04:42	04:24	05:02	06:02	07:04	08:06		07:06	08:12	08:48
	16:29	17:38	18:37	25	06:57 (1)	20:42	21:40	22:08	21:37	20:28	19:05	18:00		16:48	15:48	15:39
27	08:22	07:14	06:00		06:32 (1)	05:40	04:40	04:25	05:03	06:04	07:06	08:08		07:09	08:14	08:48
	16:31	17:40	18:39	26	06:58 (1)	20:44	21:42	22:08	21:36	20:25	19:03	18:00		16:46	15:47	15:40
28	08:20	07:11	05:58		06:30 (1)	05:38	04:39	04:25	05:05	06:06	07:08	08:10		07:11	08:16	08:48
	16:33	17:42	18:42	28	06:58 (1)	20:46	21:44	22:08	21:34	20:23	19:00	18:00		16:43	15:46	15:41
29	08:18	05:55	06:29 (1)		05:35		04:37	04:26	05:07	06:08	07:10	08:12		07:13	08:18	08:48
	16:35	18:44	29	06:58 (1)	20:48		21:45	22:07	21:32	20:20	18:57	17:50		16:41	15:45	15:42
30	08:16	06:52	07:30 (1)		05:33		04:36	04:27	05:09	06:10	07:12	08:14		07:15	08:19	08:48
	16:38	19:46	28	07:58 (1)	20:50		21:47	22:07	21:30	20:17	18:55	17:50		16:39	15:44	15:43
31	08:15	06:50	07:29 (1)		05:31		04:35	05:11	06:12	07:14	08:16	09:18		07:17	08:22	08:48
	16:40	19:48	28	07:57 (1)	20:52		21:48	22:08	21:28	20:15	18:52	17:50		16:36	15:41	15:44
Potential sun hours		235	265	365		425		507	528	529	470	385		324	248	216
Total, worst case				234		171						409				
Sun reduction				0,39		0,48						0,43				
Oper. time red.				0,94		0,94						0,94				
Wind dir. red.				0,65		0,65						0,65				
Total reduction				0,24		0,29						0,26				
Total, real				56		50						107				

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

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

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AV - Zilites

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	08:13	07:09	06:47	07:18 (1)	04:34
	15:45	16:42	17:44	19:50	07:44 (1)	21:50
2	08:48	08:11	07:06	06:44	07:18 (1)	04:33
	15:46	16:44	17:47	19:52	07:45 (1)	21:51
3	08:48	08:09	07:04	06:42	07:17 (1)	04:31
	15:48	16:46	17:49	19:54	07:44 (1)	21:52
4	08:47	08:07	07:01	06:39	07:17 (1)	04:30
	15:49	16:49	17:51	19:56	07:44 (1)	21:54
5	08:47	08:05	06:59	06:36	07:17 (1)	04:29
	15:50	16:51	17:53	19:58	07:44 (1)	21:55
6	08:46	08:03	06:56	06:34	07:16 (1)	04:29
	15:52	16:53	17:55	20:00	07:43 (1)	21:56
7	08:46	08:01	06:54	06:31	07:17 (1)	04:28
	15:53	16:55	17:57	20:02	07:42 (1)	21:57
8	08:45	07:59	06:51	06:28	07:17 (1)	04:27
	15:55	16:58	17:59	20:04	07:41 (1)	21:58
9	08:44	07:56	06:48	06:26	07:18 (1)	04:26
	15:56	17:00	18:02	20:07	07:40 (1)	22:00
10	08:44	07:54	06:46	06:23	07:19 (1)	04:26
	15:58	17:02	18:04	20:09	07:38 (1)	22:01
11	08:43	07:52	06:43	06:21	07:20 (1)	04:25
	16:00	17:04	18:06	20:11	07:36 (1)	22:01
12	08:42	07:50	06:40	06:18	07:23 (1)	04:24
	16:01	17:07	18:08	20:13	07:33 (1)	22:02
13	08:41	07:48	06:38	06:15		04:24
	16:03	17:09	18:10	20:15		22:03
14	08:40	07:45	06:35	06:13		04:24
	16:05	17:11	18:12	20:17		22:04
15	08:39	07:43	06:32	06:10		04:23
	16:07	17:13	18:14	20:19		22:05
16	08:38	07:41	06:30	06:08		04:23
	16:09	17:16	18:16	20:21		22:05
17	08:37	07:38	06:27	06:05		04:23
	16:11	17:18	18:19	20:23		22:06
18	08:35	07:36	06:24	06:02		04:23
	16:13	17:20	18:21	20:25		22:06
19	08:34	07:34	06:22	06:00		04:23
	16:14	17:22	18:23	20:27		22:07
20	08:33	07:31	06:19	05:57		04:23
	16:16	17:25	18:25	20:29		22:07
21	08:31	07:29	06:16	05:55		04:23
	16:19	17:27	18:27	20:31		22:07
22	08:30	07:26	06:14	05:52		04:23
	16:21	17:29	18:29	20:34		22:08
23	08:28	07:24	06:11	05:50		04:23
	16:23	17:31	18:31	20:36		22:08
24	08:27	07:21	06:08	05:47		04:23
	16:25	17:33	18:33	20:38		22:08
25	08:25	07:19	06:06	05:45		04:24
	16:27	17:36	18:35	20:40		22:08
26	08:23	07:17	06:03	06:30 (1)	05:43	04:24
	16:29	17:38	18:37	06:36 (1)	20:42	22:08
27	08:22	07:14	06:00	06:28 (1)	05:40	04:25
	16:31	17:40	18:39	06:40 (1)	20:44	22:08
28	08:20	07:11	05:58	06:25 (1)	05:38	04:25
	16:33	17:42	18:42	06:42 (1)	20:46	22:08
29	08:18		05:55	06:22 (1)	05:35	04:26
	16:35		18:44	06:42 (1)	20:48	22:07
30	08:16		06:52	07:20 (1)	05:33	04:27
	16:38		19:46	07:44 (1)	20:50	22:07
31	08:15		06:50	07:19 (1)		
	16:40		19:48	07:44 (1)		
Potential sun hours	235	265	365	425	507	528
Total, worst case			104		277	
Sun reduction			0,39		0,48	
Oper. time red.			0,94		0,94	
Wind dir. red.			0,66		0,66	
Total reduction			0,24		0,30	
Total, real			25		82	

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:

2026-02-Ecosoul-MEŽARES-UIPE

Licensed user:

SKEPAST & PUKIM

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AV - Zilites

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:13	06:14	07:20 (1)	07:14	07:19
	22:07	21:26	20:12	13 07:33 (1)	18:52	16:34
2	04:28	05:15	06:16	07:18 (1)	07:16	07:22
	22:06	21:24	20:10	17 07:35 (1)	18:49	16:32
3	04:29	05:17	06:18	07:16 (1)	07:18	07:24
	22:06	21:22	20:07	21 07:37 (1)	18:47	16:30
4	04:30	05:18	06:20	07:15 (1)	07:20	07:26
	22:05	21:20	20:04	23 07:38 (1)	18:44	16:27
5	04:31	05:20	06:22	07:14 (1)	07:22	07:28
	22:04	21:18	20:02	24 07:38 (1)	18:41	16:25
6	04:32	05:22	06:24	07:13 (1)	07:24	07:30
	22:04	21:15	19:59	26 07:39 (1)	18:39	16:23
7	04:33	05:24	06:26	07:12 (1)	07:26	07:32
	22:03	21:13	19:56	27 07:39 (1)	18:36	16:21
8	04:34	05:26	06:28	07:12 (1)	07:29	07:35
	22:02	21:11	19:54	27 07:39 (1)	18:33	16:19
9	04:35	05:28	06:30	07:11 (1)	07:31	07:37
	22:01	21:09	19:51	28 07:39 (1)	18:31	16:17
10	04:37	05:30	06:32	07:10 (1)	07:33	07:39
	22:00	21:07	19:48	27 07:37 (1)	18:28	16:15
11	04:38	05:32	06:34	07:10 (1)	07:35	07:41
	21:59	21:04	19:46	27 07:37 (1)	18:25	16:13
12	04:39	05:34	06:36	07:10 (1)	07:37	07:43
	21:58	21:02	19:43	26 07:36 (1)	18:23	16:11
13	04:41	05:36	06:38	07:10 (1)	07:39	07:45
	21:57	21:00	19:40	25 07:35 (1)	18:20	16:09
14	04:42	05:38	06:40	07:11 (1)	07:41	07:48
	21:56	20:57	19:38	23 07:34 (1)	18:18	16:07
15	04:43	05:40	06:42	07:13 (1)	07:43	07:50
	21:54	20:55	19:35	19 07:32 (1)	18:15	16:06
16	04:45	05:42	06:44	07:15 (1)	07:45	07:52
	21:53	20:53	19:32	15 07:30 (1)	18:13	16:04
17	04:46	05:44	06:46	07:17 (1)	07:47	07:54
	21:52	20:50	19:30	11 07:28 (1)	18:10	16:02
18	04:48	05:46	06:48		07:49	07:56
	21:50	20:48	19:27		18:08	16:00
19	04:50	05:48	06:50		07:51	07:58
	21:49	20:45	19:24		18:05	15:59
20	04:51	05:50	06:52		07:54	08:00
	21:47	20:43	19:21		18:03	15:57
21	04:53	05:52	06:54		07:56	08:02
	21:46	20:40	19:19		18:00	15:56
22	04:55	05:54	06:56		07:58	08:04
	21:44	20:38	19:16		17:58	15:54
23	04:56	05:56	06:58		08:00	08:06
	21:43	20:35	19:13		17:55	15:53
24	04:58	05:58	07:00		08:02	08:08
	21:41	20:33	19:11		17:53	15:51
25	05:00	06:00	07:02		08:04	08:10
	21:39	20:30	19:08		17:50	15:50
26	05:02	06:02	07:04		07:06	08:12
	21:37	20:28	19:05		16:48	15:48
27	05:03	06:04	07:06		07:09	08:14
	21:36	20:25	19:03		16:46	15:47
28	05:05	06:06	07:08		07:11	08:16
	21:34	20:23	19:00		16:43	15:46
29	05:07	06:08	07:10		07:13	08:18
	21:32	20:20	18:57		16:41	15:45
30	05:09	06:10	07:12		07:15	08:19
	21:30	20:17	18:55		16:39	15:44
31	05:11	06:12	07:24 (1)		07:17	08:48
	21:28	20:15	07:30 (1)		16:36	15:44
Potential sun hours	529	470	385		324	248
Total, worst case		6	379			
Sun reduction		0,51	0,43			
Oper. time red.		0,94	0,94			
Wind dir. red.		0,66	0,66			
Total reduction		0,32	0,27			
Total, real		2	100			

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AW - Avotini

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:20	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:32	04:28	05:15	06:16	07:16	07:22	08:23
	15:46	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:31	04:29	05:16	06:18	07:18	07:24	08:25
	15:48	16:46	17:49	19:54	20:57	21:53	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:59	06:36	05:22	04:29	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:01	21:55	22:05	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:16	19:59	18:39	16:23	15:39
7	08:46	08:01	06:54	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:33	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:29	07:35	08:32
	15:55	16:58	18:00	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:45	07:57	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:34
	15:56	17:00	18:02	20:07	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:13	22:02	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:24	04:39	05:34	06:36	07:37	07:43	08:38
	16:01	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:40	05:36	06:38	07:39	07:46	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:21	22:05	21:55	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:16	20:21	21:23	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:35
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:52	07:58	08:45
	16:14	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:16	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:18	17:27	18:27	20:32	21:32	22:08	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:22	06:08	05:47	04:45	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:38
26	08:24	07:17	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:07	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:40	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:12	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:18	08:49
	16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:17		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:49
	16:38		19:46	20:50	21:47	22:07	21:30	20:18	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	529	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AX - Biksti

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:50	04:27 22:07	05:13 21:26	06:14 20:12	07:14 18:52	07:20 16:34	08:21 15:43
2	08:48 15:46	08:11 16:44	07:06 17:47	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:15 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:48	08:09 16:46	07:04 17:49	06:42 19:54	05:26 20:57	04:31 21:53	04:29 22:06	05:16 21:22	06:18 20:07	07:18 18:47	07:24 16:30	08:25 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:59	04:30 21:54	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:22 21:01	04:29 21:55	04:31 22:05	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	04:28 21:56	04:32 22:04	05:22 21:16	06:24 19:59	07:24 18:39	07:30 16:23	08:29 15:39
7	08:46 15:53	08:01 16:55	06:54 17:57	06:31 20:02	05:17 21:05	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:33 16:21	08:31 15:38
8	08:45 15:55	07:59 16:58	06:51 17:59	06:28 20:04	05:15 21:07	04:27 21:59	04:34 22:02	05:26 21:11	06:28 19:54	07:29 18:33	07:35 16:19	08:32 15:37
9	08:45 15:56	07:57 17:00	06:48 18:02	06:26 20:07	05:13 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:31 18:31	07:37 16:17	08:34 15:37
10	08:44 15:58	07:54 17:02	06:46 18:04	06:23 20:09	05:11 21:11	04:25 22:01	04:36 22:00	05:30 21:07	06:32 19:48	07:33 18:28	07:39 16:15	08:35 15:36
11	08:43 16:00	07:52 17:04	06:43 18:06	06:21 20:11	05:09 21:13	04:25 22:02	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:07	06:40 18:08	06:18 20:13	05:07 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:36
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:04 21:17	04:24 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:46 16:09	08:39 15:35
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:02 21:19	04:24 22:04	04:42 21:56	05:38 20:57	06:40 19:38	07:41 18:18	07:48 16:07	08:40 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:21	04:23 22:05	04:43 21:55	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:06	08:41 15:35
16	08:38 16:09	07:41 17:16	06:30 18:16	06:08 20:21	04:59 21:23	04:23 22:05	04:45 21:53	05:42 20:53	06:44 19:32	07:45 18:13	07:52 16:04	08:42 15:35
17	08:37 16:11	07:38 17:18	06:27 18:19	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:30	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:21	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:08	07:56 16:00	08:44 15:35
19	08:34 16:14	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:52 18:05	07:58 15:59	08:45 15:36
20	08:33 16:16	07:31 17:25	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:54 18:03	08:00 15:57	08:45 15:36
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:32	04:50 21:32	04:23 22:08	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:56	08:46 15:36
22	08:30 16:21	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:34	04:23 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:58	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:47 15:37
24	08:27 16:25	07:22 17:33	06:08 18:33	05:47 20:38	04:45 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:36	06:06 18:35	05:45 20:40	04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:38
26	08:24 16:29	07:17 17:38	06:03 18:37	05:43 20:42	04:42 21:40	04:24 22:08	05:02 21:37	06:02 20:28	07:04 19:05	07:07 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:25 22:08	05:03 21:36	06:04 20:25	07:06 19:03	07:09 16:46	08:14 15:47	08:48 15:40
28	08:20 16:33	07:12 17:42	05:58 18:42	05:38 20:46	04:39 21:44	04:25 22:08	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:35		05:55 18:44	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:49 15:42
30	08:17 16:38		06:52 19:46	05:33 20:50	04:36 21:47	04:27 22:07	05:09 21:30	06:10 20:17	07:12 18:55	07:15 16:39	08:19 15:44	08:49 15:43
31	08:15 16:40		06:50 19:48		04:35 21:48		05:11 21:28	06:12 20:15	07:17 16:36			08:48 15:44
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
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Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AY - Tudalinas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

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

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Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

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Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: AZ - Kalnares

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BA - Su š i

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1 08:48	09:41 (20)	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
15:45	10:05 (20)	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2 08:48	09:42 (20)	08:11	07:06	06:44	05:28	04:32	04:28	05:14	06:16	07:16	07:22	08:23
15:46	10:06 (20)	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3 08:48	09:42 (20)	08:09	07:04	06:42	05:26	04:31	04:29	05:16	06:18	07:18	07:24	08:25
15:47	10:06 (20)	16:46	17:49	19:54	20:56	21:52	22:06	21:22	20:07	18:46	16:30	15:41
4 08:47	09:43 (20)	08:07	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
15:49	10:07 (20)	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5 08:47	09:43 (20)	08:05	06:59	06:36	05:21	04:29	04:31	05:20	06:22	07:22	07:28	08:28
15:50	10:07 (20)	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6 08:46	09:43 (20)	08:03	06:56	06:34	05:19	04:28	04:32	05:22	06:24	07:24	07:30	08:29
15:52	10:08 (20)	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:38	16:23	15:38
7 08:46	09:44 (20)	08:01	06:53	06:31	05:17	04:27	04:33	05:24	06:26	07:26	07:32	08:31
15:53	10:08 (20)	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8 08:45	09:44 (20)	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:35	08:32
15:55	10:08 (20)	16:58	17:59	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9 08:45	09:45 (20)	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:30	07:37	08:34
15:56	10:08 (20)	17:00	18:02	20:06	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10 08:44	09:46 (20)	07:54	06:46	06:23	05:10	04:25	04:36	05:30	06:32	07:33	07:39	08:35
15:58	10:09 (20)	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
11 08:43	09:46 (20)	07:52	06:43	06:20	05:08	04:25	04:38	05:32	06:34	07:35	07:41	08:36
16:00	10:09 (20)	17:04	18:06	20:11	21:13	22:02	21:59	21:04	19:46	18:25	16:13	15:36
12 08:42	09:47 (20)	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:38
16:01	10:09 (20)	17:06	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13 08:41	09:48 (20)	07:48	06:38	06:15	05:04	04:24	04:40	05:36	06:38	07:39	07:45	08:39
16:03	10:09 (20)	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14 08:40	09:48 (20)	07:45	06:35	06:13	05:02	04:23	04:42	05:38	06:40	07:41	07:48	08:40
16:05	10:09 (20)	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15 08:39	09:50 (20)	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:50	08:41
16:07	10:09 (20)	17:13	18:14	20:19	21:21	22:05	21:55	20:55	19:35	18:15	16:05	15:35
16 08:38	09:51 (20)	07:41	06:30	06:07	04:58	04:23	04:45	05:42	06:44	07:45	07:52	08:42
16:08	10:09 (20)	17:15	18:16	20:21	21:22	22:05	21:53	20:53	19:32	18:12	16:04	15:35
17 08:37	09:52 (20)	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
16:10	10:08 (20)	17:18	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18 08:35	09:54 (20)	07:36	06:24	06:02	04:55	04:22	04:48	05:46	06:48	07:49	07:56	08:44
16:12	10:08 (20)	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19 08:34	09:55 (20)	07:34	06:22	06:00	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:44
16:14	10:06 (20)	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:35
20 08:33	09:57 (20)	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:54	08:00	08:45
16:16	10:04 (20)	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:36
21 08:31	07:29	06:16	05:55	04:49	04:23	04:53	05:52	06:54	07:56	08:02	08:08	08:46
16:18	17:27	18:27	20:31	21:32	22:07	21:46	20:40	19:19	18:00	15:55	15:36	15:36
22 08:30	07:26	06:14	05:52	04:48	04:23	04:54	05:54	06:56	07:58	08:04	08:10	08:46
16:20	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37	15:37
23 08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:12	08:47
16:22	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:52	8 09:33 (20)	15:37
24 08:27	07:21	06:08	05:47	04:44	04:23	04:58	05:58	07:00	08:02	08:08	09:32 (20)	15:37
16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	12 09:44 (20)	15:38
25 08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	09:31 (20)	15:38
16:27	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15 09:46 (20)	15:38
26 08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	09:30 (20)	15:38
16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	17 09:47 (20)	15:39
27 08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	07:09	08:14	09:29 (20)	15:40
16:31	17:40	18:39	20:44	21:42	22:08	21:36	20:25	19:02	16:45	15:47	19 09:48 (20)	15:40
28 08:20	07:11	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	09:29 (20)	15:40
16:33	17:42	18:41	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	19 09:48 (20)	15:41
29 08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:18	09:29 (20)	15:42
16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	20 09:49 (20)	15:42
30 08:16		06:52	05:33	04:36	04:26	05:09	06:10	07:12	07:15	08:19	09:28 (20)	15:43
16:37		19:46	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:44	22 09:50 (20)	15:43
31 08:15		06:50		04:35		05:11	06:12		07:17			08:48
16:40		19:48		21:48		21:28	20:15		16:36			15:44
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case	411										132	741
Sun reduction	0,15										0,09	0,09
Oper. time red.	0,94										0,94	0,94
Wind dir. red.	0,60										0,60	0,60
Total reduction	0,09										0,05	0,05
Total, real	36										7	36

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BB - Jaundruvas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47								
	15:45	16:42	17:44									
2	08:48	08:11	07:06	06:44								
	15:46	16:44	17:47	19:52								
3	08:48	08:09	07:04	06:42								
	15:48	16:46	17:49	19:54								
4	08:47	08:07	07:01	06:39								
	15:49	16:49	17:51	19:56								
5	08:47	08:05	06:59	06:36								
	15:50	16:51	17:53	19:58								
6	08:46	08:03	06:56	06:34								
	15:52	16:53	17:55	20:00								
7	08:46	08:01	06:54	06:31								
	15:53	16:55	17:57	20:02								
8	08:45	07:59	06:51	06:28								
	15:55	16:58	17:59	20:04								
9	08:44	07:56	06:48	06:26								
	15:56	17:00	18:02	20:07								
10	08:44	07:54	06:46	06:23								
	15:58	17:02	18:04	20:09								
11	08:43	07:52	06:43	06:21								
	16:00	17:04	18:06	20:11								
12	08:42	07:50	06:40	06:18								
	16:01	17:07	18:08	20:13								
13	08:41	07:48	06:38	06:15								
	16:03	17:09	18:10	20:15								
14	08:40	07:45	06:35	06:13								
	16:05	17:11	18:12	20:17								
15	08:39	07:43	06:32	06:10								
	16:07	17:13	18:14	20:19								
16	08:38	07:41	06:30	06:08								
	16:09	17:16	18:16	20:21								
17	08:37	07:38	06:27	06:05								
	16:11	17:18	18:19	20:23								
18	08:35	07:36	06:24	06:02								
	16:13	17:20	18:21	20:25								
19	08:34	07:34	06:22	06:00								
	16:14	17:22	18:23	20:27								
20	08:33	07:31	06:19	05:57								
	16:16	17:25	18:25	20:29								
21	08:31	07:29	06:16	05:55								
	16:19	17:27	18:27	20:32								
22	08:30	07:26	06:14	05:52								
	16:21	17:29	18:29	20:34								
23	08:28	07:24	06:11	05:50								
	16:23	17:31	18:31	20:36								
24	08:27	07:21	06:08	05:47								
	16:25	17:33	18:33	20:38								
25	08:25	07:19	06:06	05:45								
	16:27	17:36	18:35	20:40								
26	08:23	07:17	06:03	05:43								
	16:29	17:38	18:37	20:42								
27	08:22	07:14	06:00	05:40								
	16:31	17:40	18:39	20:44								
28	08:20	07:11	05:58	05:38								
	16:33	17:42	18:42	20:46								
29	08:18		05:55	05:35								
	16:35		18:44	20:48								
30	08:16		06:52	05:33								
	16:38		19:46	20:50								
31	08:15		06:50	07:44								
	16:40		19:48	08:03								
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case									355			
Sun reduction									0,43			
Oper. time red.									0,94			
Wind dir. red.									0,64			
Total reduction									0,26			
Total, real			77	7					92			

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BC - Straumenini

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:50	04:27 22:07	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:47	08:11 16:44	07:06 17:47	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:48	08:09 16:47	07:04 17:49	06:42 19:54	05:26 20:57	04:32 21:52	04:29 22:06	05:17 21:22	06:18 20:07	07:18 18:47	07:24 16:30	08:25 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:59	04:31 21:54	04:30 22:05	05:19 21:20	06:20 20:04	07:20 18:44	07:26 16:28	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:22 21:01	04:30 21:55	04:31 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	04:29 21:56	04:32 22:04	05:22 21:16	06:24 19:59	07:24 18:39	07:30 16:23	08:29 15:39
7	08:46 15:53	08:01 16:55	06:54 17:57	06:31 20:02	05:17 21:05	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:55	07:59 16:58	06:51 18:00	06:28 20:04	05:15 21:07	04:27 21:59	04:34 22:02	05:26 21:11	06:28 19:54	07:29 18:33	07:35 16:19	08:32 15:37
9	08:45 15:57	07:56 17:00	06:48 18:02	06:26 20:07	05:13 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:31 18:31	07:37 16:17	08:34 15:37
10	08:44 15:58	07:54 17:02	06:46 18:04	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:30 21:07	06:32 19:48	07:33 18:28	07:39 16:15	08:35 15:36
11	08:43 16:00	07:52 17:04	06:43 18:06	06:21 20:11	05:09 21:13	04:25 22:02	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:26	07:41 16:13	08:36 15:36
12	08:42 16:02	07:50 17:07	06:40 18:08	06:18 20:13	05:07 21:15	04:25 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:36
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:05 21:17	04:24 22:03	04:41 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:36
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:03 21:19	04:24 22:04	04:42 21:56	05:38 20:57	06:40 19:38	07:41 18:18	07:48 16:07	08:40 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:21	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:06	08:41 15:35
16	08:38 16:09	07:41 17:16	06:30 18:17	06:08 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:53	06:44 19:32	07:45 18:13	07:52 16:04	08:42 15:35
17	08:37 16:11	07:38 17:18	06:27 18:19	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:30	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:13	07:36 17:20	06:25 18:21	06:03 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:08	07:56 16:00	08:44 15:36
19	08:34 16:15	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:07	04:50 21:49	05:48 20:45	06:50 19:24	07:52 18:05	07:58 15:59	08:44 15:36
20	08:33 16:17	07:31 17:25	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:54 18:03	08:00 15:57	08:45 15:36
21	08:31 16:19	07:29 17:27	06:16 18:27	05:55 20:32	04:50 21:32	04:23 22:07	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:56	08:46 15:36
22	08:30 16:21	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:34	04:23 22:08	04:55 21:44	05:54 20:38	06:56 19:16	07:58 17:58	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:47 15:37
24	08:27 16:25	07:22 17:33	06:08 18:33	05:48 20:38	04:45 21:37	04:24 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:36	06:06 18:35	05:45 20:40	04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:39
26	08:24 16:29	07:17 17:38	06:03 18:37	05:43 20:42	04:42 21:40	04:24 22:08	05:02 21:37	06:02 20:28	07:04 19:05	07:07 16:48	08:12 15:49	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:40	05:40 20:44	04:40 21:42	04:25 22:08	05:03 21:36	06:04 20:25	07:06 19:03	07:09 16:46	08:14 15:47	08:48 15:40
28	08:20 16:33	07:12 17:42	05:58 18:42	05:38 20:46	04:39 21:44	04:25 22:08	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:36		05:55 18:44	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:48 15:42
30	08:17 16:38		06:52 19:46	05:33 20:50	04:36 21:47	04:27 22:07	05:09 21:30	06:10 20:17	07:12 18:55	07:15 16:39	08:19 15:44	08:48 15:43
31	08:15 16:40		06:50 19:48		04:35 21:48		05:11 21:28	06:12 20:15	07:17 16:36			08:48 15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BD - Krasta Ozoli

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March		April		May	June	July	August	September		October	November	December
1	08:48	08:13	07:09		06:47		07:16 (1)	05:31	04:34	04:27	05:13		07:14	07:19	08:21
	15:45	16:42	17:44		19:50	24	07:40 (1)	20:52	21:50	22:07	21:26		18:52	16:34	15:43
2	08:48	08:11	07:06		06:44		07:16 (1)	05:28	04:33	04:28	05:15		07:19 (1)	07:16	08:23
	15:46	16:44	17:47		19:52	25	07:41 (1)	20:54	21:51	22:06	21:24	10	07:29 (1)	18:49	16:32
3	08:48	08:09	07:04		06:42		07:15 (1)	05:26	04:31	04:29	05:17		07:17 (1)	07:18	08:25
	15:48	16:46	17:49		19:54	25	07:40 (1)	20:56	21:52	22:06	21:22	14	07:31 (1)	18:47	16:30
4	08:47	08:07	07:01		06:39		07:16 (1)	05:24	04:30	04:30	05:18		07:15 (1)	07:20	08:26
	15:49	16:49	17:51		19:56	25	07:41 (1)	20:59	21:54	22:05	21:20	18	07:33 (1)	18:44	16:28
5	08:47	08:05	06:59		06:36		07:15 (1)	05:22	04:29	04:31	05:20		07:13 (1)	07:22	08:28
	15:50	16:51	17:53		19:58	25	07:40 (1)	21:01	21:55	22:04	21:18	21	07:34 (1)	18:41	16:25
6	08:46	08:03	06:56		06:34		07:15 (1)	05:19	04:29	04:32	05:22		07:12 (1)	07:24	08:29
	15:52	16:53	17:55		20:00	23	07:38 (1)	21:03	21:56	22:04	21:15	22	07:34 (1)	18:39	16:23
7	08:46	08:01	06:54		06:31		07:16 (1)	05:17	04:28	04:33	05:24		07:11 (1)	07:26	08:31
	15:53	16:55	17:57		20:02	22	07:38 (1)	21:05	21:57	22:03	21:13	24	07:35 (1)	18:36	16:21
8	08:45	07:59	06:51		06:28		07:17 (1)	05:15	04:27	04:34	05:26		07:10 (1)	07:29	08:32
	15:55	16:58	17:59		20:04	19	07:36 (1)	21:07	21:58	22:02	21:11	25	07:35 (1)	18:33	16:19
9	08:44	07:56	06:48		06:26		07:18 (1)	05:13	04:26	04:35	05:28		07:10 (1)	07:31	08:34
	15:56	17:00	18:02		20:07	17	07:35 (1)	21:09	22:00	22:01	21:09	25	07:35 (1)	18:31	16:17
10	08:44	07:54	06:46		06:23		07:20 (1)	05:11	04:26	04:37	05:30		07:09 (1)	07:33	08:35
	15:58	17:02	18:04		20:09	12	07:32 (1)	21:11	22:01	22:00	21:07	25	07:34 (1)	18:28	16:15
11	08:43	07:52	06:43		06:21		07:23 (1)	05:09	04:25	04:38	05:32		07:09 (1)	07:35	08:36
	16:00	17:04	18:06		20:11	5	07:28 (1)	21:13	22:01	21:59	21:04	24	07:33 (1)	18:25	16:13
12	08:42	07:50	06:40		06:18			05:07	04:24	04:39	05:34		07:09 (1)	07:37	08:38
	16:01	17:07	18:08		20:13			21:15	22:02	21:58	21:02	24	07:33 (1)	18:23	16:11
13	08:41	07:48	06:38		06:15			05:05	04:24	04:41	05:36		07:09 (1)	07:39	08:39
	16:03	17:09	18:10		20:15			21:17	22:03	21:57	21:00	23	07:32 (1)	18:20	16:09
14	08:40	07:45	06:35		06:13			05:03	04:24	04:42	05:38		07:11 (1)	07:41	08:40
	16:05	17:11	18:12		20:17			21:19	22:04	21:56	20:57	20	07:31 (1)	18:18	16:07
15	08:39	07:43	06:32		06:10			05:01	04:23	04:43	05:40		07:13 (1)	07:43	08:41
	16:07	17:13	18:14		20:19			21:21	22:05	21:54	20:55	16	07:29 (1)	18:15	16:06
16	08:38	07:41	06:30		06:08			04:59	04:23	04:45	05:42		07:15 (1)	07:45	08:42
	16:09	17:16	18:16		20:21			21:22	22:05	21:53	20:53	12	07:27 (1)	18:13	16:04
17	08:37	07:38	06:27		06:05			04:57	04:23	04:46	05:44		07:17 (1)	07:47	08:43
	16:11	17:18	18:19		20:23			21:24	22:06	21:52	20:50	8	07:25 (1)	18:10	16:02
18	08:35	07:36	06:24		06:02			04:55	04:23	04:48	05:46		07:18 (1)	07:49	08:44
	16:13	17:20	18:21		20:25			21:26	22:06	21:50	20:48		18:08 (1)	18:00	16:00
19	08:34	07:34	06:22		06:00			04:53	04:23	04:50	05:48		07:19 (1)	07:51	08:45
	16:15	17:22	18:23		20:27			21:28	22:07	21:49	20:45		18:09 (1)	18:05	16:01
20	08:33	07:31	06:19		05:57			04:51	04:23	04:51	05:50		07:20 (1)	07:54	08:46
	16:17	17:25	18:25		20:29			21:30	22:07	21:47	20:43		18:03 (1)	18:03	16:03
21	08:31	07:29	06:16		05:55			04:50	04:23	04:53	05:52		07:21 (1)	07:56	08:46
	16:19	17:27	18:27		20:32			21:32	22:07	21:46	20:40		18:00 (1)	18:00	16:02
22	08:30	07:26	06:14		05:52			04:48	04:23	04:55	05:54		07:22 (1)	07:58	08:46
	16:21	17:29	18:29		20:34			21:34	22:08	21:44	20:38		17:58 (1)	18:04	16:04
23	08:28	07:24	06:11		05:50			04:46	04:23	04:56	05:56		17:59 (1)	18:06	16:06
	16:23	17:31	18:31		20:36			21:35	22:08	21:43	20:35		17:55 (1)	18:06	16:07
24	08:27	07:21	06:08		05:47			04:45	04:23	04:58	05:58		18:00 (1)	18:08	16:08
	16:25	17:33	18:33		20:38			21:37	22:08	21:41	20:33		18:01 (1)	18:09	16:09
25	08:25	07:19	06:06		05:45			04:43	04:24	05:00	06:00		18:02 (1)	18:10	16:10
	16:27	17:36	18:35		20:40			21:39	22:08	21:39	20:30		18:03 (1)	18:11	16:11
26	08:23	07:17	06:03		05:43			04:42	04:24	05:02	06:02		18:04 (1)	18:12	16:12
	16:29	17:38	18:37	2	06:30 (1)			21:40	22:08	21:37	20:28		18:05 (1)	18:13	16:13
27	08:22	07:14	06:00		06:28 (1)			04:40	04:25	05:03	06:04		18:06 (1)	18:14	16:14
	16:31	17:40	18:39	9	06:37 (1)			21:42	22:08	21:36	20:25		18:07 (1)	18:15	16:15
28	08:20	07:11	05:58		06:25 (1)			04:39	04:25	05:05	06:06		18:08 (1)	18:16	16:16
	16:33	17:42	18:42	13	06:38 (1)			21:44	22:08	21:34	20:23		18:09 (1)	18:17	16:17
29	08:18	05:55	06:22 (1)		05:35			04:37	04:26	05:07	06:08		18:10 (1)	18:18	16:18
	16:35	18:44	17	06:39 (1)	20:48			21:45	22:07	21:32	20:20		18:11 (1)	18:19	16:19
30	08:16	06:52	07:20 (1)		05:33			04:36	04:27	05:09	06:10		18:12 (1)	18:20	16:20
	16:38	19:46	20	07:40 (1)	20:50			21:47	22:07	21:33	20:17		18:13 (1)	18:21	16:21
31	08:15	06:50	07:17 (1)		05:31			04:35	05:11	06:12	07:13		18:14 (1)	18:22	16:22
	16:40	19:48	24	07:41 (1)	20:51			21:48	21:28	20:15	18:52		18:15 (1)	18:23	16:23
Potential sun hours	235	265	365		425			507	528	529	470		385	324	216
Total, worst case			85		222								311		
Sun reduction			0,39		0,48								0,43		
Oper. time red.			0,94		0,94								0,94		
Wind dir. red.			0,66		0,66								0,66		
Total reduction			0,24		0,30								0,27		
Total, real			20		66								83		

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BE - Galvani

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March		April	May	June	July	August	September		October		November	December	
1	08:48	08:13	07:09		06:47	05:31	04:34	04:27	05:13	06:14		07:14		07:45 (19)	07:19	08:21
	15:45	16:42	17:44		19:50	20:52	21:50	22:07	21:26	20:12		18:52	20	08:05 (19)	16:34	15:43
2	08:48	08:11	07:06		06:44	05:28	04:32	04:28	05:14	06:16		07:16		07:47 (19)	07:22	08:23
	15:46	16:44	17:46		19:52	20:54	21:51	22:06	21:24	20:10		18:49	17	08:04 (19)	16:32	15:42
3	08:48	08:09	07:04		06:42	05:26	04:31	04:29	05:16	06:18		07:18		07:49 (19)	07:24	08:25
	15:48	16:46	17:49		19:54	20:57	21:53	22:06	21:22	20:07		18:46	14	08:03 (19)	16:30	15:41
4	08:47	08:07	07:01		06:39	05:24	04:30	04:30	05:18	06:20		07:20		07:51 (19)	07:26	08:26
	15:49	16:49	17:51		19:56	20:59	21:54	22:05	21:20	20:04		18:44	10	08:01 (19)	16:27	15:40
5	08:47	08:05	06:59		06:36	05:21	04:29	04:31	05:20	06:22		07:22		07:53 (19)	07:28	08:28
	15:50	16:51	17:53		19:58	21:01	21:55	22:05	21:18	20:02		18:41	5	07:58 (19)	16:25	15:39
6	08:46	08:03	06:56		06:34	05:19	04:28	04:32	05:22	06:24		07:24			07:30	08:29
	15:52	16:53	17:55		20:00	21:03	21:56	22:04	21:16	19:59		18:39			16:23	15:38
7	08:46	08:01	06:54		06:31	05:17	04:28	04:33	05:24	06:26		07:26			07:33	08:31
	15:53	16:55	17:57		20:02	21:05	21:57	22:03	21:13	19:56		18:36			16:21	15:38
8	08:45	07:59	06:51		06:28	05:15	04:27	04:34	05:26	06:28		07:29			07:35	08:32
	15:55	16:58	17:59		20:04	21:07	21:59	22:02	21:11	19:54		18:33			16:19	15:37
9	08:45	07:56	06:48		06:26	05:13	04:26	04:35	05:28	06:30		07:31			07:37	08:34
	15:56	17:00	18:02	5	07:21 (19)	20:07	21:09	22:00	22:01	21:09	19:51		18:31		16:17	15:37
10	08:44	07:54	06:46		07:14 (19)	06:23	05:11	04:25	04:36	05:30	06:32		07:33		07:39	08:35
	15:58	17:02	18:04	10	07:24 (19)	20:09	21:11	22:01	22:00	21:07	19:48		18:28		16:15	15:36
11	08:43	07:52	06:43		07:11 (19)	06:20	05:08	04:25	04:38	05:32	06:34		07:35		07:41	08:36
	16:00	17:04	18:06	14	07:25 (19)	20:11	21:13	22:02	21:59	21:04	19:46		18:25		16:13	15:36
12	08:42	07:50	06:40		07:08 (19)	06:18	05:06	04:24	04:39	05:34	06:36		07:37		07:43	08:38
	16:01	17:07	18:08	17	07:25 (19)	20:13	21:15	22:02	21:58	21:02	19:43		18:27		16:11	15:36
13	08:41	07:48	06:38		07:06 (19)	06:15	05:04	04:24	04:40	05:36	06:38		07:39		07:45	08:39
	16:03	17:09	18:10	20	07:26 (19)	20:15	21:17	22:03	21:57	21:00	19:40		18:20		16:09	15:35
14	08:40	07:45	06:35		07:03 (19)	06:13	05:02	04:23	04:42	05:38	06:40		07:41		07:48	08:40
	16:05	17:11	18:12	23	07:26 (19)	20:17	21:19	22:04	21:56	20:57	19:38		18:18		16:07	15:35
15	08:39	07:43	06:32		07:02 (19)	06:10	05:00	04:23	04:43	05:40	06:42		07:43		07:50	08:41
	16:07	17:13	18:14	24	07:26 (19)	20:19	21:21	22:05	21:55	20:55	19:35		18:15		16:05	15:35
16	08:38	07:41	06:30		07:02 (19)	06:08	04:59	04:23	04:45	05:42	06:44		07:45		07:52	08:42
	16:09	17:16	18:16	23	07:25 (19)	20:21	21:22	22:05	21:53	20:53	19:32		18:13		16:04	15:35
17	08:37	07:38	06:27		07:03 (19)	06:05	04:57	04:23	04:46	05:44	06:46		07:47		07:54	08:43
	16:10	17:18	18:19	22	07:25 (19)	20:23	21:24	22:06	21:52	20:50	19:30		18:10		16:02	15:35
18	08:35	07:36	06:24		07:02 (19)	06:02	04:55	04:23	04:48	05:46	06:48		07:49		07:56	08:44
	16:12	17:20	18:21	22	07:24 (19)	20:25	21:26	22:06	21:50	20:48	19:27		18:08		16:00	15:35
19	08:34	07:34	06:22		07:03 (19)	06:00	04:53	04:23	04:49	05:48	06:50		07:51		07:58	08:44
	16:14	17:22	18:23	20	07:23 (19)	20:27	21:28	22:07	21:49	20:45	19:24		18:05		15:59	15:36
20	08:33	07:31	06:19		07:04 (19)	05:57	04:51	04:23	04:51	05:50	06:52		07:54		08:00	08:45
	16:16	17:24	18:25	18	07:22 (19)	20:29	21:30	22:07	21:47	20:43	19:21		18:03		15:57	15:36
21	08:31	07:29	06:16		07:05 (19)	05:55	04:49	04:23	04:53	05:52	06:54		07:57 (19)		08:02	08:46
	16:18	17:27	18:27	15	07:20 (19)	20:32	21:32	22:08	21:46	20:40	19:19	2	07:59 (19)		15:55	15:36
22	08:30	07:26	06:14		07:06 (19)	05:52	04:48	04:23	04:54	05:54	06:56		07:52 (19)		08:04	08:46
	16:20	17:29	18:29	11	07:17 (19)	20:34	21:34	22:08	21:44	20:38	19:16	11	08:03 (19)		15:54	15:37
23	08:28	07:24	06:11			05:50	04:46	04:23	04:56	05:56	06:58		07:49 (19)		08:06	08:47
	16:23	17:31	18:31			20:36	21:35	22:08	21:43	20:35	19:13	16	08:05 (19)		15:52	15:37
24	08:27	07:22	06:08			05:47	04:45	04:23	04:58	05:58	07:00		07:47 (19)		08:08	08:47
	16:25	17:33	18:33			20:38	21:37	22:08	21:41	20:33	19:11	19	08:06 (19)		15:51	15:38
25	08:25	07:19	06:06			05:45	04:43	04:24	05:00	06:00	07:02		07:46 (19)		08:10	08:48
	16:27	17:36	18:35			20:40	21:39	22:08	21:39	20:30	19:08	21	08:07 (19)		15:50	15:38
26	08:24	07:17	06:03			05:42	04:42	04:24	05:01	06:02	07:04		07:45 (19)		08:12	08:48
	16:29	17:38	18:37			20:42	21:40	22:08	21:37	20:28	19:05	22	08:07 (19)		15:48	15:39
27	08:22	07:14	06:00			05:40	04:40	04:25	05:03	06:04	07:06		07:44 (19)		08:14	08:48
	16:31	17:40	18:39			20:44	21:42	22:08	21:36	20:25	19:03	23	08:07 (19)		15:47	15:40
28	08:20	07:11	05:58			05:38	04:39	04:25	05:05	06:06	07:08		07:44 (19)		08:16	08:48
	16:33	17:42	18:42			20:46	21:44	22:08	21:34	20:23	19:00	23	08:07 (19)		15:46	15:41
29	08:18		05:55			05:35	04:37	04:26	05:07	06:08	07:10		07:43 (19)		08:18	08:49
	16:35		18:44			20:48	21:45	22:07	21:32	20:20	18:57	24	08:07 (19)		15:45	15:42
30	08:17		06:52			05:33	04:36	04:26	05:09	06:10	07:12		07:43 (19)		08:19	08:49
	16:38		19:46			20:50	21:47	22:07	21:30	20:17	18:55	23	08:06 (19)		15:44	15:43
31	08:15		06:50			04:35			05:11	06:12					08:19	08:48
	16:40		19:48			21:48			21:28	20:15					15:44	15:44
Potential sun hours	235	265	365		425	507	529	530	470	385	324		248		216	
Total, worst case				244						184		66				
Sun reduction				0,39						0,43		0,27				
Oper. time red.				0,94						0,94		0,94				
Wind dir. red.				0,63						0,63		0,63				
Total reduction				0,23						0,25		0,16				
Total, real				56						47		11				

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BF - Mui ž nieki

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:25
	15:48	16:47	17:49	19:54	20:56	21:52	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:19	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:51	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:16	19:59	18:39	16:23	15:39
7	08:46	08:01	06:54	06:31	05:17	04:28	04:33	05:24	06:26	07:27	07:33	08:31
	15:53	16:56	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:29	07:35	08:32
	15:55	16:58	18:00	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:34
	15:57	17:00	18:02	20:07	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:13	22:01	21:59	21:04	19:46	18:26	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:38
	16:02	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:33	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:17	20:21	21:22	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:25	06:03	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:52	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:22	18:03	15:57	15:36
21	08:31	07:29	06:17	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:32	21:32	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:22	06:08	05:48	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:17	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:07	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:40	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:12	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:38	04:26	05:07	06:08	07:10	07:13	08:18	08:48
	16:36		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:17		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

SKEPAST & PUHKIM

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BG - Me ž mui ž a

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	
1	08:48	08:13	07:09	06:47	05:31	04:34	05:55 (1)
	15:45	16:42	17:44	19:50	20:52	21:50	8 06:03 (1)
2	08:48	08:11	07:06	06:44	05:28	04:33	
	15:46	16:44	17:47	19:52	20:54	21:51	
3	08:48	08:09	07:04	06:42	05:26	05:56 (1)	04:31
	15:48	16:46	17:49	19:54	20:56	2 05:58 (1)	21:52
4	08:47	08:07	07:01	06:39	05:24	05:54 (1)	04:30
	15:49	16:49	17:51	19:56	20:58	3 05:57 (1)	21:54
5	08:47	08:05	06:59	06:36	05:22	05:52 (1)	04:29
	15:50	16:51	17:53	19:58	21:01	5 05:57 (1)	21:55
6	08:46	08:03	06:56	06:34	05:19	05:50 (1)	04:29
	15:52	16:53	17:55	20:00	21:03	7 05:57 (1)	21:56
7	08:46	08:01	06:53	06:31	05:17	05:48 (1)	04:28
	15:53	16:55	17:57	20:02	21:05	8 05:56 (1)	21:57
8	08:45	07:59	06:51	06:28	05:15	05:46 (1)	04:27
	15:55	16:58	17:59	20:04	21:07	10 05:56 (1)	21:58
9	08:44	07:56	06:48	06:26	05:13	05:45 (1)	04:26
	15:56	17:00	18:02	20:06	21:09	11 05:56 (1)	21:59
10	08:44	07:54	06:46	06:23	05:11	05:45 (1)	04:26
	15:58	17:02	18:04	20:09	21:11	11 05:56 (1)	22:00
11	08:43	07:52	06:43	06:21	05:09	05:45 (1)	04:25
	16:00	17:04	18:06	20:11	21:13	12 05:57 (1)	22:01
12	08:42	07:50	06:40	06:18	05:07	05:45 (1)	04:24
	16:01	17:07	18:08	20:13	21:15	12 05:57 (1)	22:02
13	08:41	07:48	06:38	06:15	05:05	05:44 (1)	04:24
	16:03	17:09	18:10	20:15	21:17	13 05:57 (1)	22:03
14	08:40	07:45	06:35	06:13	05:03	05:44 (1)	04:24
	16:05	17:11	18:12	20:17	21:19	13 05:57 (1)	22:04
15	08:39	07:43	06:32	06:10	05:01	05:44 (1)	04:23
	16:07	17:13	18:14	20:19	21:20	13 05:57 (1)	22:05
16	08:38	07:41	06:30	06:08	04:59	05:44 (1)	04:23
	16:09	17:16	18:16	20:21	21:22	14 05:58 (1)	22:05
17	08:37	07:38	06:27	06:05	04:57	05:44 (1)	04:23
	16:11	17:18	18:19	20:23	21:24	15 05:59 (1)	22:06
18	08:35	07:36	06:24	06:02	04:55	05:44 (1)	04:23
	16:13	17:20	18:21	20:25	21:26	15 05:59 (1)	22:06
19	08:34	07:34	06:22	06:00	04:53	05:45 (1)	04:23
	16:15	17:22	18:23	20:27	21:28	15 06:00 (1)	22:07
20	08:33	07:31	06:19	05:57	04:51	05:45 (1)	04:23
	16:17	17:25	18:25	20:29	21:30	16 06:01 (1)	22:07
21	08:31	07:29	06:16	05:55	04:50	05:46 (1)	04:23
	16:19	17:27	18:27	20:31	21:32	17 06:03 (1)	22:07
22	08:30	07:26	06:14	05:52	04:48	05:45 (1)	04:23
	16:21	17:29	18:29	20:34	21:33	19 06:04 (1)	22:08
23	08:28	07:24	06:11	05:50	04:46	05:46 (1)	04:23
	16:23	17:31	18:31	20:36	21:35	20 06:06 (1)	22:08
24	08:27	07:21	06:08	05:47	04:45	05:47 (1)	04:23
	16:25	17:33	18:33	20:38	21:37	23 06:10 (1)	22:08
25	08:25	07:19	06:06	05:45	04:43	05:47 (1)	04:24
	16:27	17:36	18:35	20:40	21:39	22 06:09 (1)	22:08
26	08:23	07:16	06:03	05:43	04:42	05:48 (1)	04:24
	16:29	17:38	18:37	20:42	21:40	21 06:09 (1)	22:08
27	08:22	07:14	06:00	05:40	04:40	05:49 (1)	04:25
	16:31	17:40	18:39	20:44	21:42	20 06:09 (1)	22:08
28	08:20	07:11	05:58	05:38	04:39	05:51 (1)	04:25
	16:33	17:42	18:42	20:46	21:44	17 06:08 (1)	22:08
29	08:18		05:55	05:35	04:37	05:51 (1)	04:26
	16:35		18:44	20:48	21:45	15 06:06 (1)	22:07
30	08:16		06:52	05:33	04:36	05:52 (1)	04:27
	16:38		19:46	20:50	21:47	14 06:06 (1)	22:07
31	08:15		06:50		04:35	05:54 (1)	
	16:40		19:48		21:48	10 06:04 (1)	
Potential sun hours	235	265	365	425	507	528	
Total, worst case					393		8
Sun reduction					0,53		0,54
Oper. time red.					0,94		0,94
Wind dir. red.					0,68		0,68
Total reduction					0,34		0,34
Total, real					133		3

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

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

Calculation: Real Case Curtailment Shadow receptor: BG - Me ž mui ž a

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	July	August	September	October	November	December
1	04:27 22:07	05:13 21:26	05:55 (1) 06:07 (1)	06:14 20:12	07:14 18:52	07:19 16:34
2	04:28 22:06	05:15 21:24	05:55 (1) 06:07 (1)	06:16 20:10	07:16 18:49	07:22 16:32
3	04:29 22:06	05:17 21:22	05:55 (1) 06:06 (1)	06:18 20:07	07:18 18:47	07:24 16:30
4	04:30 22:05	05:18 21:20	05:56 (1) 06:06 (1)	06:20 20:04	07:20 18:44	07:26 16:28
5	04:31 22:04	05:20 21:18	05:56 (1) 06:06 (1)	06:22 20:02	07:22 18:41	07:28 16:25
6	04:32 22:04	05:22 21:15	05:58 (1) 06:07 (1)	06:24 19:59	07:24 18:39	07:30 16:23
7	04:33 22:03	05:24 21:13	06:00 (1) 06:07 (1)	06:26 19:56	07:26 18:36	07:32 16:21
8	04:34 22:02	05:26 21:11	06:01 (1) 06:06 (1)	06:28 19:54	07:28 18:33	07:35 16:19
9	04:35 22:01	05:28 21:09	06:03 (1) 06:07 (1)	06:30 19:51	07:31 18:31	07:37 16:17
10	04:37 22:00	05:30 21:07	06:05 (1) 06:07 (1)	06:32 19:48	07:33 18:28	07:39 16:15
11	04:38 21:59	05:32 21:04	06:07 (1)	06:34 19:46	07:35 18:25	07:41 16:13
12	04:39 21:58	05:34 21:02	06:08 (1)	06:36 19:43	07:37 18:23	07:43 16:11
13	04:41 21:57	05:36 21:00	06:09 (1)	06:38 19:40	07:39 18:20	07:45 16:09
14	04:42 21:56	05:38 20:57	06:10 (1)	06:40 19:38	07:41 18:18	07:48 16:07
15	04:43 21:54	05:40 20:55	06:11 (1)	06:42 19:35	07:43 18:15	07:50 16:06
16	04:45 21:53	05:42 20:53	06:12 (1)	06:44 19:32	07:45 18:13	07:52 16:04
17	04:46 21:52	05:44 20:50	06:13 (1)	06:46 19:30	07:47 18:10	07:54 16:02
18	04:48 21:50	05:46 20:48	06:14 (1)	06:48 19:27	07:49 18:08	07:56 16:00
19	04:50 21:49	05:48 20:45	06:15 (1)	06:50 19:24	07:51 18:05	07:58 15:59
20	04:51 21:47	05:50 20:43	06:16 (1)	06:52 19:21	07:54 18:03	08:00 15:57
21	04:53 21:46	05:52 20:40	06:17 (1)	06:54 19:19	07:56 18:00	08:02 15:56
22	04:55 21:44	05:54 20:38	06:18 (1)	06:56 19:16	07:58 17:58	08:04 15:54
23	04:56 21:43	05:56 20:35	06:19 (1)	06:58 19:13	08:00 17:55	08:06 15:53
24	04:58 21:41	05:58 20:33	06:20 (1)	07:00 19:11	08:02 17:53	08:08 15:51
25	05:00 21:39	06:00 20:30	06:21 (1)	07:02 19:08	08:04 17:50	08:10 15:50
26	05:02 21:37	06:02 20:28	06:22 (1)	07:04 19:05	08:06 17:48	08:12 15:49
27	05:03 21:36	06:04 20:25	06:23 (1)	07:06 19:03	08:08 17:46	08:14 15:47
28	05:05 21:34	06:06 20:23	06:24 (1)	07:08 19:00	08:10 17:43	08:16 15:46
29	05:07 21:32	06:08 20:20	06:25 (1)	07:10 18:57	08:12 17:41	08:18 15:45
30	05:09 21:30	06:10 20:17	06:26 (1)	07:12 18:55	08:14 17:39	08:19 15:44
31	05:11 21:28	06:12 20:15	06:27 (1)	07:14 18:53	08:16 17:37	08:20 15:43
Potential sun hours	529	470	385	324	248	216
Total, worst case	314	82				
Sun reduction	0,51	0,51				
Oper. time red.	0,94	0,94				
Wind dir. red.	0,68	0,68				
Total reduction	0,32	0,33				
Total, real	101	27				

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

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

Calculation: Real Case Curtailment Shadow receptor: BH - Krastini

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	
1	08:48	08:13	07:09	06:47	05:31	04:34	05:53 (1)
	15:45	16:42	17:44	19:50	20:52	21:50	14 06:07 (1)
2	08:48	08:11	07:06	06:44	05:28	04:33	05:54 (1)
	15:46	16:44	17:47	19:52	20:54	21:51	12 06:06 (1)
3	08:48	08:09	07:04	06:42	05:26	05:56 (1)	04:31 05:57 (1)
	15:48	16:46	17:49	19:54	20:56	2 05:58 (1)	21:52 06:05 (1)
4	08:47	08:07	07:01	06:39	05:24	05:54 (1)	04:30 05:59 (1)
	15:49	16:49	17:51	19:56	20:58	3 05:57 (1)	21:54 06:03 (1)
5	08:47	08:05	06:59	06:36	05:22	05:52 (1)	04:29
	15:50	16:51	17:53	19:58	21:01	5 05:57 (1)	21:55
6	08:46	08:03	06:56	06:34	05:19	05:50 (1)	04:29
	15:52	16:53	17:55	20:00	21:03	7 05:57 (1)	21:56
7	08:46	08:01	06:53	06:31	05:17	05:48 (1)	04:28
	15:53	16:55	17:57	20:02	21:05	8 05:56 (1)	21:57
8	08:45	07:59	06:51	06:28	05:15	05:47 (1)	04:27
	15:55	16:58	17:59	20:04	21:07	9 05:56 (1)	21:58
9	08:44	07:56	06:48	06:26	05:13	05:46 (1)	04:26
	15:56	17:00	18:02	20:06	21:09	10 05:56 (1)	21:59
10	08:44	07:54	06:46	06:23	05:11	05:45 (1)	04:26
	15:58	17:02	18:04	20:09	21:11	11 05:56 (1)	22:00
11	08:43	07:52	06:43	06:21	05:09	05:46 (1)	04:25
	16:00	17:04	18:06	20:11	21:13	11 05:57 (1)	22:01
12	08:42	07:50	06:40	06:18	05:07	05:45 (1)	04:24
	16:01	17:07	18:08	20:13	21:15	12 05:57 (1)	22:02
13	08:41	07:48	06:38	06:15	05:05	05:45 (1)	04:24
	16:03	17:09	18:10	20:15	21:17	12 05:57 (1)	22:03
14	08:40	07:45	06:35	06:13	05:03	05:44 (1)	04:24
	16:05	17:11	18:12	20:17	21:19	13 05:57 (1)	22:04
15	08:39	07:43	06:32	06:10	05:01	05:44 (1)	04:23
	16:07	17:13	18:14	20:19	21:20	13 05:57 (1)	22:05
16	08:38	07:41	06:30	06:08	04:59	05:45 (1)	04:23
	16:09	17:16	18:16	20:21	21:22	13 05:58 (1)	22:05
17	08:37	07:38	06:27	06:05	04:57	05:44 (1)	04:23
	16:11	17:18	18:19	20:23	21:24	15 05:59 (1)	22:06
18	08:35	07:36	06:24	06:02	04:55	05:44 (1)	04:23
	16:13	17:20	18:21	20:25	21:26	15 05:59 (1)	22:06
19	08:34	07:34	06:22	06:00	04:53	05:45 (1)	04:23
	16:15	17:22	18:23	20:27	21:28	15 06:00 (1)	22:07
20	08:33	07:31	06:19	05:57	04:51	05:45 (1)	04:23
	16:17	17:25	18:25	20:29	21:30	16 06:01 (1)	22:07
21	08:31	07:29	06:16	05:55	04:50	05:46 (1)	04:23
	16:19	17:27	18:27	20:31	21:32	17 06:03 (1)	22:07
22	08:30	07:26	06:14	05:52	04:48	05:45 (1)	04:23
	16:21	17:29	18:29	20:34	21:33	19 06:04 (1)	22:08
23	08:28	07:24	06:11	05:50	04:46	05:46 (1)	04:23
	16:23	17:31	18:31	20:36	21:35	20 06:06 (1)	22:08
24	08:27	07:21	06:08	05:47	04:45	05:47 (1)	04:23
	16:25	17:33	18:33	20:38	21:37	23 06:10 (1)	22:08
25	08:25	07:19	06:06	05:45	04:43	05:47 (1)	04:24
	16:27	17:36	18:35	20:40	21:39	25 06:12 (1)	22:08
26	08:23	07:16	06:03	05:43	04:42	05:48 (1)	04:24
	16:29	17:38	18:37	20:42	21:40	24 06:12 (1)	22:08
27	08:22	07:14	06:00	05:40	04:40	05:49 (1)	04:25
	16:31	17:40	18:39	20:44	21:42	22 06:11 (1)	22:08
28	08:20	07:11	05:58	05:38	04:39	05:50 (1)	04:25
	16:33	17:42	18:42	20:46	21:44	21 06:11 (1)	22:08
29	08:18		05:55	05:35	04:37	05:50 (1)	04:26
	16:35		18:44	20:48	21:45	19 06:09 (1)	22:07
30	08:16		06:52	05:33	04:36	05:51 (1)	04:27
	16:38		19:46	20:50	21:47	18 06:09 (1)	22:07
31	08:15		06:50		04:35	05:52 (1)	
	16:40		19:48		21:48	16 06:08 (1)	
Potential sun hours	235	265	365	425	507	528	
Total, worst case					414		38
Sun reduction					0,53		0,54
Oper. time red.					0,94		0,94
Wind dir. red.					0,68		0,68
Total reduction					0,34		0,34
Total, real					140		13

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

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

Calculation: Real Case Curtailment Shadow receptor: BH - Krastini

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	July	August	September	October	November	December
1	04:27	05:13	05:56 (1)	06:14	07:14	07:19
	22:07	21:26	11 06:07 (1)	20:12	18:52	16:34
2	04:28	05:15	05:56 (1)	06:16	07:16	07:22
	22:06	21:24	11 06:07 (1)	20:10	18:49	16:32
3	04:29	05:17	05:56 (1)	06:18	07:18	07:24
	22:06	21:22	10 06:06 (1)	20:07	18:47	16:30
4	04:30	05:18	05:56 (1)	06:20	07:20	07:26
	22:05	21:20	10 06:06 (1)	20:04	18:44	16:28
5	04:31	05:20	05:57 (1)	06:22	07:22	07:28
	22:04	21:18	9 06:06 (1)	20:02	18:41	16:25
6	04:32	05:22	05:58 (1)	06:24	07:24	07:30
	22:04	21:15	9 06:07 (1)	19:59	18:39	16:23
7	04:33	05:24	06:00 (1)	06:26	07:26	07:32
	22:03	21:13	7 06:07 (1)	19:56	18:36	16:21
8	04:34	05:26	06:01 (1)	06:28	07:28	07:35
	22:02	21:11	5 06:06 (1)	19:54	18:33	16:19
9	04:35	05:28	06:03 (1)	06:30	07:31	07:37
	22:01	4 06:10 (1)	21:09	4 06:07 (1)	19:51	18:31
10	04:37	05:30	06:05 (1)	06:32	07:33	07:39
	22:00	8 06:12 (1)	21:07	2 06:07 (1)	19:48	18:28
11	04:38	05:32	06:34	07:35	07:41	08:36
	21:59	12 06:14 (1)	21:04	19:46	18:25	16:13
12	04:39	05:34	06:36	07:37	07:43	08:37
	21:58	14 06:15 (1)	21:02	19:43	18:23	16:11
13	04:41	05:36	06:38	07:39	07:45	08:39
	21:57	16 06:17 (1)	21:00	19:40	18:20	16:09
14	04:42	05:38	06:40	07:41	07:48	08:40
	21:56	18 06:18 (1)	20:57	19:38	18:18	16:07
15	04:43	05:40	06:42	07:43	07:50	08:41
	21:54	19 06:18 (1)	20:55	19:35	18:15	16:06
16	04:45	05:42	06:44	07:45	07:52	08:42
	21:53	21 06:20 (1)	20:53	19:32	18:13	16:04
17	04:46	05:44	06:46	07:47	07:54	08:43
	21:52	22 06:20 (1)	20:50	19:30	18:10	16:02
18	04:48	05:46	06:48	07:49	07:56	08:44
	21:50	24 06:21 (1)	20:48	19:27	18:08	16:00
19	04:50	05:48	06:50	07:51	07:58	08:44
	21:49	25 06:22 (1)	20:45	19:24	18:05	15:59
20	04:51	05:50	06:52	07:54	08:00	08:45
	21:47	23 06:19 (1)	20:43	19:21	18:03	15:57
21	04:53	05:52	06:54	07:56	08:02	08:46
	21:46	20 06:16 (1)	20:40	19:19	18:00	15:56
22	04:55	05:54	06:56	07:58	08:04	08:46
	21:44	18 06:14 (1)	20:38	19:16	17:58	15:54
23	04:56	05:56	06:58	08:00	08:06	08:47
	21:43	17 06:13 (1)	20:35	19:13	17:55	15:53
24	04:58	05:58	07:00	08:02	08:08	08:47
	21:41	16 06:11 (1)	20:33	19:11	17:53	15:51
25	05:00	06:00	07:02	08:04	08:10	08:48
	21:39	16 06:11 (1)	20:30	19:08	17:50	15:50
26	05:02	06:02	07:04	07:06	08:12	08:48
	21:37	15 06:10 (1)	20:28	19:05	16:48	15:49
27	05:03	06:04	07:06	07:09	08:14	08:48
	21:36	14 06:09 (1)	20:25	19:03	16:46	15:47
28	05:05	06:06	07:08	07:11	08:16	08:48
	21:34	14 06:09 (1)	20:23	19:00	16:43	15:46
29	05:07	06:08	07:10	07:13	08:18	08:48
	21:32	13 06:08 (1)	20:20	18:57	16:41	15:45
30	05:09	06:10	07:12	07:15	08:19	08:48
	21:30	12 06:07 (1)	20:17	18:55	16:39	15:44
31	05:11	06:12	07:17	07:17	08:21	08:48
	21:28	12 06:07 (1)	20:15	18:52	16:36	15:44
Potential sun hours	529	470	385	324	248	216
Total, worst case	373	78				
Sun reduction	0,51	0,51				
Oper. time red.	0,94	0,94				
Wind dir. red.	0,68	0,68				
Total reduction	0,32	0,33				
Total, real	120	25				

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BI - Strauti

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:25
	15:48	16:47	17:49	19:54	20:56	21:52	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:19	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:54	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:33	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:29	07:35	08:32
	15:55	16:58	18:00	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:34
	15:57	17:00	18:02	20:07	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:13	22:01	21:59	21:04	19:46	18:26	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:38
	16:02	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:17	20:21	21:22	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:24	06:03	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:52	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:32	21:32	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:22	06:08	05:47	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:17	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:40	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:12	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:18	08:48
	16:36		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2026-02-Ecosoul-MEŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BJ - Purenes

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

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

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Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BK - Uplejas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BL - Bazes stacija

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:50	04:27 22:07	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:47	08:11 16:44	07:06 17:47	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:48	08:09 16:47	07:04 17:49	06:42 19:54	05:26 20:56	04:32 21:52	04:29 22:06	05:17 21:22	06:18 20:07	07:18 18:47	07:24 16:30	08:25 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:59	04:31 21:54	04:30 22:05	05:19 21:20	06:20 20:04	07:20 18:44	07:26 16:28	08:26 15:40
5	08:47 15:51	08:05 16:51	06:59 17:53	06:36 19:58	05:22 21:01	04:30 21:55	04:31 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	04:29 21:56	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:39	07:30 16:23	08:29 15:39
7	08:46 15:53	08:01 16:55	06:54 17:57	06:31 20:02	05:17 21:05	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	08:45 15:55	07:59 16:58	06:51 18:00	06:28 20:04	05:15 21:07	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:54	07:29 18:33	07:35 16:19	08:32 15:37
9	08:44 15:57	07:56 17:00	06:48 18:02	06:26 20:07	05:13 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:31 18:31	07:37 16:17	08:34 15:37
10	08:44 15:58	07:54 17:02	06:46 18:04	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:30 21:07	06:32 19:48	07:33 18:28	07:39 16:15	08:35 15:36
11	08:43 16:00	07:52 17:04	06:43 18:06	06:21 20:11	05:09 21:13	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:26	07:41 16:13	08:36 15:36
12	08:42 16:02	07:50 17:07	06:40 18:08	06:18 20:13	05:07 21:15	04:25 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:36
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:05 21:17	04:24 22:03	04:41 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:36
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:03 21:19	04:24 22:04	04:42 21:56	05:38 20:57	06:40 19:38	07:41 18:18	07:48 16:07	08:40 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:06	08:41 15:35
16	08:38 16:09	07:41 17:16	06:30 18:16	06:08 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:53	06:44 19:32	07:45 18:13	07:52 16:04	08:42 15:35
17	08:37 16:11	07:38 17:18	06:27 18:19	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:30	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:13	07:36 17:20	06:24 18:21	06:03 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:08	07:56 16:00	08:44 15:36
19	08:34 16:15	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:07	04:50 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:33 16:17	07:31 17:25	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:54 18:03	08:00 15:57	08:45 15:36
21	08:31 16:19	07:29 17:27	06:16 18:27	05:55 20:32	04:50 21:32	04:23 22:07	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:56	08:46 15:36
22	08:30 16:21	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:33	04:23 22:08	04:55 21:44	05:54 20:38	06:56 19:16	07:58 17:58	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:47 15:37
24	08:27 16:25	07:22 17:33	06:08 18:33	05:47 20:38	04:45 21:37	04:24 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:36	06:06 18:35	05:45 20:40	04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:39
26	08:23 16:29	07:17 17:38	06:03 18:37	05:43 20:42	04:42 21:40	04:24 22:08	05:02 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:49	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:40	05:40 20:44	04:40 21:42	04:25 22:08	05:03 21:36	06:04 20:25	07:06 19:03	07:09 16:46	08:14 15:47	08:48 15:40
28	08:20 16:33	07:12 17:42	05:58 18:42	05:38 20:46	04:39 21:44	04:25 22:08	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:36		05:55 18:44	05:35 20:48	04:38 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:48 15:42
30	08:16 16:38		06:52 19:46	05:33 20:50	04:36 21:47	04:27 22:07	05:09 21:30	06:10 20:17	07:12 18:55	07:15 16:39	08:19 15:44	08:48 15:43
31	08:15 16:40		06:50 19:48		04:35 21:48		05:11 21:28	06:12 20:15	07:17 16:36			08:48 15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BM - Spridi š i

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:25
	15:48	16:47	17:49	19:54	20:56	21:52	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:19	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:51	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:54	06:31	05:17	04:28	04:33	05:24	06:26	07:27	07:33	08:31
	15:53	16:56	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:29	07:35	08:32
	15:55	16:58	18:00	20:04	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:34
	15:57	17:00	18:02	20:07	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:13	22:01	21:59	21:04	19:46	18:26	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:38
	16:02	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:33	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:17	20:21	21:22	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:25	06:03	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:52	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:22	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:32	21:32	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:22	06:08	05:48	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:17	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:40	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:12	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:38	04:26	05:07	06:08	07:10	07:13	08:18	08:48
	16:36		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BN - Klavas

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:31	04:29	05:16	06:18	07:18	07:24	08:24
	15:48	16:46	17:49	19:54	20:56	21:52	22:05	21:22	20:07	18:46	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:59	06:36	05:21	04:29	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:00	21:55	22:04	21:17	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:39
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	15:53	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:36	16:21	15:38
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	15:55	16:58	17:59	20:04	21:06	21:58	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:30	07:37	08:33
	15:56	17:00	18:02	20:06	21:09	21:59	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:08	21:11	22:00	22:00	21:06	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:13	22:01	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:37
	16:01	17:07	18:08	20:13	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:04	04:24	04:40	05:36	06:38	07:39	07:45	08:38
	16:03	17:09	18:10	20:15	21:16	22:03	21:57	21:00	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:13	05:02	04:24	04:42	05:38	06:40	07:41	07:47	08:40
	16:05	17:11	18:12	20:17	21:18	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:07	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:13	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:12	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:18	17:27	18:27	20:31	21:32	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:54	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:42	20:35	19:13	17:55	15:53	15:37
24	08:27	07:21	06:08	05:47	04:45	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:47
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:38
26	08:23	07:16	06:03	05:42	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:35	20:25	19:02	16:46	15:47	15:40
28	08:20	07:11	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:34	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:17	08:48
	16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15:43
31	08:14		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BO - Kaupres

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:21	08:23
	15:47	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:32	15:42
3	08:47	08:09	07:04	06:42	05:26	04:31	04:29	05:17	06:18	07:18	07:24	08:24
	15:48	16:46	17:49	19:54	20:56	21:52	22:05	21:22	20:07	18:46	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:00	21:55	22:04	21:17	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:58	17:59	20:04	21:06	21:58	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:30	07:37	08:33
	15:56	17:00	18:02	20:06	21:08	21:59	22:01	21:09	19:51	18:31	16:17	15:37
10	08:43	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:12	22:01	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:37
	16:01	17:07	18:08	20:13	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:38
	16:03	17:09	18:10	20:15	21:16	22:03	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:47	08:40
	16:05	17:11	18:12	20:17	21:18	22:04	21:55	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:13	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:17	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:31	21:31	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:42	20:35	19:13	17:55	15:53	15:37
24	08:27	07:21	06:08	05:47	04:45	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:47
	16:27	17:36	18:35	20:40	21:38	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:35	20:25	19:02	16:46	15:47	15:40
28	08:20	07:11	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:34	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:17	08:48
	16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15:43
31	08:14		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: BP - Kaupres 1

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:21	08:23
	15:47	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:32	15:42
3	08:47	08:09	07:04	06:42	05:26	04:31	04:29	05:17	06:18	07:18	07:24	08:24
	15:48	16:46	17:49	19:54	20:56	21:52	22:05	21:22	20:07	18:46	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:00	21:55	22:04	21:17	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:58	17:59	20:04	21:06	21:58	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:30	07:37	08:33
	15:56	17:00	18:02	20:06	21:08	21:59	22:01	21:09	19:51	18:31	16:17	15:37
10	08:43	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:12	22:01	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:24	04:39	05:34	06:36	07:37	07:43	08:37
	16:01	17:07	18:08	20:13	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:38
	16:03	17:09	18:10	20:15	21:16	22:03	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:47	08:40
	16:05	17:11	18:12	20:17	21:18	22:04	21:55	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:13	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:17	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:31	21:31	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:42	20:35	19:13	17:55	15:53	15:37
24	08:27	07:21	06:08	05:47	04:45	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:47
	16:27	17:36	18:35	20:40	21:38	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:35	20:25	19:02	16:46	15:47	15:40
28	08:20	07:11	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:34	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:17	08:48
	16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15:43
31	08:14		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BQ - Lici š

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:20	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:25
	15:48	16:47	17:49	19:54	20:57	21:52	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:19	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:51	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:16	19:59	18:39	16:23	15:39
7	08:46	08:01	06:54	06:31	05:17	04:28	04:33	05:24	06:26	07:27	07:33	08:31
	15:53	16:56	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:29	07:35	08:32
	15:55	16:58	18:00	20:05	21:07	21:59	22:02	21:11	19:54	18:33	16:19	15:37
9	08:45	07:57	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:34
	15:57	17:00	18:02	20:07	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:01	22:00	21:07	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:05	18:06	20:11	21:13	22:02	21:59	21:04	19:46	18:26	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:38
	16:02	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:46	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:33	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:21	22:05	21:55	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:17	20:21	21:22	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:25	06:03	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:52	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:22	18:03	15:57	15:36
21	08:31	07:29	06:17	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:32	21:32	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:22	06:08	05:48	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:24	07:17	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:07	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:40	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:12	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:38	04:26	05:07	06:08	07:10	07:13	08:18	08:48
	16:36		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:17		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:18	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: BR - Liepsala

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	08:13	07:09	06:47	05:31	04:34 05:50 (21)
	15:45	16:42	17:44	19:50	20:52	12 06:33 (2)
2	08:48	08:11	07:06	06:44	05:28	04:32 05:50 (21)
	15:46	16:44	17:46	19:52	20:54	12 06:33 (2)
3	08:48	08:09	07:04	06:42	05:26	04:31 05:50 (21)
	15:48	16:46	17:49	19:54	20:56	12 06:33 (2)
4	08:47	08:07	07:01	06:39	05:24	04:30 05:51 (21)
	15:49	16:49	17:51	19:56	20:58	12 06:34 (2)
5	08:47	08:05	06:59	06:36	05:21	04:29 05:51 (21)
	15:50	16:51	17:53	19:58	21:00	11 06:33 (2)
6	08:46	08:03	06:56	06:34	05:19	04:29 05:51 (21)
	15:52	16:53	17:55	20:00	21:02	11 06:33 (2)
7	08:46	08:01	06:53	06:31	05:17	06:01 (2) 04:28 05:52 (21)
	15:53	16:55	17:57	20:02	21:04	13 06:14 (2) 21:57 11 06:34 (2)
8	08:45	07:58	06:51	06:28	05:15	05:58 (2) 04:27 05:52 (21)
	15:55	16:58	17:59	20:04	21:06	19 06:17 (2) 21:58 11 06:34 (2)
9	08:44	07:56	06:48	06:26	05:13	06:08 (2) 04:26 05:52 (21)
	15:56	17:00	18:02	20:06	21:09	11 06:19 (2) 21:59 10 06:33 (2)
10	08:44	07:54	06:46	06:23	05:11	06:11 (2) 04:26 05:52 (21)
	15:58	17:02	18:04	20:08	21:11	10 06:21 (2) 22:00 11 06:34 (2)
11	08:43	07:52	06:43	06:20	05:09	06:13 (2) 04:25 05:53 (21)
	16:00	17:04	18:06	20:11	21:12	9 06:22 (2) 22:01 11 06:35 (2)
12	08:42	07:50	06:40	06:18	05:06	06:15 (2) 04:24 05:52 (21)
	16:01	17:07	18:08	20:13	21:14	9 06:24 (2) 22:02 11 06:34 (2)
13	08:41	07:47	06:38	06:15	05:04	06:16 (2) 04:24 05:53 (21)
	16:03	17:09	18:10	20:15	21:16	9 06:25 (2) 22:03 11 06:35 (2)
14	08:40	07:45	06:35	06:13	05:02	06:17 (2) 04:24 05:53 (21)
	16:05	17:11	18:12	20:17	21:18	9 06:26 (2) 22:04 11 06:35 (2)
15	08:39	07:43	06:32	06:10	05:01	06:18 (2) 04:23 05:53 (21)
	16:07	17:13	18:14	20:19	21:20	8 06:26 (2) 22:04 10 06:34 (2)
16	08:38	07:41	06:30	06:07	04:59	05:32 (21) 04:23 05:53 (21)
	16:09	17:16	18:16	20:21	21:22	18 06:28 (2) 22:05 11 06:35 (2)
17	08:36	07:38	06:27	06:05	04:57	05:39 (21) 04:23 05:53 (21)
	16:11	17:18	18:18	20:23	21:24	13 06:28 (2) 22:06 11 06:35 (2)
18	08:35	07:36	06:24	06:02	04:55	05:41 (21) 04:23 05:53 (21)
	16:12	17:20	18:21	20:25	21:26	13 06:28 (2) 22:06 11 06:35 (2)
19	08:34	07:34	06:22	06:00	04:53	05:43 (21) 04:23 05:54 (21)
	16:14	17:22	18:23	20:27	21:28	12 06:29 (2) 22:07 10 06:35 (2)
20	08:32	07:31	06:19	05:57	04:51	05:44 (21) 04:23 05:54 (21)
	16:16	17:24	18:25	20:29	21:30	11 06:29 (2) 22:07 10 06:35 (2)
21	08:31	07:29	06:16	05:55	04:50	05:45 (21) 04:23 05:55 (21)
	16:18	17:27	18:27	20:31	21:32	11 06:30 (2) 22:07 10 06:36 (2)
22	08:30	07:26	06:14	05:52	04:48	05:46 (21) 04:23 05:55 (21)
	16:21	17:29	18:29	20:33	21:33	12 06:30 (2) 22:07 10 06:36 (2)
23	08:28	07:24	06:11	05:50	04:46	05:47 (21) 04:23 05:55 (21)
	16:23	17:31	18:31	20:36	21:35	12 06:31 (2) 22:08 10 06:36 (2)
24	08:27	07:21	06:08	05:47	04:45	05:47 (21) 04:23 05:55 (21)
	16:25	17:33	18:33	20:38	21:37	12 06:31 (2) 22:08 10 06:36 (2)
25	08:25	07:19	06:06	05:45	04:43	05:48 (21) 04:24 05:55 (21)
	16:27	17:36	18:35	20:40	21:39	10 06:31 (2) 22:08 11 06:37 (2)
26	08:23	07:16	06:03	05:42	04:42	05:48 (21) 04:24 05:55 (21)
	16:29	17:38	18:37	20:42	21:40	12 06:32 (2) 22:08 11 06:37 (2)
27	08:22	07:14	06:00	05:40	04:40	05:49 (21) 04:25 05:56 (21)
	16:31	17:40	18:39	20:44	21:42	11 06:32 (2) 22:08 11 06:38 (2)
28	08:20	07:11	05:58	05:38	04:39	05:49 (21) 04:25 05:56 (21)
	16:33	17:42	18:41	20:46	21:43	11 06:32 (2) 22:07 10 06:37 (2)
29	08:18		05:55	05:35	04:37	05:49 (21) 04:26 05:56 (21)
	16:35		18:44	20:48	21:45	12 06:32 (2) 22:07 11 06:38 (2)
30	08:16		06:52	05:33	04:36	05:50 (21) 04:27 05:57 (21)
	16:38		19:46	20:50	21:47	10 06:32 (2) 22:07 11 06:39 (2)
31	08:14		06:50		04:35	05:50 (21)
	16:40		19:48		21:48	11 06:32 (2)
Potential sun hours	235	265	365	425	507	528
Total, worst case					288	325
Sun reduction					0,53	0,54
Oper. time red.					0,94	0,94
Wind dir. red.					0,68	0,68
Total reduction					0,34	0,34
Total, real					97	111

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BR - Liepsala

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

		July		August		September	October	November	December	
1	04:27		05:56 (21)	05:13		06:26 (2)	06:14	07:14	07:19	08:21
	22:06	11	06:38 (2)	21:26	9	06:35 (2)	20:12	18:52	16:34	15:43
2	04:28		05:57 (21)	05:15		06:24 (2)	06:16	07:16	07:21	08:23
	22:06	11	06:39 (2)	21:24	10	06:34 (2)	20:09	18:49	16:32	15:42
3	04:29		05:57 (21)	05:16		06:22 (2)	06:18	07:18	07:24	08:24
	22:05	11	06:39 (2)	21:22	10	06:32 (2)	20:07	18:46	16:30	15:41
4	04:30		05:58 (21)	05:18		06:19 (2)	06:20	07:20	07:26	08:26
	22:05	10	06:39 (2)	21:20	11	06:30 (2)	20:04	18:44	16:27	15:40
5	04:31		05:58 (21)	05:20		06:08 (2)	06:22	07:22	07:28	08:28
	22:04	11	06:40 (2)	21:17	15	06:28 (2)	20:02	18:41	16:25	15:39
6	04:32		05:58 (21)	05:22		06:11 (2)	06:24	07:24	07:30	08:39
	22:03	11	06:40 (2)	21:15	14	06:25 (2)	19:59	18:38	16:23	15:39
7	04:33		05:58 (21)	05:24		06:17 (2)	06:26	07:26	07:32	08:31
	22:03	11	06:40 (2)	21:13	1	06:18 (2)	19:56	18:36	16:21	15:38
8	04:34		05:58 (21)	05:26			06:28	07:28	07:34	08:32
	22:02	11	06:40 (2)	21:11			19:54	18:33	16:19	15:37
9	04:35		05:58 (21)	05:28			06:30	07:30	07:37	08:33
	22:01	12	06:41 (2)	21:09			19:51	18:31	16:17	15:37
10	04:37		05:58 (21)	05:30			06:32	07:33	07:39	08:35
	22:00	12	06:41 (2)	21:06			19:48	18:28	16:15	15:36
11	04:38		05:58 (21)	05:32			06:34	07:35	07:41	08:36
	21:59	12	06:41 (2)	21:04			19:46	18:25	16:13	15:36
12	04:39		05:58 (21)	05:34			06:36	07:37	07:43	08:37
	21:58	12	06:41 (2)	21:02			19:43	18:23	16:11	15:36
13	04:40		05:58 (21)	05:36			06:38	07:39	07:45	08:38
	21:57	11	06:40 (2)	21:00			19:40	18:20	16:09	15:35
14	04:42		05:59 (21)	05:38			06:40	07:41	07:47	08:40
	21:56	10	06:41 (2)	20:57			19:38	18:18	16:07	15:35
15	04:43		05:58 (21)	05:40			06:42	07:43	07:50	08:41
	21:54	12	06:41 (2)	20:55			19:35	18:15	16:06	15:35
16	04:45		05:58 (21)	05:42			06:44	07:45	07:52	08:42
	21:53	11	06:41 (2)	20:52			19:32	18:13	16:04	15:35
17	04:46		05:58 (21)	05:44			06:46	07:47	07:54	08:43
	21:52	11	06:41 (2)	20:50			19:29	18:10	16:02	15:35
18	04:48		05:58 (21)	05:46			06:48	07:49	07:56	08:43
	21:50	11	06:41 (2)	20:48			19:27	18:07	16:00	15:35
19	04:50		05:58 (21)	05:48			06:50	07:51	07:58	08:44
	21:49	11	06:41 (2)	20:45			19:24	18:05	15:59	15:36
20	04:51		05:57 (21)	05:50			06:52	07:53	08:00	08:45
	21:47	12	06:41 (2)	20:43			19:21	18:02	15:57	15:36
21	04:53		05:57 (21)	05:52			06:54	07:56	08:02	08:46
	21:46	12	06:41 (2)	20:40			19:19	18:00	15:55	15:36
22	04:54		05:56 (21)	05:54			06:56	07:58	08:04	08:46
	21:44	11	06:40 (2)	20:38			19:16	17:58	15:54	15:37
23	04:56		05:56 (21)	05:56			06:58	08:00	08:06	08:47
	21:42	12	06:41 (2)	20:35			19:13	17:55	15:53	15:37
24	04:58		05:54 (21)	05:58			07:00	08:02	08:08	08:47
	21:41	12	06:40 (2)	20:33			19:11	17:53	15:51	15:38
25	05:00		05:53 (21)	06:00			07:02	08:04	08:10	08:47
	21:39	13	06:40 (2)	20:30			19:08	17:50	15:50	15:38
26	05:01		05:52 (21)	06:02			07:04	07:06	08:12	08:48
	21:37	13	06:40 (2)	20:28			19:05	16:48	15:48	15:39
27	05:03		05:50 (21)	06:04			07:06	07:08	08:14	08:48
	21:35	13	06:38 (2)	20:25			19:02	16:46	15:47	15:40
28	05:05		05:42 (21)	06:06			07:08	07:11	08:16	08:48
	21:34	16	06:38 (2)	20:22			19:00	16:43	15:46	15:41
29	05:07		05:46 (21)	06:08			07:10	07:13	08:17	08:48
	21:32	12	06:38 (2)	20:20			18:57	16:41	15:45	15:42
30	05:09		06:28 (2)	06:10			07:12	07:15	08:19	08:48
	21:30	8	06:36 (2)	20:17			18:54	16:39	15:44	15:43
31	05:11		06:27 (2)	06:12				07:17		08:48
	21:28	9	06:36 (2)	20:15				16:36		15:44
Potential sun hours	529			470			385	324	248	216
Total, worst case		355		70						
Sun reduction		0,51		0,51						
Oper. time red.		0,94		0,94						
Wind dir. red.		0,68		0,68						
Total reduction		0,32		0,33						
Total, real		114		23						

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BS - Me Ž vidi

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:06	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:24
	15:48	16:47	17:49	19:54	20:56	21:52	22:05	21:22	20:07	18:46	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:00	21:55	22:04	21:17	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:04	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:35	08:32
	15:55	16:58	17:59	20:04	21:07	21:58	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:33
	15:57	17:00	18:02	20:06	21:09	21:59	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:00	22:00	21:06	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:13	22:01	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:37
	16:02	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:16	22:03	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:47	08:40
	16:05	17:11	18:12	20:17	21:18	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:13	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:31	21:32	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:42	20:35	19:13	17:55	15:53	15:37
24	08:27	07:21	06:08	05:47	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:35	20:25	19:03	16:46	15:47	15:40
28	08:20	07:11	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:17	08:48
	16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15:43
31	08:14		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BT - Me ž a Mui ž a

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

		[January	[February	[March	[April	[May		[June	[July		[August		[September	[October	[November	[December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:31 20:52			04:34 21:50	04:27 22:07		05:13 21:26	2	06:05 (1) 20:12	06:14 18:52	07:14 16:34	07:19 15:43
2	08:48 15:46	08:11 16:44	07:06 17:47	06:44 19:52	05:28 20:54	1	05:59 (1) 21:51	04:33 22:06	04:28 22:06		05:15 21:24	2	06:07 (1) 20:10	06:16 18:49	07:16 16:32	07:22 15:42
3	08:48 15:48	08:09 16:46	07:04 17:49	06:42 19:54	05:26 20:56	1	05:57 (1) 21:52	04:31 22:06	04:29 22:06		05:17 21:22	2	06:04 (1) 20:07	06:18 18:47	07:18 16:30	07:24 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:58	2	05:55 (1) 21:54	04:30 22:05	04:30 22:05		05:18 21:20	2	06:04 (1) 20:04	06:20 18:44	07:20 16:28	07:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:22 21:01	2	05:55 (1) 21:55	04:29 22:04	04:31 22:04		05:20 21:18	2	06:04 (1) 20:02	06:22 18:41	07:22 16:25	07:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	3	05:54 (1) 21:56	04:29 22:04	04:32 22:04		05:22 21:15	3	06:04 (1) 20:04	06:24 18:39	07:24 16:23	07:30 15:39
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	2	05:54 (1) 21:57	04:28 22:03	04:33 22:03		05:24 21:13	3	06:04 (1) 20:06	06:26 18:36	07:26 16:21	07:32 15:38
8	08:45 15:55	07:59 16:58	06:51 17:59	06:28 20:04	05:15 21:07	2	05:54 (1) 21:58	04:27 22:02	04:34 22:02		05:26 21:11	2	06:04 (1) 20:06	06:28 18:33	07:28 16:19	07:35 15:37
9	08:44 15:56	07:56 17:00	06:48 18:02	06:26 20:06	05:13 21:09	3	05:53 (1) 21:59	04:26 22:01	04:35 22:01		05:28 21:09	3	06:04 (1) 20:07	06:30 18:31	07:31 16:17	07:37 15:37
10	08:44 15:58	07:54 17:02	06:46 18:04	06:23 20:09	05:11 21:11	3	05:53 (1) 22:00	04:26 22:00	04:37 22:00		05:30 21:07	2	06:05 (1) 20:08	06:32 18:28	07:33 16:15	07:39 15:36
11	08:43 16:00	07:52 17:04	06:43 18:06	06:21 20:11	05:09 21:13	3	05:54 (1) 22:01	04:25 21:59	04:38 21:59		05:32 21:04	1	06:07 (1) 20:09	06:34 18:25	07:35 16:13	07:41 15:36
12	08:42 16:01	07:50 17:07	06:40 18:08	06:18 20:13	05:07 21:15	3	05:54 (1) 22:02	04:24 21:58	04:39 21:58		05:34 21:02	1	06:08 (1) 20:10	06:36 18:23	07:37 16:11	07:43 15:36
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:05 21:17	3	05:54 (1) 22:03	04:24 21:57	04:41 21:57		05:36 21:00		06:38 20:11	07:39 18:20	07:45 16:09	07:48 15:36
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:03 21:19	2	05:55 (1) 22:04	04:24 21:56	04:42 21:56		05:38 20:57		06:40 20:12	07:41 18:18	07:48 16:07	08:40 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:20	2	05:55 (1) 22:05	04:23 21:54	04:43 21:54		05:40 20:55		06:42 20:13	07:43 18:15	07:50 16:06	08:41 15:35
16	08:38 16:09	07:41 17:16	06:30 18:16	06:08 20:21	04:59 21:22	2	05:56 (1) 22:05	04:23 21:53	04:45 21:53		05:42 20:53		06:44 20:14	07:45 18:13	07:52 16:04	08:42 15:35
17	08:37 16:11	07:38 17:18	06:27 18:19	06:05 20:23	04:57 21:24	3	05:56 (1) 22:06	04:23 21:52	04:46 21:52		05:44 20:50		06:46 20:15	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:13	07:36 17:20	06:24 18:21	06:02 20:25	04:55 21:26	3	05:57 (1) 22:06	04:23 21:50	04:48 21:50		05:46 20:48		06:48 20:16	07:49 18:08	07:56 16:00	08:44 15:35
19	08:34 16:15	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	2	05:59 (1) 22:07	04:23 21:49	04:50 21:49		05:48 20:45		06:50 20:17	07:51 18:05	07:58 15:59	08:44 15:36
20	08:33 16:17	07:31 17:25	06:19 18:25	05:57 20:29	04:51 21:30	1	05:59 (1) 22:07	04:23 21:47	04:51 21:47		05:50 20:43		06:52 20:18	07:54 18:03	08:00 15:57	08:45 15:36
21	08:31 16:19	07:29 17:27	06:16 18:27	05:55 20:31	04:50 21:32	2	06:01 (1) 22:07	04:23 21:46	04:53 21:46		05:52 20:40		06:54 20:19	07:56 18:00	08:02 15:56	08:46 15:36
22	08:30 16:21	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:33	2	06:03 (1) 22:08	04:23 21:44	04:55 21:44		05:54 (1) 20:38	1	06:14 (1) 20:38	06:56 17:58	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	1	06:04 (1) 22:08	04:23 21:43	04:56 21:43		05:56 (1) 20:35	1	06:12 (1) 20:35	06:58 17:55	08:06 15:53	08:47 15:37
24	08:27 16:25	07:21 17:33	06:08 18:33	05:47 20:38	04:45 21:37		06:05 (1) 22:08	04:23 21:41	04:58 21:41		05:58 (1) 20:33	1	06:10 (1) 20:33	07:00 17:53	08:02 15:51	08:08 15:38
25	08:25 16:27	07:19 17:36	06:06 18:35	05:45 20:40	04:43 21:39		06:06 (1) 22:08	04:24 21:39	05:00 21:39		05:59 (1) 20:30	2	06:09 (1) 20:30	07:02 17:50	08:04 15:50	08:10 15:39
26	08:23 16:29	07:17 17:38	06:03 18:37	05:43 20:42	04:42 21:40		06:07 (1) 22:08	04:24 21:37	05:02 21:37		06:08 (1) 20:28	2	06:10 (1) 20:28	07:04 16:48	08:06 15:49	08:12 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42		06:08 (1) 22:08	04:25 21:36	05:03 21:36		06:07 (1) 20:25	2	06:09 (1) 20:25	07:06 16:46	08:09 15:47	08:14 15:40
28	08:20 16:33	07:11 17:42	05:58 18:42	05:38 20:46	04:39 21:44		06:09 (1) 22:08	04:25 21:34	05:05 21:34		06:06 (1) 20:23	3	06:09 (1) 20:23	07:08 16:43	08:11 15:46	08:16 15:41
29	08:18 16:35		05:55 18:44	05:35 20:48	04:37 21:45		06:10 (1) 22:07	04:26 21:32	05:07 21:32		06:06 (1) 20:20	2	06:09 (1) 20:20	07:10 16:41	08:13 15:45	08:18 15:42
30	08:16 16:38		06:52 19:46	05:33 20:50	04:36 21:47		06:11 (1) 22:07	04:27 21:30	05:09 21:30		06:05 (1) 20:17	2	06:10 (1) 20:17	07:12 16:39	08:15 15:44	08:19 15:43
31	08:15 16:40		06:50 19:48		04:35 21:48			05:11 21:28	06:12 20:15		06:05 (1) 20:15	2	06:11 (1) 20:15	07:17 16:36		08:20 15:44
Potential sun hours		235	265	365	425	507		528	529		470		385	324	248	216
Total, worst case						45				18			24			
Sun reduction						0,53				0,51			0,51			
Oper. time red.						0,94				0,94			0,94			
Wind dir. red.						0,67				0,67			0,67			
Total reduction						0,34				0,32			0,32			
Total, real						15				6			8			

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BU - Vilni š i

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:50	04:27 22:07	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:46	08:11 16:44	07:06 17:47	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:48	08:09 16:46	07:04 17:49	06:42 19:54	05:26 20:56	04:31 21:52	04:29 22:06	05:17 21:22	06:18 20:07	07:18 18:47	07:24 16:30	08:25 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:54	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:28	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:22 21:01	04:29 21:55	04:31 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	04:29 21:56	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:39	07:30 16:23	08:29 15:39
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	08:45 15:55	07:59 16:58	06:51 17:59	06:28 20:04	05:15 21:07	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:02	06:26 20:06	05:13 21:09	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:31 18:31	07:37 16:17	08:34 15:37
10	08:44 15:58	07:54 17:02	06:46 18:04	06:23 20:09	05:11 21:11	04:26 22:00	04:37 22:00	05:30 21:07	06:32 19:48	07:33 18:28	07:39 16:15	08:35 15:36
11	08:43 16:00	07:52 17:04	06:43 18:06	06:21 20:11	05:09 21:13	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:07	06:40 18:08	06:18 20:13	05:07 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:36
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:05 21:17	04:24 22:03	04:41 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:36
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:03 21:19	04:24 22:04	04:42 21:56	05:38 20:57	06:40 19:38	07:41 18:18	07:48 16:07	08:40 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:06	08:41 15:35
16	08:38 16:09	07:41 17:16	06:30 18:16	06:08 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:53	06:44 19:32	07:45 18:13	07:52 16:04	08:42 15:35
17	08:37 16:11	07:38 17:18	06:27 18:19	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:30	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:13	07:36 17:20	06:24 18:21	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:08	07:56 16:00	08:44 15:35
19	08:34 16:15	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:07	04:50 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:33 16:17	07:31 17:25	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:54 18:03	08:00 15:57	08:45 15:36
21	08:31 16:19	07:29 17:27	06:16 18:27	05:55 20:31	04:50 21:32	04:23 22:07	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:56	08:46 15:36
22	08:30 16:21	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:33	04:23 22:08	04:55 21:44	05:54 20:38	06:56 19:16	07:58 17:58	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:47 15:37
24	08:27 16:25	07:21 17:33	06:08 18:33	05:47 20:38	04:45 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:36	06:06 18:35	05:45 20:40	04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:39
26	08:23 16:29	07:16 17:38	06:03 18:37	05:43 20:42	04:42 21:40	04:24 22:08	05:02 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:49	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:25 22:08	05:03 21:36	06:04 20:25	07:06 19:03	07:09 16:46	08:14 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:58 18:42	05:38 20:46	04:39 21:44	04:25 22:08	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:35		05:55 18:44	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:48 15:42
30	08:16 16:38		06:52 19:46	05:33 20:50	04:36 21:47	04:27 22:07	05:09 21:30	06:10 20:17	07:12 18:55	07:15 16:39	08:19 15:44	08:48 15:43
31	08:15 16:40		06:50 19:48		04:35 21:48		05:11 21:28	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case				3	2			3				
Sun reduction				0,48	0,53			0,51				
Oper. time red.				0,94	0,94			0,94				
Wind dir. red.				0,67	0,67			0,67				
Total reduction				0,30	0,33			0,32				
Total, real				1	1			1				

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BV - Raceni

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:46	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:31	04:29	05:17	06:18	07:18	07:24	08:25
	15:48	16:46	17:49	19:54	20:56	21:52	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:29	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:05	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:59	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:35	08:32
	15:55	16:58	17:59	20:04	21:07	21:58	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:31	07:37	08:34
	15:56	17:00	18:02	20:06	21:09	21:59	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:09	21:11	22:00	22:00	21:07	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:13	22:01	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:24	04:39	05:34	06:36	07:37	07:43	08:37
	16:01	17:07	18:08	20:13	21:15	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:17	22:03	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:48	08:40
	16:05	17:11	18:12	20:17	21:19	22:04	21:56	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:50	08:41
	16:07	17:13	18:14	20:19	21:20	22:05	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:53	19:32	18:13	16:04	15:35
17	08:37	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:30	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:44
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:35
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:54	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:46
	16:19	17:27	18:27	20:31	21:32	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:34	21:33	22:08	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:36	21:35	22:08	21:43	20:35	19:13	17:55	15:53	15:37
24	08:27	07:21	06:08	05:47	04:45	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:48
	16:27	17:36	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:09	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:36	20:25	19:03	16:46	15:47	15:40
28	08:20	07:11	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:42	20:46	21:44	22:08	21:34	20:23	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:18	08:48
	16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
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Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BW - Vipes skola

Assumptions for shadow calculations

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2025

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1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

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

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2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:50	04:27 22:07	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:47	08:11 16:44	07:06 17:47	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:48	08:09 16:47	07:04 17:49	06:42 19:54	05:26 20:56	04:32 21:52	04:29 22:06	05:17 21:22	06:18 20:07	07:18 18:47	07:24 16:30	08:25 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:59	04:31 21:54	04:30 22:05	05:19 21:20	06:20 20:04	07:20 18:44	07:26 16:28	08:26 15:40
5	08:47 15:51	08:05 16:51	06:59 17:53	06:36 19:58	05:22 21:01	04:30 21:55	04:31 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	04:29 21:56	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:39	07:30 16:23	08:29 15:39
7	08:46 15:53	08:01 16:55	06:54 17:57	06:31 20:02	05:17 21:05	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:33 16:21	08:31 15:38
8	08:45 15:55	07:59 16:58	06:51 18:00	06:28 20:04	05:15 21:07	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:54	07:29 18:33	07:35 16:19	08:32 15:37
9	08:44 15:57	07:56 17:00	06:48 18:02	06:26 20:07	05:13 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:31 18:31	07:37 16:17	08:34 15:37
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11	08:43 16:00	07:52 17:04	06:43 18:06	06:21 20:11	05:09 21:13	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:26	07:41 16:13	08:36 15:36
12	08:42 16:02	07:50 17:07	06:40 18:08	06:18 20:13	05:07 21:15	04:25 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:38 15:36
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16	08:38 16:09	07:41 17:16	06:30 18:17	06:08 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:53	06:44 19:32	07:45 18:13	07:52 16:04	08:42 15:35
17	08:37 16:11	07:38 17:18	06:27 18:19	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:30	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:13	07:36 17:20	06:24 18:21	06:03 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:08	07:56 16:00	08:44 15:36
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373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:22	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:25
	15:48	16:47	17:49	19:54	20:56	21:52	22:06	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:19	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:28
	15:51	16:51	17:53	19:58	21:01	21:55	22:04	21:18	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:03	21:56	22:04	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:54	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:33	08:31
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	15:57	17:00	18:02	20:07	21:09	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
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	16:36		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
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	16:38		19:46	20:50	21:47	22:07	21:30	20:17	18:55	16:39	15:44	15:43
31	08:15		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: BZ - Vipes skola 1

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:50	04:27 22:07	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:47	08:11 16:44	07:06 17:47	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:48	08:09 16:47	07:04 17:49	06:42 19:54	05:26 20:56	04:32 21:52	04:29 22:06	05:17 21:22	06:18 20:07	07:18 18:47	07:24 16:30	08:25 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:59	04:31 21:54	04:30 22:05	05:19 21:20	06:20 20:04	07:20 18:44	07:26 16:28	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:22 21:01	04:30 21:55	04:31 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	04:29 21:56	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:39	07:30 16:23	08:29 15:39
7	08:46 15:53	08:01 16:55	06:54 17:57	06:31 20:02	05:17 21:05	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:33 16:21	08:31 15:38
8	08:45 15:55	07:59 16:58	06:51 18:00	06:28 20:04	05:15 21:07	04:27 21:59	04:34 22:02	05:26 21:11	06:28 19:54	07:29 18:33	07:35 16:19	08:32 15:37
9	08:44 15:57	07:56 17:00	06:48 18:02	06:26 20:07	05:13 21:09	04:26 22:00	04:35 22:01	05:28 21:09	06:30 19:51	07:31 18:31	07:37 16:17	08:34 15:37
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11	08:43 16:00	07:52 17:04	06:43 18:06	06:21 20:11	05:09 21:13	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:26	07:41 16:13	08:36 15:36
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13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:05 21:17	04:24 22:03	04:41 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:36
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16	08:38 16:09	07:41 17:16	06:30 18:17	06:08 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:53	06:44 19:32	07:45 18:13	07:52 16:04	08:42 15:35
17	08:37 16:11	07:38 17:18	06:27 18:19	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:30	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:13	07:36 17:20	06:24 18:21	06:03 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:08	07:56 16:00	08:44 15:36
19	08:34 16:15	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:07	04:50 21:49	05:48 20:45	06:50 19:24	07:52 18:05	07:58 15:59	08:44 15:36
20	08:33 16:17	07:31 17:25	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:54 18:03	08:00 15:57	08:45 15:36
21	08:31 16:19	07:29 17:27	06:16 18:27	05:55 20:32	04:50 21:32	04:23 22:07	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:56	08:46 15:36
22	08:30 16:21	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:34	04:23 22:08	04:55 21:44	05:54 20:38	06:56 19:16	07:58 17:58	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:47 15:37
24	08:27 16:25	07:22 17:33	06:08 18:33	05:47 20:38	04:45 21:37	04:24 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:36	06:06 18:35	05:45 20:40	04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:39
26	08:23 16:29	07:17 17:38	06:03 18:37	05:43 20:42	04:42 21:40	04:24 22:08	05:02 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:49	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:40	05:40 20:44	04:40 21:42	04:25 22:08	05:03 21:36	06:04 20:25	07:06 19:03	07:09 16:46	08:14 15:47	08:48 15:40
28	08:20 16:33	07:12 17:42	05:58 18:42	05:38 20:46	04:39 21:44	04:25 22:08	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:36		05:55 18:44	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:48 15:42
30	08:16 16:38		06:52 19:46	05:33 20:50	04:36 21:47	04:27 22:07	05:09 21:30	06:10 20:17	07:12 18:55	07:15 16:39	08:19 15:44	08:48 15:43
31	08:15 16:40		06:50 19:48		04:35 21:48		05:11 21:28	06:12 20:15	07:17 16:36			08:48 15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CA - Slipie 1

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:50	04:27 22:07	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:46	08:11 16:44	07:06 17:47	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:48	08:09 16:46	07:04 17:49	06:42 19:54	05:26 20:56	04:31 21:52	04:29 22:06	05:17 21:22	06:18 20:07	07:18 18:46	07:24 16:30	08:24 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:54	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:22 21:00	04:29 21:55	04:31 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:03	04:29 21:56	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:39	07:30 16:23	08:29 15:39
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	08:45 15:55	07:59 16:58	06:51 17:59	06:28 20:04	05:15 21:07	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:02	06:26 20:06	05:13 21:09	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:31 18:31	07:37 16:17	08:34 15:37
10	08:44 15:58	07:54 17:02	06:46 18:04	06:23 20:09	05:11 21:11	04:26 22:00	04:37 22:00	05:30 21:07	06:32 19:48	07:33 18:28	07:39 16:15	08:35 15:36
11	08:43 16:00	07:52 17:04	06:43 18:06	06:20 20:11	05:09 21:13	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:07	06:40 18:08	06:18 20:13	05:07 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:36
13	08:41 16:03	07:48 17:09	06:38 18:10	06:15 20:15	05:05 21:17	04:24 22:03	04:41 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:36
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18	08:35 16:13	07:36 17:20	06:24 18:21	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:08	07:56 16:00	08:44 15:35
19	08:34 16:15	07:34 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:07	04:50 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:33 16:17	07:31 17:25	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:54 18:03	08:00 15:57	08:45 15:36
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22	08:30 16:21	07:26 17:29	06:14 18:29	05:52 20:34	04:48 21:33	04:23 22:08	04:55 21:44	05:54 20:38	06:56 19:16	07:58 17:58	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:47 15:37
24	08:27 16:25	07:21 17:33	06:08 18:33	05:47 20:38	04:45 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:36	06:06 18:35	05:45 20:40	04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:39
26	08:23 16:29	07:16 17:38	06:03 18:37	05:43 20:42	04:42 21:40	04:24 22:08	05:02 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:49	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:25 22:08	05:03 21:35	06:04 20:25	07:06 19:03	07:09 16:46	08:14 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:58 18:42	05:38 20:46	04:39 21:44	04:25 22:07	05:05 21:34	06:06 20:23	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:35		05:55 18:44	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:48 15:42
30	08:16 16:38		06:52 19:46	05:33 20:50	04:36 21:47	04:27 22:07	05:09 21:30	06:10 20:17	07:12 18:54	07:15 16:39	08:19 15:44	08:48 15:43
31	08:15 16:40		06:50 19:48		04:35 21:48		05:11 21:28	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CB - Upmali

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March			April			May	June	July	August	September			October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44			06:47 19:50	22	07:16 (2) 07:38 (2)	05:31 20:52	04:34 21:50	04:27 22:07	05:13 21:26	06:14 20:12			07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:46	08:11 16:44	07:06 17:47			06:44 19:52	22	07:16 (2) 07:38 (2)	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:10			07:16 18:49	07:22 16:32	08:23 15:42
3	08:48 15:48	08:09 16:46	07:04 17:49			06:42 19:54	21	07:16 (2) 07:37 (2)	05:26 20:56	04:31 21:52	04:29 22:06	05:17 21:22	06:18 20:07			07:18 18:46	07:24 16:30	08:24 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51			06:39 19:56	21	07:15 (2) 07:36 (2)	05:24 20:58	04:30 21:54	04:30 22:05	05:18 21:20	06:20 20:04	7	07:19 (2) 07:26 (2)	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53			06:36 19:58	20	07:16 (2) 07:36 (2)	05:22 21:00	04:29 21:55	04:31 22:04	05:20 21:18	06:22 20:02	13	07:16 (2) 07:29 (2)	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55			06:34 20:00	17	07:17 (2) 07:34 (2)	05:19 21:03	04:29 21:56	04:32 22:04	05:22 21:15	06:24 19:59	16	07:14 (2) 07:30 (2)	07:24 18:39	07:30 16:23	08:29 15:39
7	08:46 15:53	08:01 16:55	06:53 17:57			06:31 20:02		07:18 (2) 07:33 (2)	05:17 21:05	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	19	07:12 (2) 07:31 (2)	07:26 18:36	07:32 16:21	08:31 15:38
8	08:45 15:55	07:59 16:58	06:51 17:59			06:28 20:04	12	07:19 (2) 07:31 (2)	05:15 21:07	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:54	20	07:11 (2) 07:31 (2)	07:28 18:33	07:35 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:02			06:26 20:06	1	07:24 (2) 07:25 (2)	05:13 21:09	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	22	07:09 (2) 07:31 (2)	07:31 18:31	07:37 16:17	08:34 15:37
10	08:44 15:58	07:54 17:02	06:46 18:04			06:23 20:09		05:11 21:11	04:26 22:00	04:37 22:00	05:30 21:07	06:32 19:48	06:32 19:48	22	07:09 (2) 07:31 (2)	07:33 18:28	07:39 16:15	08:35 15:36
11	08:43 16:00	07:52 17:04	06:43 18:06			06:20 20:11		05:09 21:13	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:46	06:34 19:46	23	07:08 (2) 07:31 (2)	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:07	06:40 18:08			06:18 20:13		05:07 21:15	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	06:36 19:43	22	07:08 (2) 07:30 (2)	07:37 18:23	07:43 16:11	08:37 15:36
13	08:41 16:03	07:48 17:09	06:38 18:10			06:15 20:15		05:05 21:17	04:24 22:03	04:41 21:57	05:36 21:00	06:38 19:40	06:38 19:40	21	07:09 (2) 07:30 (2)	07:39 18:20	07:45 16:09	08:39 15:36
14	08:40 16:05	07:45 17:11	06:35 18:12			06:13 20:17		05:03 21:18	04:24 22:04	04:42 21:56	05:38 20:57	06:40 19:38	06:40 19:38	18	07:11 (2) 07:29 (2)	07:41 18:18	07:47 16:07	08:40 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14			06:10 20:19		05:01 21:20	04:23 22:05	04:43 21:54	05:40 20:55	06:42 19:35	06:42 19:35	14	07:13 (2) 07:27 (2)	07:43 18:15	07:50 16:06	08:41 15:35
16	08:38 16:09	07:41 17:16	06:30 18:16			06:08 20:21		04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:52	06:44 19:32	06:44 19:32	11	07:15 (2) 07:26 (2)	07:45 18:13	07:52 16:04	08:42 15:35
17	08:36 16:11	07:38 17:18	06:27 18:19			06:05 20:23		04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:29	06:46 19:29	7	07:17 (2) 07:24 (2)	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:13	07:36 17:20	06:24 18:21			06:02 20:25		04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	06:48 19:27		07:49 18:08	07:56 16:00	08:44 15:35	
19	08:34 16:15	07:34 17:22	06:22 18:23			06:00 20:27		04:53 21:28	04:23 22:07	04:50 21:49	05:48 20:45	06:50 19:24	06:50 19:24		07:51 18:05	07:58 15:55	08:44 15:36	
20	08:33 16:16	07:31 17:25	06:19 18:25			05:57 20:29		04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	06:52 19:21		07:54 18:03	08:00 15:57	08:45 15:36	
21	08:31 16:19	07:29 17:27	06:16 18:27			05:55 20:31		04:50 21:32	04:23 22:07	04:53 21:46	05:52 20:40	06:54 19:19	06:54 19:19		07:56 18:00	08:02 15:56	08:46 15:36	
22	08:30 16:21	07:26 17:29	06:14 18:29			05:52 20:34		04:48 21:33	04:23 22:08	04:55 21:44	05:54 20:38	06:56 19:16	06:56 19:16		07:58 17:58	08:04 15:54	08:46 15:37	
23	08:28 16:23	07:24 17:31	06:11 18:31			05:50 20:36		04:46 21:35	04:23 22:08	04:56 21:42	05:56 20:35	06:58 19:13	06:58 19:13		08:00 17:55	08:06 15:53	08:47 15:37	
24	08:27 16:25	07:21 17:33	06:08 18:33			05:47 20:38		04:45 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:11	07:00 19:11		08:02 17:53	08:08 15:51	08:47 15:38	
25	08:25 16:27	07:19 17:36	06:06 18:35			05:45 20:40		04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	07:02 19:08		08:04 17:50	08:10 15:50	08:48 15:38	
26	08:23 16:29	07:16 17:38	06:03 18:37	2	06:30 (2)	05:43 20:42		04:42 21:40	04:24 22:08	05:02 21:37	06:02 20:28	07:04 19:05	07:04 19:05		08:06 17:06	08:12 15:48	08:48 15:39	
27	08:22 16:31	07:14 17:40	06:00 18:39	8	06:28 (2)	05:40 20:44		04:40 21:42	04:25 22:08	05:03 21:35	06:04 20:25	07:06 19:03	07:06 19:03		08:07 16:46	08:14 15:47	08:48 15:40	
28	08:20 16:33	07:11 17:42	05:58 18:41	12	06:25 (2)	05:38 20:46		04:39 21:44	04:25 22:07	05:05 21:34	06:06 20:23	07:08 19:00	07:08 19:00		08:08 16:43	08:16 15:46	08:48 15:41	
29	08:18 16:35	05:55 18:44	06:22 (2) 15 06:37 (2)		05:35 20:48	05:35 20:48		04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:10 18:57		08:09 16:41	08:18 15:45	08:48 15:42	
30	08:16 16:38	06:52 19:46	07:20 (2) 18 07:38 (2)		05:33 20:50	05:33 20:50		04:36 21:47	04:27 22:07	05:09 21:30	06:10 20:17	07:12 18:54	07:12 18:54		08:10 16:37	08:19 15:44	08:48 15:43	
31	08:15 16:40	06:50 19:48	07:17 (2) 21 07:38 (2)		05:31 20:52	05:31 20:52		04:35 21:48	05:11 21:28	06:12 20:15	07:14 20:15	08:16 20:15	08:16 20:15		08:17 16:36	08:48 15:44	08:48 15:44	
Potential sun hours	235	265	365			425		507	528	529	470	385	235		324	248	216	
Total, worst case					76	151							235					
Sun reduction					0,39	0,48							0,43					
Oper. time red.					0,94	0,94							0,94					
Wind dir. red.					0,66	0,66							0,66					
Total reduction					0,24	0,30							0,27					
Total, real					18	45							62					

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CC - Ziemelnieki

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:21	08:23
	15:47	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:32	15:42
3	08:47	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:24
	15:48	16:47	17:49	19:54	20:56	21:52	22:05	21:22	20:07	18:46	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:53	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:20	06:22	07:22	07:28	08:27
	15:51	16:51	17:53	19:58	21:00	21:55	22:04	21:17	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:39	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:58	17:59	20:04	21:06	21:58	22:02	21:11	19:54	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:30	07:37	08:33
	15:57	17:00	18:02	20:06	21:08	21:59	22:01	21:09	19:51	18:31	16:17	15:37
10	08:43	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:32	07:39	08:35
	15:58	17:02	18:04	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:12	22:01	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:37
	16:02	17:07	18:08	20:13	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:38
	16:03	17:09	18:10	20:15	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:47	08:39
	16:05	17:11	18:12	20:17	21:18	22:04	21:55	20:57	19:38	18:18	16:07	15:35
15	08:39	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:49	08:41
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:06	15:35
16	08:37	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:13	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:44	06:46	07:47	07:54	08:42
	16:11	17:18	18:18	20:23	21:24	22:05	21:51	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:06	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:45
	16:19	17:27	18:27	20:31	21:31	22:07	21:46	20:40	19:19	18:00	15:56	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:35	21:35	22:07	21:42	20:35	19:13	17:55	15:53	15:37
24	08:26	07:21	06:08	05:47	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:47
	16:27	17:36	18:35	20:40	21:38	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:07	21:35	20:25	19:02	16:46	15:47	15:40
28	08:20	07:11	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:38	04:26	05:07	06:08	07:10	07:13	08:17	08:48
	16:35		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:46	22:07	21:30	20:17	18:54	16:39	15:44	15:43
31	08:14		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CD - Ezermuiža

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:47	08:11 16:44	07:06 17:47	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:23 15:42
3	08:47 15:48	08:09 16:47	07:04 17:49	06:42 19:54	05:26 20:56	04:32 21:52	04:29 22:05	05:17 21:22	06:18 20:07	07:18 18:46	07:24 16:30	08:24 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:31 21:53	04:30 22:05	05:19 21:19	06:20 20:04	07:20 18:44	07:26 16:28	08:26 15:40
5	08:47 15:51	08:05 16:51	06:59 17:53	06:36 19:58	05:22 21:00	04:30 21:55	04:31 22:04	05:20 21:17	06:22 20:02	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:02	04:29 21:56	04:32 22:03	05:22 21:15	06:24 19:59	07:24 18:39	07:30 16:23	08:29 15:39
7	08:46 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:30 15:38
8	08:45 15:55	07:58 16:58	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:57	07:56 17:00	06:48 18:02	06:26 20:06	05:13 21:08	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:31	07:37 16:17	08:33 15:37
10	08:43 15:58	07:54 17:02	06:46 18:04	06:23 20:08	05:11 21:10	04:26 22:00	04:37 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:37
11	08:43 16:00	07:52 17:04	06:43 18:06	06:20 20:11	05:09 21:12	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:02	07:50 17:07	06:40 18:08	06:18 20:13	05:07 21:14	04:25 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:36
13	08:41 16:03	07:47 17:09	06:38 18:10	06:15 20:15	05:05 21:16	04:24 22:03	04:41 21:57	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:38 15:36
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:03 21:18	04:24 22:04	04:42 21:55	05:38 20:57	06:40 19:38	07:41 18:18	07:47 16:07	08:39 15:36
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:20	04:23 22:04	04:44 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:49 16:06	08:41 15:35
16	08:37 16:09	07:41 17:16	06:30 18:16	06:08 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:13	07:52 16:04	08:41 15:35
17	08:36 16:11	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:05	04:47 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:42 15:35
18	08:35 16:13	07:36 17:20	06:24 18:21	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:08	07:56 16:00	08:43 15:36
19	08:34 16:15	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:06	04:50 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:32 16:17	07:31 17:25	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:03	08:00 15:57	08:45 15:36
21	08:31 16:19	07:29 17:27	06:16 18:27	05:55 20:31	04:50 21:31	04:23 22:07	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:56	08:45 15:36
22	08:29 16:21	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:55 21:44	05:54 20:38	06:56 19:16	07:58 17:58	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:07	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:47 15:37
24	08:26 16:25	07:21 17:33	06:08 18:33	05:47 20:38	04:45 21:37	04:24 22:08	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:36	06:06 18:35	05:45 20:40	04:43 21:38	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:47 15:39
26	08:23 16:29	07:16 17:38	06:03 18:37	05:43 20:42	04:42 21:40	04:24 22:08	05:02 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:49	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:25 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:46	08:14 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:58 18:41	05:38 20:46	04:39 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 19:00	07:11 16:43	08:15 15:46	08:48 15:41
29	08:18 16:36		05:55 18:44	05:35 20:48	04:38 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	08:16 16:38		06:52 19:46	05:33 20:50	04:36 21:46	04:27 22:07	05:09 21:30	06:10 20:17	07:12 18:54	07:15 16:39	08:19 15:44	08:48 15:43
31	08:14 16:40		06:50 19:48		04:35 21:48		05:11 21:28	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CE - Ezermali

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:34	04:28	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:21	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:32	15:42
3	08:47	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:24
	15:48	16:47	17:49	19:54	20:56	21:52	22:05	21:22	20:07	18:47	16:30	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:30	05:19	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:53	22:05	21:20	20:04	18:44	16:28	15:40
5	08:47	08:05	06:59	06:36	05:22	04:30	04:31	05:21	06:22	07:22	07:28	08:28
	15:51	16:51	17:53	19:58	21:00	21:55	22:04	21:17	20:02	18:41	16:25	15:39
6	08:46	08:03	06:56	06:34	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:32	08:31
	15:54	16:56	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:36	16:21	15:38
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	15:57	17:00	18:02	20:06	21:08	21:59	22:01	21:09	19:51	18:31	16:17	15:37
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	15:58	17:02	18:04	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:37
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	16:00	17:04	18:06	20:11	21:12	22:01	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:37
	16:02	17:07	18:08	20:13	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:38
	16:03	17:09	18:10	20:15	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:47	08:40
	16:05	17:11	18:12	20:17	21:18	22:04	21:55	20:57	19:38	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:40	06:42	07:43	07:49	08:41
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:06	15:35
16	08:38	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:13	16:04	15:35
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	16:11	17:18	18:19	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:03	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:00	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:06	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:52	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
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	16:23	17:31	18:31	20:36	21:35	22:08	21:42	20:35	19:13	17:55	15:53	15:37
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	16:27	17:36	18:35	20:40	21:38	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:07	21:35	20:25	19:03	16:46	15:47	15:40
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	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:38	04:26	05:07	06:08	07:10	07:13	08:17	08:48
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	16:38		19:46	20:50	21:46	22:07	21:30	20:17	18:55	16:39	15:44	15:43
31	08:14		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CF - Ozolmui ža

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:21	08:23
	15:47	16:44	17:47	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:32	15:42
3	08:47	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:24	08:24
	15:48	16:47	17:49	19:54	20:56	21:52	22:05	21:22	20:07	18:46	16:30	15:41
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	15:49	16:49	17:51	19:56	20:58	21:53	22:05	21:19	20:04	18:44	16:28	15:40
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	15:57	17:00	18:02	20:06	21:08	21:59	22:01	21:09	19:51	18:31	16:17	15:37
10	08:43	07:54	06:46	06:23	05:11	04:26	04:37	05:30	06:32	07:33	07:39	08:35
	15:58	17:02	18:04	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:21	05:09	04:25	04:38	05:32	06:34	07:35	07:41	08:36
	16:00	17:04	18:06	20:11	21:12	22:01	21:59	21:04	19:46	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:07	04:25	04:39	05:34	06:36	07:37	07:43	08:37
	16:02	17:07	18:08	20:13	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:24	04:41	05:36	06:38	07:39	07:45	08:38
	16:03	17:09	18:10	20:15	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:42	05:38	06:40	07:41	07:47	08:39
	16:05	17:11	18:12	20:17	21:18	22:04	21:55	20:57	19:38	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:40	06:42	07:43	07:49	08:40
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:06	15:35
16	08:37	07:41	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:52	08:41
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:13	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:44	06:46	07:47	07:54	08:42
	16:11	17:18	18:19	20:23	21:24	22:05	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:03	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:13	17:20	18:21	20:25	21:26	22:06	21:50	20:48	19:27	18:08	16:01	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:06	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:52	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:17	17:25	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:56	08:02	08:45
	16:19	17:27	18:27	20:31	21:31	22:07	21:46	20:40	19:19	18:00	15:56	15:37
22	08:29	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:23	17:31	18:31	20:35	21:35	22:07	21:42	20:35	19:13	17:55	15:53	15:37
24	08:26	07:21	06:08	05:48	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:11	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:47
	16:27	17:36	18:35	20:40	21:38	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:49	15:39
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:04	07:06	07:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:07	21:35	20:25	19:03	16:46	15:47	15:40
28	08:20	07:11	05:58	05:38	04:39	04:26	05:05	06:06	07:08	07:11	08:15	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:38	04:26	05:07	06:08	07:10	07:13	08:17	08:48
	16:36		18:44	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:46	22:07	21:30	20:17	18:54	16:39	15:44	15:43
31	08:14		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CG - Vasarnieki

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:46	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:41	17:44	19:49	20:52	21:49	22:06	21:26	20:12	18:51	16:34	15:42
2	08:48	08:10	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:51	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:47	08:08	07:03	06:41	05:25	04:31	04:28	05:16	06:18	07:18	07:23	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:05	21:21	20:07	18:46	16:29	15:40
4	08:47	08:06	07:01	06:38	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:50	19:56	20:58	21:53	22:05	21:19	20:04	18:43	16:27	15:39
5	08:47	08:04	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:27
	15:50	16:50	17:52	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:02	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:38
7	08:45	08:00	06:53	06:30	05:16	04:27	04:32	05:24	06:26	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:35	16:21	15:37
8	08:45	07:58	06:50	06:28	05:14	04:26	04:33	05:26	06:28	07:28	07:34	08:32
	15:54	16:57	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:18	15:37
9	08:44	07:56	06:48	06:25	05:12	04:25	04:35	05:28	06:30	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:01	21:08	19:51	18:30	16:16	15:36
10	08:43	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:39	08:35
	15:57	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:14	15:36
11	08:42	07:52	06:43	06:20	05:08	04:24	04:37	05:32	06:34	07:34	07:41	08:36
	15:59	17:04	18:05	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:12	15:35
12	08:42	07:49	06:40	06:17	05:06	04:24	04:38	05:34	06:36	07:36	07:43	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:58	21:02	19:43	18:22	16:11	15:35
13	08:41	07:47	06:37	06:15	05:04	04:23	04:40	05:36	06:38	07:38	07:45	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:40	07:47	08:39
	16:04	17:11	18:12	20:16	21:18	22:04	21:55	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49	08:41
	16:06	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:34	18:15	16:05	15:35
16	08:37	07:40	06:29	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:51	08:41
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03	15:35
17	08:36	07:38	06:27	06:04	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:42
	16:10	17:17	18:18	20:23	21:24	22:06	21:51	20:50	19:29	18:10	16:01	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:43
	16:12	17:19	18:20	20:25	21:26	22:06	21:50	20:47	19:26	18:07	16:00	15:35
19	08:34	07:33	06:21	05:59	04:52	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:06	21:49	20:45	19:24	18:04	15:58	15:35
20	08:32	07:31	06:19	05:57	04:51	04:22	04:50	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:24	20:29	21:30	22:07	21:47	20:42	19:21	18:02	15:56	15:35
21	08:31	07:28	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:55	08:02	08:45
	16:18	17:26	18:26	20:31	21:31	22:07	21:45	20:40	19:18	18:00	15:55	15:36
22	08:29	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:57	08:04	08:46
	16:20	17:28	18:29	20:33	21:33	22:07	21:44	20:37	19:16	17:57	15:53	15:36
23	08:28	07:23	06:11	05:49	04:46	04:22	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:35	21:35	22:08	21:42	20:35	19:13	17:55	15:52	15:37
24	08:26	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:37	21:37	22:08	21:41	20:32	19:10	17:52	15:50	15:37
25	08:25	07:19	06:05	05:44	04:42	04:23	04:59	06:00	07:02	08:04	08:10	08:47
	16:26	17:35	18:35	20:39	21:38	22:08	21:39	20:30	19:07	17:50	15:49	15:38
26	08:23	07:16	06:02	05:42	04:41	04:23	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:27	19:05	16:47	15:48	15:38
27	08:21	07:14	06:00	05:40	04:39	04:24	05:03	06:04	07:06	07:08	08:14	08:48
	16:30	17:39	18:39	20:44	21:42	22:07	21:35	20:25	19:02	16:45	15:47	15:39
28	08:20	07:11	05:57	05:37	04:38	04:25	05:05	06:06	07:08	07:10	08:15	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	18:59	16:43	15:45	15:40
29	08:18		05:54	05:35	04:37	04:25	05:06	06:08	07:10	07:12	08:17	08:48
	16:35		18:43	20:48	21:45	22:07	21:31	20:20	18:57	16:40	15:44	15:41
30	08:16		06:52	05:32	04:35	04:26	05:08	06:10	07:12	07:15	08:19	08:48
	16:37		19:45	20:50	21:46	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:14		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:47		21:48		21:28	20:14		16:36		15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: CH - Ata ša

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:09 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	05:25 20:56	04:31 21:52	04:28 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:29	08:24 15:40
4	08:47 15:51	08:06 16:57	07:01 17:59	06:38 19:56	05:23 20:58	04:30 21:53	04:29 22:05	05:18 21:19	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:39
5	08:47 15:50	08:04 16:50	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:51	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:35	07:32 16:21	08:30 15:37
8	08:45 15:54	07:58 16:57	06:50 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:18	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:26 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:16	08:33 15:36
10	08:43 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:12	08:36 15:35
12	08:42 16:01	07:49 17:06	06:40 18:08	06:17 20:12	05:06 21:14	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:14	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:38 18:20	07:45 16:09	08:38 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:16	05:02 21:18	04:23 22:04	04:41 21:55	05:38 20:57	06:40 19:37	07:40 18:17	07:47 16:07	08:39 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:34	07:43 18:15	07:49 16:05	08:41 15:35
16	08:37 16:08	07:40 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:04 20:23	04:56 21:24	04:22 22:06	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:01	08:42 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:26	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:06	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:56	08:45 15:35
21	08:31 16:18	07:28 17:26	06:16 18:26	05:54 20:31	04:49 21:31	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:28	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:32	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:44 20:39	04:42 21:38	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:07	08:04 17:50	08:10 15:49	08:47 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:47	08:12 15:48	08:48 15:39
27	08:21 16:31	07:14 17:39	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 18:59	07:10 16:43	08:15 15:45	08:48 15:40
29	08:18 16:35		05:54 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:31	06:08 20:20	07:10 18:57	07:13 16:40	08:17 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:46	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:14		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CI - Mui ž nieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48	08:12	07:09	16:43 (13)	06:47	18:34 (9)
	15:45	16:42	17:44	23	17:06 (13)	19:49
2	08:48	08:10	07:06	16:44 (13)	06:44	18:35 (9)
	15:46	16:44	17:46	22	17:06 (13)	19:52
3	08:47	08:09	07:03	16:44 (13)	06:41	18:39 (9)
	15:47	16:46	17:48	21	17:05 (13)	19:54
4	08:47	08:07	07:01	16:44 (13)	06:39	18:49 (9)
	15:48	16:48	17:50	19	17:03 (13)	19:56
5	08:47	08:05	06:58	16:46 (13)	06:36	18:49 (9)
	15:50	16:50	17:53	16	17:02 (13)	19:58
6	08:46	08:02	06:56	16:48 (13)	06:33	18:49 (9)
	15:51	16:53	17:55	12	17:00 (13)	20:00
7	08:46	08:00	06:53	16:48 (13)	06:31	18:49 (9)
	15:53	16:55	17:57		20:02	20:58
8	08:45	07:58	06:51	16:48 (13)	06:28	18:49 (9)
	15:54	16:57	17:59		20:04	20:58
9	08:44	07:56	06:48	16:48 (13)	06:25	18:49 (9)
	15:56	16:59	18:01		20:06	20:58
10	08:43	07:54	06:45	16:48 (13)	06:23	18:49 (9)
	15:58	17:02	18:03		20:08	20:58
11	08:43	07:52	06:43	16:48 (13)	06:20	18:49 (9)
	15:59	17:04	18:05		20:10	20:58
12	08:42	07:50	06:40	16:48 (13)	06:17	18:49 (9)
	16:01	17:06	18:08		20:12	20:58
13	08:41	07:47	06:37	16:48 (13)	06:15	18:49 (9)
	16:03	17:08	18:10		20:14	20:58
14	08:40	07:45	06:35	16:48 (13)	06:12	18:49 (9)
	16:04	17:11	18:12		20:17	20:58
15	08:39	07:43	06:32	16:48 (13)	06:10	18:49 (9)
	16:06	17:13	18:14		20:19	20:58
16	08:37	07:40	06:29	16:48 (13)	06:07	18:49 (9)
	16:08	17:15	18:16		20:21	20:58
17	08:36	07:38	06:27	16:48 (13)	06:05	18:49 (9)
	16:10	17:17	18:18	8	17:52 (9)	20:58
18	08:35	07:36	06:24	16:48 (13)	06:02	18:49 (9)
	16:12	17:20	18:20	14	17:55 (9)	20:58
19	08:34	07:33	06:21	16:48 (13)	05:59	18:49 (9)
	16:14	17:22	18:22	19	17:57 (9)	20:58
20	08:32	07:31	06:19	16:48 (13)	05:57	18:49 (9)
	16:16	17:24	18:24	22	17:58 (9)	20:58
21	08:31	07:28	06:16	16:48 (13)	05:54	18:49 (9)
	16:18	17:26	18:27	24	18:00 (9)	20:58
22	08:29	07:26	06:13	16:48 (13)	05:52	18:49 (9)
	16:20	17:29	18:29	26	18:00 (9)	20:58
23	08:28	07:24	06:11	16:48 (13)	05:49	18:49 (9)
	16:22	17:31	18:31	27	18:00 (9)	20:58
24	08:26	07:21	06:08	16:48 (13)	05:47	18:49 (9)
	16:24	17:33	18:33	28	18:00 (9)	20:58
25	08:25	07:19	06:05	16:48 (13)	05:45	18:49 (9)
	16:26	17:35	18:35	29	18:01 (9)	20:58
26	08:23	07:16	06:03	16:48 (13)	05:42	18:49 (9)
	16:28	17:37	18:37	28	18:00 (9)	20:58
27	08:21	07:14	06:00	16:48 (13)	05:40	18:49 (9)
	16:31	17:40	18:39	28	17:59 (9)	20:58
28	08:20	07:11	05:57	16:48 (13)	05:37	18:49 (9)
	16:33	17:42	18:41	27	17:59 (9)	20:58
29	08:18		05:55	16:48 (13)	05:35	18:49 (9)
	16:35		18:43	26	17:58 (9)	20:58
30	08:16		06:52	16:48 (13)	05:33	18:49 (9)
	16:37		19:45	25	18:57 (9)	20:58
31	08:14		06:49	16:48 (13)	05:30	18:49 (9)
	16:39		19:47	23	18:56 (9)	20:58
Potential sun hours	235	265	365	425	507	529
Total, worst case		163	467	46		
Sun reduction		0,24	0,39	0,48		
Oper. time red.		0,94	0,94	0,94		
Wind dir. red.		0,67	0,67	0,66		
Total reduction		0,15	0,24	0,30		
Total, real		25	113	14		

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

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

Calculation: Real Case Curtailment Shadow receptor: CI - Muižnieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	08:21
	22:06	21:26	20:12	18:51	16:34	15:42
2	04:28	05:14	06:16	07:16	07:21	08:23
	22:06	21:24	20:09	18:49	16:31	15:41
3	04:28	05:16	06:18	07:18	07:23	08:24
	22:05	21:22	20:07	18:46	16:29	15:40
4	04:29	05:18	06:20	07:20	07:26	08:26
	22:05	21:19	20:04	18:43	16:27	15:40
5	04:30	05:20	06:22	07:22	07:28	08:27
	22:04	21:17	20:01	18:41	16:25	15:39
6	04:31	05:22	06:24	07:24	07:30	08:29
	22:03	21:15	19:59	18:38	16:23	15:38
7	04:32	05:24	06:26	07:26	07:32	08:31
	22:03	21:13	19:56	18:36	16:21	15:37
8	04:34	05:26	06:28	07:28	17:23 (13)	07:34
	22:02	21:11	19:53	18:33	17:35 (13)	16:19
9	04:35	05:28	06:30	18:37 (9)	17:21 (13)	07:37
	22:01	21:09	19:51	18:38 (9)	17:36 (13)	16:17
10	04:36	05:30	06:32	18:31 (9)	17:20 (13)	07:39
	22:00	21:06	19:48	18:43 (9)	17:38 (13)	16:15
11	04:37	05:32	06:34	18:28 (9)	17:18 (13)	07:41
	21:59	21:04	19:45	18:45 (9)	17:39 (13)	16:13
12	04:39	05:34	06:36	18:26 (9)	17:17 (13)	07:43
	21:58	21:02	19:43	18:47 (9)	17:39 (13)	16:11
13	04:40	05:36	06:38	18:24 (9)	17:16 (13)	07:45
	21:57	20:59	19:40	18:48 (9)	17:39 (13)	16:09
14	04:41	05:38	06:40	18:23 (9)	17:15 (13)	07:47
	21:55	20:57	19:37	18:48 (9)	17:39 (13)	16:07
15	04:43	05:40	06:42	18:22 (9)	17:16 (13)	07:49
	21:54	20:55	19:35	18:49 (9)	17:40 (13)	16:05
16	04:44	05:42	06:44	18:21 (9)	17:15 (13)	07:52
	21:53	20:52	19:32	18:49 (9)	17:39 (13)	16:03
17	04:46	05:44	06:46	18:21 (9)	17:15 (13)	07:54
	21:52	20:50	19:29	18:49 (9)	17:39 (13)	16:02
18	04:47	05:46	06:48	18:20 (9)	17:15 (13)	07:56
	21:50	20:47	19:26	18:48 (9)	17:37 (13)	16:00
19	04:49	05:48	06:50	18:20 (9)	17:17 (13)	07:58
	21:49	20:45	19:24	18:48 (9)	17:35 (13)	15:58
20	04:51	05:50	06:52	18:20 (9)	17:17 (13)	08:00
	21:47	20:42	19:21	18:48 (9)	17:32 (13)	15:57
21	04:52	05:52	06:54	18:19 (9)	17:18 (13)	08:02
	21:46	20:40	19:18	18:46 (9)	17:30 (13)	15:55
22	04:54	05:54	06:56	18:19 (9)	17:20 (13)	08:04
	21:44	20:38	19:16	18:45 (9)	17:27 (13)	15:54
23	04:56	05:56	06:58	18:19 (9)	17:24 (13)	08:06
	21:42	20:35	19:13	18:44 (9)	17:25 (13)	15:52
24	04:57	05:58	07:00	18:20 (9)	08:08	08:47
	21:41	20:32	19:10	18:42 (9)	15:51	15:37
25	04:59	06:00	07:02	18:21 (9)	08:10	08:47
	21:39	20:30	19:08	18:39 (9)	15:49	15:38
26	05:01	06:02	07:04	18:23 (9)	08:12	08:48
	21:37	20:27	19:05	18:36 (9)	15:48	15:39
27	05:03	06:04	07:06	18:26 (9)	08:14	08:48
	21:35	20:25	19:02	18:34 (9)	15:47	15:39
28	05:05	06:06	07:08	07:10	08:15	08:48
	21:33	20:22	18:59	16:43	15:46	15:40
29	05:07	06:08	07:10	07:13	08:17	08:48
	21:32	20:20	18:57	16:40	15:44	15:41
30	05:08	06:10	07:12	07:15	08:19	08:48
	21:30	20:17	18:54	16:38	15:43	15:42
31	05:10	06:12		07:17		08:48
	21:28	20:14		16:36		15:43
Potential sun hours	530	470	385	324	248	216
Total, worst case			406	282		
Sun reduction			0,43	0,27		
Oper. time red.			0,94	0,94		
Wind dir. red.			0,66	0,67		
Total reduction			0,27	0,17		
Total, real			108	48		

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CJ - Rijasvecumi

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

January			February			March			April			May			June		
1	08:48		14:29 (11)	08:12		14:31 (11)	07:09		16:23 (10)	06:47		05:30			04:33		
	15:45	13	14:42 (11)	16:42	17	14:48 (11)	17:44	5	16:28 (10)	19:50		20:52			21:49		
2	08:48		14:30 (11)	08:11		14:29 (11)	07:06		16:22 (10)	06:44		05:28			04:32		
	15:46	13	14:43 (11)	16:44	17	14:46 (11)	17:46	5	16:27 (10)	19:52		20:54			21:51		
3	08:48		14:30 (11)	08:09		14:28 (11)	07:04		16:20 (10)	06:41		05:26			04:31		
	15:47	13	14:43 (11)	16:46	15	14:43 (11)	17:48	5	16:25 (10)	19:54		20:56			21:52		
4	08:47		14:31 (11)	08:07		14:33 (11)	07:01		16:18 (10)	06:39		05:23			04:30		
	15:48	14	14:45 (11)	16:48	6	14:39 (11)	17:50	4	16:22 (10)	19:56		20:58			21:54		
5	08:47		14:32 (11)	08:05			06:58		16:16 (10)	06:36		05:21			04:29		
	15:50	13	14:45 (11)	16:50			17:53	3	16:19 (10)	19:58		21:00			21:55		
6	08:46		14:32 (11)	08:03			06:56			06:33		05:19			04:28		
	15:51	13	14:45 (11)	16:53			17:55			20:00		21:02			21:56		
7	08:46		14:32 (11)	08:00			06:53			06:31		05:17			04:27		
	15:53	14	14:46 (11)	16:55			17:57			20:02		21:04			21:57		
8	08:45		14:33 (11)	07:58		16:18 (10)	06:51			06:28		05:14			04:26		
	15:54	13	14:46 (11)	16:57	2	16:20 (10)	17:59			20:04		21:06			21:58		
9	08:44		14:33 (11)	07:56		16:20 (10)	06:48			06:25		05:12			04:26		
	15:56	14	14:47 (11)	16:59	4	16:24 (10)	18:01			20:06		21:08			21:59		
10	08:43		14:34 (11)	07:54		16:21 (10)	06:45			06:23		05:10			04:25		
	15:57	14	14:48 (11)	17:02	4	16:25 (10)	18:03			20:08		21:10			22:00		
11	08:43		14:35 (11)	07:52		16:23 (10)	06:43			06:20		05:08			04:24		
	15:59	13	14:48 (11)	17:04	4	16:27 (10)	18:05			20:10		21:12			22:01		
12	08:42		14:35 (11)	07:50		16:24 (10)	06:40			06:17		05:06			04:24		
	16:01	14	14:49 (11)	17:06	5	16:29 (10)	18:08			20:12		21:14			22:02		
13	08:41		14:36 (11)	07:47		16:25 (10)	06:37			06:15		05:04			04:23		
	16:03	14	14:50 (11)	17:08	5	16:30 (10)	18:10			20:15		21:16			22:03		
14	08:40		14:36 (11)	07:45		16:26 (10)	06:35			06:12		05:02			04:23		
	16:04	14	14:50 (11)	17:11	5	16:31 (10)	18:12			20:17		21:18			22:04		
15	08:39		14:36 (11)	07:43		16:26 (10)	06:32			06:10		05:00			04:23		
	16:06	15	14:51 (11)	17:13	6	16:32 (10)	18:14			20:19		21:20			22:04		
16	08:38		14:36 (11)	07:40		16:27 (10)	06:29			06:07		04:58			04:22		
	16:08	14	14:50 (11)	17:15	6	16:33 (10)	18:16			20:21		21:22			22:05		
17	08:36		14:37 (11)	07:38		16:27 (10)	06:27			06:05		04:56			04:22		
	16:10	14	14:51 (11)	17:17	6	16:33 (10)	18:18			20:23		21:24			22:06		
18	08:35		14:37 (11)	07:36		16:28 (10)	06:24			06:02		04:54			04:22		
	16:12	14	14:51 (11)	17:20	6	16:34 (10)	18:20			20:25		21:26			22:06		
19	08:34		14:38 (11)	07:33		16:28 (10)	06:21			05:59		04:53			04:22		
	16:14	14	14:52 (11)	17:22	5	16:33 (10)	18:22			20:27		21:28			22:07		
20	08:32		14:37 (11)	07:31		16:28 (10)	06:19			05:57		04:51			04:22		
	16:16	15	14:52 (11)	17:24	6	16:34 (10)	18:24			20:29		21:30			22:07		
21	08:31		14:37 (11)	07:29		16:28 (10)	06:16			05:54		04:49			04:22		
	16:18	15	14:52 (11)	17:26	6	16:34 (10)	18:27			20:31		21:32			22:07		
22	08:30		14:38 (11)	07:26		16:28 (10)	06:13			05:52		04:47			04:22		
	16:20	15	14:53 (11)	17:29	6	16:34 (10)	18:29			20:33		21:33			22:08		
23	08:28		14:38 (11)	07:24		16:28 (10)	06:11			05:49		04:46			04:23		
	16:22	14	14:52 (11)	17:31	5	16:33 (10)	18:31			20:35		21:35			22:08		
24	08:26		14:37 (11)	07:21		16:27 (10)	06:08			05:47		04:44			04:23		
	16:24	15	14:52 (11)	17:33	6	16:33 (10)	18:33			20:37		21:37			22:08		
25	08:25		14:37 (11)	07:19		16:27 (10)	06:05			05:44		04:43			04:23		
	16:26	15	14:52 (11)	17:35	6	16:33 (10)	18:35			20:40		21:39			22:08		
26	08:23		14:36 (11)	07:16		16:26 (10)	06:03			05:42		04:41			04:24		
	16:28	16	14:52 (11)	17:37	6	16:32 (10)	18:37			20:42		21:40			22:08		
27	08:22		14:36 (11)	07:14		16:26 (10)	06:00			05:40		04:40			04:24		
	16:31	15	14:51 (11)	17:40	5	16:31 (10)	18:39			20:44		21:42			22:08		
28	08:20		14:35 (11)	07:11		16:24 (10)	05:57			05:37		04:38			04:25		
	16:33	16	14:51 (11)	17:42	6	16:30 (10)	18:41			20:46		21:43			22:07		
29	08:18		14:35 (11)				05:55			05:35		04:37			04:25		
	16:35	15	14:50 (11)				18:43			20:48		21:45			22:07		
30	08:16		14:34 (11)				06:52			05:32		04:36			04:26		
	16:37	16	14:50 (11)				19:45			20:50		21:47			22:07		
31	08:14		14:33 (11)				06:49					04:34					
	16:39	16	14:49 (11)				19:47					21:48					
Potential sun hours	235			265			365			425		507			529		
Total, worst case		443			165			22									
Sun reduction		0,15			0,24			0,39									
Oper. time red.		0,94			0,94			0,94									
Wind dir. red.		0,67			0,67			0,68									
Total reduction		0,10			0,15			0,25									
Total, real		43			25			5									

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

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

Calculation: Real Case Curtailment Shadow receptor: CJ - Rijasvecumi

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	15:52 (10)
	22:06	21:26	20:12	18:51	16:34	4 15:56 (10)
2	04:27	05:14	06:16	07:16	07:21	15:50 (10)
	22:06	21:24	20:09	18:49	16:31	3 15:53 (10)
3	04:28	05:16	06:18	07:18	07:24	15:48 (10)
	22:05	21:22	20:07	18:46	16:29	3 15:51 (10)
4	04:29	05:18	06:20	07:20	07:26	15:40
	22:05	21:19	20:04	18:43	16:27	15:39
5	04:30	05:20	06:22	07:22	07:28	15:39
	22:04	21:17	20:01	18:41	16:25	15:39
6	04:31	05:22	06:24	07:24	07:30	15:39
	22:04	21:15	19:59	18:38	16:23	15:38
7	04:32	05:24	06:26	07:26	07:32	15:38
	22:03	21:13	19:56	18:36	16:21	15:37
8	04:34	05:26	06:28	07:28	07:34	15:37
	22:02	21:11	19:53	18:33	16:19	11 14:12 (11)
9	04:35	05:28	06:30	07:30	07:37	13:58 (11)
	22:01	21:09	19:51	18:30	16:50 (10)	17 14:15 (11)
10	04:36	05:30	06:32	07:32	07:39	14:01 (11)
	22:00	21:06	19:48	18:28	16:57 (10)	17 14:18 (11)
11	04:37	05:32	06:34	07:34	07:41	14:03 (11)
	21:59	21:04	19:45	18:25	16:59 (10)	16 14:19 (11)
12	04:39	05:34	06:36	07:36	07:43	14:04 (11)
	21:58	21:02	19:43	18:22	17:01 (10)	16 14:20 (11)
13	04:40	05:36	06:38	07:39	07:45	14:06 (11)
	21:57	20:59	19:40	18:20	17:02 (10)	16 14:22 (11)
14	04:41	05:38	06:40	07:41	07:47	14:07 (11)
	21:56	20:57	19:37	18:17	17:02 (10)	16 14:23 (11)
15	04:43	05:40	06:42	07:43	07:49	14:09 (11)
	21:54	20:55	19:35	18:15	17:04 (10)	15 14:24 (11)
16	04:44	05:42	06:44	07:45	07:52	14:09 (11)
	21:53	20:52	19:32	18:12	17:04 (10)	15 14:24 (11)
17	04:46	05:44	06:46	07:47	07:54	14:10 (11)
	21:52	20:50	19:29	18:10	17:04 (10)	15 14:25 (11)
18	04:47	05:46	06:48	07:49	07:56	14:11 (11)
	21:50	20:47	19:26	18:07	17:04 (10)	15 14:26 (11)
19	04:49	05:48	06:50	07:51	07:58	14:11 (11)
	21:49	20:45	19:24	18:05	17:05 (10)	15 14:26 (11)
20	04:51	05:50	06:52	07:53	08:00	14:12 (11)
	21:47	20:43	19:21	18:02	17:05 (10)	15 14:27 (11)
21	04:52	05:52	06:54	07:55	08:02	14:13 (11)
	21:46	20:40	19:18	18:00	17:04 (10)	15 14:28 (11)
22	04:54	05:54	06:56	07:58	08:04	14:13 (11)
	21:44	20:38	19:16	17:57	17:04 (10)	15 14:28 (11)
23	04:56	05:56	06:58	08:00	08:06	14:14 (11)
	21:42	20:35	19:13	17:55	17:04 (10)	15 14:28 (11)
24	04:57	05:58	07:00	08:02	08:08	14:14 (11)
	21:41	20:33	19:10	17:52	17:03 (10)	15 14:28 (11)
25	04:59	06:00	07:02	08:04	08:10	14:15 (11)
	21:39	20:30	19:08	17:50	17:03 (10)	15 14:29 (11)
26	05:01	06:02	07:04	08:06	08:12	14:15 (11)
	21:37	20:27	19:05	16:48	16:03 (10)	15 14:30 (11)
27	05:03	06:04	07:06	08:08	08:14	14:16 (11)
	21:35	20:25	19:02	16:45	16:02 (10)	15 14:30 (11)
28	05:05	06:06	07:08	08:10	08:16	14:16 (11)
	21:33	20:22	18:59	16:43	16:00 (10)	15 14:30 (11)
29	05:06	06:08	07:10	08:13	08:17	14:16 (11)
	21:32	20:20	18:57	16:40	16:00 (10)	15 14:30 (11)
30	05:08	06:10	07:12	08:15	08:19	14:16 (11)
	21:30	20:17	18:54	16:38	15:59 (10)	15 14:30 (11)
31	05:10	06:12	07:14	08:17	08:21	15:43
	21:28	20:15	18:51	16:36	15:58 (10)	15:43
Potential sun hours	530	470	385	324	248	216
Total, worst case				126	352	401
Sun reduction				0,27	0,09	0,09
Oper. time red.				0,94	0,94	0,94
Wind dir. red.				0,68	0,67	0,67
Total reduction				0,17	0,06	0,05
Total, real				22	20	22

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

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

Calculation: Real Case Curtailment Shadow receptor: CK - Kalvani

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:12 16:42	15:17 (9) 17:09	06:47 19:50	05:30 20:52	04:33 21:50
2	08:48 15:46	08:11 16:44	15:18 (9) 17:06	06:44 19:52	05:28 20:54	04:32 21:51
3	08:48 15:47	08:09 16:46	15:19 (9) 17:04	06:41 19:54	05:26 20:56	04:31 21:52
4	08:47 15:48	08:07 16:48	15:20 (9) 17:01	06:39 19:56	05:23 20:58	04:30 21:54
5	08:47 15:50	08:05 16:50	15:23 (9) 17:53	06:36 19:58	05:21 21:00	04:29 21:55
6	08:46 15:51	08:03 16:53	15:28 (9) 17:55	06:33 20:00	05:19 21:02	04:28 21:56
7	08:46 15:53	08:00 16:55	15:30 (9) 17:57	06:31 20:02	05:17 21:04	04:27 21:57
8	08:45 15:54	07:58 16:57	06:51 17:59	06:28 20:04	05:14 21:06	04:26 21:58
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:26 21:59
10	08:44 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00
11	08:43 15:59	15:17 (9) 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01
12	08:42 16:01	15:16 (9) 17:06	06:40 18:08	06:17 20:12	05:06 21:14	04:24 22:02
13	08:41 16:03	15:16 (9) 17:08	06:37 18:10	06:15 20:15	05:04 21:16	04:23 22:03
14	08:40 16:04	15:14 (9) 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04
15	08:39 16:06	15:14 (9) 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:04
16	08:38 16:08	15:13 (9) 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05
17	08:36 16:10	15:13 (9) 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06
18	08:35 16:12	15:13 (9) 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06
19	08:34 16:14	15:13 (9) 17:22	06:21 18:22	05:59 20:27	04:53 21:28	04:22 22:07
20	08:32 16:16	15:13 (9) 17:24	06:19 18:24	05:57 20:29	04:51 21:30	04:22 22:07
21	08:31 16:18	15:12 (9) 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:07
22	08:30 16:20	15:13 (9) 17:29	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:08
23	08:28 16:22	15:13 (9) 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:23 22:08
24	08:26 16:24	15:13 (9) 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08
25	08:25 16:26	15:13 (9) 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08
26	08:23 16:28	15:13 (9) 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:22 16:31	15:13 (9) 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08
28	08:20 16:33	15:14 (9) 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07
29	08:18 16:35	15:14 (9) 17:44	05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07
30	08:16 16:37	15:15 (9) 17:46	06:52 19:45	05:33 20:50	04:36 21:47	04:26 22:07
31	08:14 16:39	15:16 (9) 17:48	06:49 19:47	05:30 20:52	04:34 21:48	04:26 22:07
Potential sun hours	235	265	365	425	507	529
Total, worst case	177	33				
Sun reduction	0,15	0,24				
Oper. time red.	0,94	0,94				
Wind dir. red.	0,66	0,66				
Total reduction	0,10	0,15				
Total, real	17	5				

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

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

Calculation: Real Case Curtailment Shadow receptor: CK - Kalvani

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14	07:19	08:21 14:58 (9)
	22:06	21:26	20:12	18:51	16:34	15:42 6 15:04 (9)
2	04:27	05:14	06:16	07:16	07:21	08:23 15:00 (9)
	22:06	21:24	20:09	18:49	16:31	15:41 3 15:03 (9)
3	04:28	05:16	06:18	07:18	07:24	08:24
	22:05	21:22	20:07	18:46	16:29	15:40
4	04:29	05:18	06:20	07:20	07:26	08:26
	22:05	21:20	20:04	18:43	16:27	15:39
5	04:30	05:20	06:22	07:22	07:28	08:28
	22:04	21:17	20:01	18:41	16:25	15:39
6	04:31	05:22	06:24	07:24	07:30	14:54 (9) 08:29
	22:04	21:15	19:59	18:38	16:23	5 14:59 (9) 15:38
7	04:32	05:24	06:26	07:26	07:32	14:51 (9) 08:31
	22:03	21:13	19:56	18:36	16:21	6 14:57 (9) 15:37
8	04:34	05:26	06:28	07:28	07:34	14:50 (9) 08:32
	22:02	21:11	19:53	18:33	16:19	6 14:56 (9) 15:37
9	04:35	05:28	06:30	07:30	07:37	14:49 (9) 08:33
	22:01	21:09	19:51	18:30	16:17	6 14:55 (9) 15:36
10	04:36	05:30	06:32	07:32	07:39	14:48 (9) 08:35
	22:00	21:06	19:48	18:28	16:15	7 14:55 (9) 15:36
11	04:37	05:32	06:34	07:34	07:41	14:47 (9) 08:36
	21:59	21:04	19:45	18:25	16:13	7 14:54 (9) 15:35
12	04:39	05:34	06:36	07:36	07:43	14:46 (9) 08:37
	21:58	21:02	19:43	18:22	16:11	8 14:54 (9) 15:35
13	04:40	05:36	06:38	07:39	07:45	14:47 (9) 08:38
	21:57	20:59	19:40	18:20	16:09	7 14:54 (9) 15:35
14	04:41	05:38	06:40	07:41	07:47	14:46 (9) 08:40
	21:56	20:57	19:37	18:17	16:07	8 14:54 (9) 15:35
15	04:43	05:40	06:42	07:43	07:49	14:47 (9) 08:41
	21:54	20:55	19:35	18:15	16:05	7 14:54 (9) 15:35
16	04:44	05:42	06:44	07:45	07:52	14:46 (9) 08:42
	21:53	20:52	19:32	18:12	16:03	8 14:54 (9) 15:35
17	04:46	05:44	06:46	07:47	07:54	14:46 (9) 08:43
	21:52	20:50	19:29	18:10	16:02	8 14:54 (9) 15:35
18	04:47	05:46	06:48	07:49	07:56	14:47 (9) 08:43
	21:50	20:47	19:26	18:07	16:00	8 14:55 (9) 15:35
19	04:49	05:48	06:50	07:51	07:58	14:47 (9) 08:44
	21:49	20:45	19:24	18:05	15:58	8 14:55 (9) 15:35
20	04:51	05:50	06:52	07:53	08:00	14:47 (9) 08:45
	21:47	20:43	19:21	18:02	15:57	9 14:56 (9) 15:35
21	04:52	05:52	06:54	07:55	08:02	14:48 (9) 08:46
	21:46	20:40	19:18	18:00	15:55	9 14:57 (9) 15:36
22	04:54	05:54	06:56	07:58	08:04	14:49 (9) 08:46
	21:44	20:38	19:16	17:57	15:53	8 14:57 (9) 15:36
23	04:56	05:56	06:58	08:00	08:06	14:49 (9) 08:47
	21:42	20:35	19:13	17:55	15:52	9 14:58 (9) 15:37
24	04:57	05:58	07:00	08:02	08:08	14:50 (9) 08:47
	21:41	20:33	19:10	17:52	15:51	9 14:59 (9) 15:37
25	04:59	06:00	07:02	08:04	08:10	14:51 (9) 08:48
	21:39	20:30	19:08	17:50	15:49	10 15:01 (9) 15:38
26	05:01	06:02	07:04	07:06	08:12	14:52 (9) 08:48
	21:37	20:27	19:05	16:48	15:48	10 15:02 (9) 15:39
27	05:03	06:04	07:06	07:08	08:14	14:53 (9) 08:48
	21:35	20:25	19:02	16:45	15:47	10 15:03 (9) 15:39
28	05:05	06:06	07:08	07:10	08:16	14:54 (9) 08:48
	21:33	20:22	18:59	16:43	15:45	11 15:05 (9) 15:40
29	05:06	06:08	07:10	07:13	08:17	14:55 (9) 08:48
	21:32	20:20	18:57	16:40	15:44	12 15:07 (9) 15:41
30	05:08	06:10	07:12	07:15	08:19	14:56 (9) 08:48
	21:30	20:17	18:54	16:38	15:43	9 15:05 (9) 15:42
31	05:10	06:12		07:17		08:48
	21:28	20:15		16:36		15:43
Potential sun hours	530	470	385	324	248	216
Total, worst case					205	9
Sun reduction					0,09	0,09
Oper. time red.					0,94	0,94
Wind dir. red.					0,66	0,66
Total reduction					0,06	0,05
Total, real					12	0

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CL - Uzkalnini

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Reference year for calendar

2025

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:46	18:49 (11)	05:30	04:33	04:27	05:12	06:14	07:14	08:21
	15:45	16:41	17:44	19:49	19:14 (11)	20:52	21:49	22:06	21:26	20:12	18:51	16:34
2	08:48	08:10	07:06	06:44	18:49 (11)	05:28	04:32	04:27	05:14	06:16	07:16	08:23
	15:46	16:44	17:46	19:52	19:13 (11)	20:54	21:51	22:06	21:24	20:09	18:49	16:31
3	08:47	08:08	07:03	06:41	18:50 (11)	05:26	04:31	04:28	05:16	06:18	07:18	08:24
	15:47	16:46	17:48	19:54	19:13 (11)	20:56	21:52	22:05	21:21	20:07	18:46	16:29
4	08:47	08:06	07:01	06:38	18:50 (11)	05:23	04:30	04:29	05:18	06:20	07:20	08:26
	15:48	16:48	17:50	19:56	19:11 (11)	20:58	21:53	22:05	21:19	20:04	18:43	16:27
5	08:47	08:04	06:58	06:36	18:50 (11)	05:21	04:29	04:30	05:20	06:22	18:53 (11)	07:22
	15:50	16:50	17:53	19:58	19:10 (11)	21:00	21:55	22:04	21:17	20:01	19:00 (11)	16:25
6	08:46	08:02	06:56	06:33	18:52 (11)	05:19	04:28	04:31	05:22	06:24	18:49 (11)	07:24
	15:51	16:53	17:55	20:00	19:08 (11)	21:02	21:56	22:03	21:15	19:59	19:03 (11)	16:23
7	08:46	08:00	06:53	06:31	18:54 (11)	05:17	04:27	04:32	05:24	06:26	18:47 (11)	07:26
	15:53	16:55	17:57	20:02	19:05 (11)	21:04	21:57	22:03	21:13	19:56	19:04 (11)	16:21
8	08:45	07:58	06:50	06:28	18:54 (11)	05:14	04:26	04:33	05:26	06:28	18:45 (11)	07:28
	15:54	16:57	17:59	20:04	19:05 (11)	21:06	21:58	22:02	21:11	19:53	19:05 (11)	16:19
9	08:44	07:56	06:48	06:25	18:54 (11)	05:12	04:26	04:35	05:28	06:30	18:44 (11)	07:30
	15:56	16:59	18:01	20:06	19:06 (11)	21:08	21:59	22:01	21:08	19:51	19:06 (11)	16:16
10	08:43	07:54	06:45	06:23	18:54 (11)	05:10	04:25	04:36	05:30	06:32	18:43 (11)	07:32
	15:57	17:02	18:03	20:08	19:07 (11)	21:10	22:00	22:00	21:06	19:48	19:06 (11)	16:14
11	08:43	07:52	06:43	06:20	18:54 (11)	05:08	04:24	04:37	05:32	06:34	18:42 (11)	07:34
	15:59	17:04	18:05	20:10	19:08 (11)	21:12	22:01	21:59	21:04	19:45	19:07 (11)	16:13
12	08:42	07:49	06:40	06:17	18:54 (11)	05:06	04:24	04:39	05:34	06:36	18:41 (11)	07:36
	16:01	17:06	18:08	20:12	19:09 (11)	21:14	22:02	21:58	21:02	19:43	19:07 (11)	16:11
13	08:41	07:47	06:37	06:15	18:54 (11)	05:04	04:23	04:40	05:36	06:38	18:41 (11)	07:38
	16:03	17:08	18:10	20:14	19:10 (11)	21:16	22:03	21:57	20:59	19:40	19:06 (11)	16:09
14	08:40	07:45	06:35	06:12	18:54 (11)	05:02	04:23	04:41	05:38	06:40	18:41 (11)	07:41
	16:04	17:11	18:12	20:17	19:11 (11)	21:18	22:04	21:55	20:57	19:37	19:06 (11)	16:07
15	08:39	07:43	06:32	06:10	18:54 (11)	05:00	04:23	04:43	05:40	06:42	18:41 (11)	07:43
	16:06	17:13	18:14	20:19	19:12 (11)	21:20	22:04	21:54	20:55	19:34	19:05 (11)	16:05
16	08:37	07:40	06:29	06:07	18:54 (11)	04:58	04:22	04:44	05:42	06:44	18:41 (11)	07:45
	16:08	17:15	18:16	20:21	19:13 (11)	21:22	22:05	21:53	20:52	19:32	19:04 (11)	16:03
17	08:36	07:38	06:27	06:04	18:54 (11)	04:56	04:22	04:46	05:44	06:46	18:41 (11)	07:47
	16:10	17:17	18:18	20:23	19:14 (11)	21:24	22:06	21:51	20:50	19:29	19:02 (11)	16:01
18	08:35	07:36	06:24	06:02	18:54 (11)	04:54	04:22	04:47	05:46	06:48	18:42 (11)	07:49
	16:12	17:20	18:20	20:25	19:15 (11)	21:26	22:06	21:50	20:47	19:26	18:59 (11)	16:00
19	08:34	07:33	06:21	05:59	18:54 (11)	04:53	04:22	04:49	05:48	06:50	18:42 (11)	07:51
	16:14	17:22	18:22	20:27	19:16 (11)	21:28	22:06	21:49	20:45	19:24	18:55 (11)	15:58
20	08:32	07:31	06:19	05:57	18:54 (11)	04:51	04:22	04:51	05:50	06:52	18:44 (11)	07:53
	16:16	17:24	18:24	20:29	19:17 (11)	21:30	22:07	21:47	20:42	19:21	18:53 (11)	15:57
21	08:31	07:28	06:16	05:54	18:54 (11)	04:49	04:22	04:52	05:52	06:54	18:47 (11)	07:55
	16:18	17:26	18:26	20:31	19:18 (11)	21:31	22:07	21:46	20:40	19:18	18:50 (11)	15:55
22	08:29	07:26	06:13	05:52	18:54 (11)	04:47	04:22	04:54	05:54	06:56	18:47 (11)	07:57
	16:20	17:28	18:29	20:33	19:19 (11)	21:33	22:07	21:44	20:37	19:16	18:51 (11)	15:53
23	08:28	07:24	06:11	05:49	18:54 (11)	04:46	04:23	04:56	05:56	06:58	18:47 (11)	07:59
	16:22	17:31	18:31	20:35	19:20 (11)	21:35	22:08	21:42	20:35	19:13	18:52 (11)	15:52
24	08:26	07:21	06:08	05:47	18:54 (11)	04:44	04:23	04:57	05:58	07:00	18:47 (11)	07:59
	16:24	17:33	18:33	20:37	19:21 (11)	21:37	22:08	21:41	20:32	19:10	18:53 (11)	15:51
25	08:25	07:19	06:05	05:44	18:54 (11)	04:43	04:23	04:59	06:00	07:02	18:47 (11)	07:59
	16:26	17:35	18:35	20:39	19:22 (11)	21:38	22:08	21:39	20:30	19:08	18:54 (11)	15:49
26	08:23	07:16	06:03	05:42	18:54 (11)	04:41	04:24	05:01	06:02	07:04	18:47 (11)	07:59
	16:28	17:37	18:37	20:42	19:23 (11)	21:40	22:08	21:37	20:27	19:05	18:54 (11)	15:48
27	08:21	07:14	06:00	05:40	18:54 (11)	04:40	04:24	05:03	06:04	07:06	18:47 (11)	07:59
	16:31	17:39	18:39	20:44	19:24 (11)	21:42	22:07	21:35	20:25	19:02	18:54 (11)	15:47
28	08:20	07:11	05:57	05:37	18:54 (11)	04:38	04:25	05:05	06:06	07:08	18:47 (11)	07:59
	16:33	17:42	18:41	20:46	19:25 (11)	21:43	22:07	21:33	20:22	18:59	18:54 (11)	15:45
29	08:18	05:55	17:50 (11)	05:35	18:54 (11)	04:37	04:25	05:06	06:08	07:10	18:47 (11)	07:59
	16:35	18:43	19:42	20:48	19:26 (11)	21:45	22:07	21:31	20:20	18:57	18:54 (11)	15:44
30	08:16	06:52	18:49 (11)	05:32	18:54 (11)	04:36	04:26	05:08	06:10	07:12	18:47 (11)	07:59
	16:37	19:45	20:44	20:50	19:27 (11)	21:46	22:07	21:30	20:17	18:54	18:54 (11)	15:43
31	08:14	06:49	18:50 (11)	05:30	18:54 (11)	04:34	04:24	05:10	06:12	07:14	18:47 (11)	07:59
	16:39	19:47	20:46	20:52	19:28 (11)	21:48	22:09	21:28	20:14	18:54	18:54 (11)	15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	314	248	216
Total, worst case			167	140						314		
Sun reduction			0,39	0,48						0,43		
Oper. time red.			0,94	0,94						0,94		
Wind dir. red.			0,66	0,66						0,66		
Total reduction			0,24	0,30						0,27		
Total, real			40	42						83		

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CM - Cakstes

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:08 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:51	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:23	06:16 20:09	07:16 18:49	07:21 16:31	08:22 15:41
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	05:25 20:56	04:31 21:52	04:28 22:05	05:16 21:21	06:18 20:06	07:18 18:46	07:23 16:29	08:24 15:40
4	08:47 15:51	08:06 16:57	07:01 17:59	06:38 19:56	05:23 20:58	04:30 21:53	04:29 22:05	05:18 21:19	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:39
5	08:47 15:50	08:04 16:50	06:58 17:52	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:51	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:45 15:53	08:00 16:55	06:53 17:57	06:30 20:02	05:17 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:35	07:32 16:21	08:30 15:37
8	08:45 15:54	07:58 16:57	06:50 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:18	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:26 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:16	08:33 15:36
10	08:43 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:42 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:12	08:36 15:35
12	08:42 16:01	07:49 17:06	06:40 18:07	06:17 20:12	05:06 21:14	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:14	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:38 18:20	07:45 16:09	08:38 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:16	05:02 21:18	04:23 22:04	04:41 21:55	05:38 20:57	06:40 19:37	07:40 18:17	07:47 16:07	08:39 15:35
15	08:38 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:34	07:43 18:15	07:49 16:05	08:40 15:35
16	08:37 16:08	07:40 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:03	08:41 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:04 20:23	04:56 21:24	04:22 22:05	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:53 16:01	08:42 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:26	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:06	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 21:29	04:22 22:07	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:56	08:45 15:35
21	08:31 16:18	07:28 17:26	06:16 18:26	05:54 20:31	04:49 21:31	04:22 22:07	04:52 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:28	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:23 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:07	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:46 15:37
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08	04:57 21:40	05:58 20:32	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:44 20:39	04:42 21:38	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:07	08:04 17:50	08:10 15:49	08:47 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:41	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:47	08:12 15:48	08:48 15:39
27	08:21 16:30	07:14 17:39	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 18:59	07:10 16:43	08:15 15:45	08:48 15:40
29	08:18 16:35		05:54 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:31	06:08 20:20	07:10 18:57	07:12 16:40	08:17 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:46	04:26 22:07	05:08 21:29	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:14		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: CN - Jaunie Vuš karnieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:49	05:30 20:52	04:33 21:49
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	05:26 20:56	04:31 21:52
4	08:47 15:49	08:06 16:48	07:01 17:50	06:39 19:56	05:23 20:58	04:30 21:53
5	08:47 15:50	08:04 16:50	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55
6	08:46 15:51	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:27 21:57
8	08:45 15:54	07:58 16:57	06:50 17:59	06:28 20:04	05:14 21:06	04:26 21:58
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 19:38 (13)	04:26 21:59
10	08:43 15:58	07:54 17:02	06:45 18:03	06:23 20:08	05:10 19:39 (13)	04:25 22:00
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 19:38 (13)	04:24 22:01
12	08:42 16:01	07:49 17:06	06:40 18:08	06:17 20:12	05:06 19:37 (13)	04:24 22:02
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:14	05:04 19:37 (13)	04:23 22:03
14	08:40 16:05	07:45 17:11	06:35 18:12	06:12 20:17	05:02 19:36 (13)	04:23 22:04
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 19:35 (13)	04:23 22:04
16	08:37 16:08	07:40 17:15	06:29 18:16	06:07 20:21	04:58 19:33 (13)	04:23 22:05
17	08:36 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 19:32 (13)	04:22 22:06
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 19:29 (13)	04:22 22:06
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:53 19:22 (13)	04:22 22:06
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 19:24 (13)	04:22 22:07
21	08:31 16:18	07:28 17:26	06:16 18:27	05:54 20:31	04:49 19:27 (13)	04:22 22:07
22	08:29 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:47 19:33 (13)	04:22 22:07
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:23 22:08
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:39	04:43 21:38	04:23 22:08
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:21 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:07
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07
30	08:16 16:37		06:52 19:45	05:33 20:50	04:36 21:46	04:26 22:07
31	08:14 16:39		06:49 19:47		04:34 21:48	
Potential sun hours	235	265	365	425	507	529
Total, worst case				100		
Sun reduction				0,48	31	
Oper. time red.				0,94	0,53	
Wind dir. red.				0,64	0,94	
Total reduction				0,29	0,62	
Total, real				29	0,31	

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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SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CN - Jaunie Vu š karnieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	20:48 (9)	06:14	19:37 (13)	07:14
	22:06	21:26	3 20:51 (9)	20:12	6 19:43 (13)	18:51
2	04:28	05:14	20:48 (9)	06:16	19:37 (13)	07:21
	22:06	21:24	3 20:51 (9)	20:09	4 19:41 (13)	18:49
3	04:28	05:16	20:47 (9)	06:18	19:37 (13)	07:18
	22:05	21:21	3 20:50 (9)	20:07	2 19:39 (13)	18:46
4	04:29	05:18	20:46 (9)	06:20		07:20
	22:05	21:19	2 20:48 (9)	20:04		18:43
5	04:30	05:20	20:44 (9)	06:22		07:22
	22:04	21:17	1 20:45 (9)	20:01		18:41
6	04:31	05:22	20:42 (9)	06:24		07:24
	22:03	21:15	2 20:44 (9)	19:59		18:38
7	04:32	05:24	20:40 (9)	06:26		07:26
	22:03	21:13	2 20:42 (9)	19:56		18:36
8	04:34	05:26	20:33 (9)	06:28		07:28
	22:02	21:11	7 20:40 (9)	19:53		18:33
9	04:35	05:28	20:35 (9)	06:30		07:30
	22:01	21:08	3 20:38 (9)	19:51		18:30
10	04:36	05:30		06:32		07:32
	22:00	21:06		19:48		18:28
11	04:37	05:32		06:34		07:34
	21:59	21:04		19:45		18:25
12	04:39	05:34		06:36		07:36
	21:58	21:02		19:43		18:22
13	04:40	05:36		06:38		07:38
	21:57	20:59		19:40		18:20
14	04:41	05:38		06:40		07:41
	21:55	20:57		19:37		18:17
15	04:43	05:40		06:42		07:43
	21:54	20:55		19:35		18:15
16	04:44	05:42		06:44		07:45
	21:53	20:52		19:32		18:12
17	04:46	05:44		06:46		07:47
	21:51	20:50		19:29		18:10
18	04:47	05:46		06:48		07:49
	21:50	20:47		19:26		18:07
19	04:49	05:48		06:50		07:51
	21:49	20:45		19:24		18:05
20	04:51	05:50		06:52		07:53
	21:47	20:42		19:21		18:02
21	04:52	05:52		06:54		07:55
	21:45	20:40		19:18		18:00
22	04:54	05:54		06:56		07:57
	21:44	20:37		19:16		17:57
23	04:56	05:56	19:29 (13)	06:58		08:00
	21:42	20:35	11 19:40 (13)	19:13		17:55
24	04:57	05:58	19:27 (13)	07:00		08:02
	21:41	20:32	15 19:42 (13)	19:10		17:52
25	04:59	06:00	19:32 (13)	07:02		08:04
	21:39	20:30	11 19:43 (13)	19:08		17:50
26	05:01	06:02	19:33 (13)	07:04		07:56
	21:37	20:27	10 19:43 (13)	19:05		16:48
27	05:03	20:51 (9)	06:04	19:35 (13)	07:06	07:08
	21:35	20:52 (9)	20:25	8 19:43 (13)	19:02	16:45
28	05:05	20:51 (9)	06:06	19:36 (13)	07:08	07:10
	21:33	20:52 (9)	20:22	8 19:44 (13)	18:59	16:43
29	05:07	20:50 (9)	06:08	19:37 (13)	07:10	07:13
	21:31	20:52 (9)	20:20	7 19:44 (13)	18:57	16:40
30	05:08	20:50 (9)	06:10	19:37 (13)	07:12	07:15
	21:30	20:52 (9)	20:17	7 19:44 (13)	18:54	16:38
31	05:10	20:50 (9)	06:12	19:37 (13)	07:17	07:17
	21:28	20:52 (9)	20:14	7 19:44 (13)	16:36	16:36
Potential sun hours	530	470	385	324	248	216
Total, worst case	8	110	12			
Sun reduction	0,51	0,51	0,43			
Oper. time red.	0,94	0,94	0,94			
Wind dir. red.	0,62	0,63	0,64			
Total reduction	0,30	0,31	0,26			
Total, real	2	34	3			

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CO - Upmalnieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:48 15:45	08:12 16:42	07:09 17:44	17:05 (14) 17:17 (14)	06:47 19:50	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42	
2	08:48 15:46	08:10 16:44	07:06 17:46	17:04 (14) 17:20 (14)	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41	
3	08:47 15:47	08:09 16:46	07:03 17:48	17:03 (14) 17:22 (14)	06:41 19:54	05:26 20:56	04:31 21:52	04:28 22:05	05:16 21:22	06:18 20:07	07:18 18:46	17:45 (14) 17:56 (14)	07:23 16:29	08:24 15:40
4	08:47 15:49	08:07 16:48	07:01 17:50	17:02 (14) 17:24 (14)	06:39 19:56	05:23 20:58	04:30 21:53	04:29 22:05	05:18 21:19	06:20 20:04	07:20 18:43	17:42 (14) 17:57 (14)	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:58 17:53	17:03 (14) 17:24 (14)	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	17:41 (14) 17:58 (14)	07:28 16:25	08:27 15:39
6	08:46 15:51	08:02 16:53	06:56 17:55	17:02 (14) 17:24 (14)	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:03	05:22 21:15	06:24 19:59	07:24 18:38	17:39 (14) 17:59 (14)	07:30 16:23	08:29 15:38
7	08:46 15:53	08:00 16:55	06:53 17:57	17:02 (14) 17:23 (14)	06:31 20:02	05:17 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	17:38 (14) 17:59 (14)	07:32 16:21	08:31 15:37
8	08:45 15:54	07:58 16:57	06:51 17:59	17:03 (14) 17:23 (14)	06:28 20:04	05:14 21:06	04:26 21:58	04:34 22:02	05:26 21:11	06:28 19:53	07:28 18:33	17:37 (14) 17:59 (14)	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	17:03 (14) 17:21 (14)	06:25 20:06	05:12 21:08	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	17:37 (14) 17:58 (14)	07:36 16:17	08:33 15:36
10	08:43 15:58	07:54 17:02	06:45 18:03	17:04 (14) 17:19 (14)	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	17:38 (14) 17:59 (14)	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	17:07 (14) 17:18 (14)	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	17:37 (14) 17:56 (14)	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:06	06:40 18:08	17:06 18:08	06:17 20:12	05:06 21:14	04:39 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:36 18:22	17:38 (14) 17:53 (14)	07:37 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	17:05 18:10	06:15 20:14	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:38 18:20	17:38 (14) 17:51 (14)	07:45 16:09	08:38 15:35
14	08:40 16:05	07:45 17:11	06:35 18:12	17:06 18:12	06:12 20:17	05:02 21:18	04:23 22:04	04:41 21:55	05:38 20:57	06:40 19:37	07:41 18:17	17:39 (14) 17:48 (14)	07:47 16:07	08:40 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	17:07 18:14	06:10 20:19	05:00 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	17:41 (14) 17:46 (14)	07:49 16:05	08:41 15:35
16	08:37 16:08	07:40 17:15	06:29 18:16	17:08 18:16	06:07 20:21	04:58 21:22	04:23 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	17:42 (14) 18:12	07:51 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	17:09 18:18	06:05 20:23	04:56 21:24	04:22 22:06	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	17:43 (14) 17:52 (14)	07:54 16:02	08:42 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	17:10 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:26	07:49 18:07	17:44 (14) 17:56 (14)	07:55 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	17:11 18:22	05:59 20:27	04:53 21:28	04:22 22:06	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	17:45 (14) 17:58 (14)	07:52 16:05	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	17:12 18:24	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	17:46 (14) 17:59 (14)	07:54 16:02	08:45 15:35
21	08:31 16:18	07:28 17:26	06:16 18:27	17:13 18:27	05:54 20:31	04:49 21:31	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	17:47 (14) 17:56 (14)	07:55 16:00	08:45 15:36
22	08:29 16:20	07:26 17:29	06:13 18:29	17:14 18:29	05:52 20:33	04:47 21:33	04:22 22:07	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	17:48 (14) 17:54 (14)	07:58 16:06	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	17:15 18:31	05:49 20:35	04:46 21:35	04:23 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	17:49 (14) 17:55 (14)	08:00 16:06	08:47 15:37
24	08:26 16:24	07:21 17:33	06:08 18:33	17:16 18:33	05:47 20:37	04:44 21:37	04:23 22:08	04:58 21:41	05:58 20:32	07:00 19:10	08:02 17:52	17:50 (14) 17:57 (14)	08:02 16:05	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	17:17 18:35	05:45 20:40	04:43 21:38	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	17:51 (14) 18:01 (14)	08:04 16:05	08:47 15:38
26	08:23 16:29	07:16 17:37	06:03 18:37	17:18 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:27	07:04 19:05	08:06 17:48	18:02 (14) 18:09 (14)	08:06 16:06	08:48 15:39
27	08:21 16:31	07:14 17:40	06:00 18:39	17:09 (14) 17:13 (14)	06:00 18:39	05:40 20:44	04:24 22:08	05:03 21:35	06:04 20:25	07:06 19:02	08:08 16:45	18:03 (14) 18:04 (14)	08:08 16:07	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	17:07 (14) 17:15 (14)	06:07 18:41	05:37 20:46	04:38 21:43	05:05 22:07	06:06 20:22	07:08 18:59	08:10 16:43	18:04 (14) 18:05 (14)	08:10 16:08	08:48 15:40
29	08:18 16:35	18:43	05:55 18:43	17:16	05:55 20:48	05:35 21:45	04:37 21:45	05:07 22:07	06:08 20:20	07:10 18:57	08:12 16:41	18:06 (14) 18:07 (14)	08:12 16:08	08:48 15:41
30	08:16 16:37	17:45	06:52 19:45	17:17	06:52 20:50	05:33 21:46	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	08:14 16:38	18:08 (14) 18:09 (14)	08:14 16:09	08:48 15:42
31	08:14 16:39	17:47	06:49 19:47	17:18	06:49 20:50	05:49 21:48	04:27 21:28	05:10 21:28	06:12 20:14	07:14 16:36	08:16 16:36	18:10 (14) 18:11 (14)	08:16 16:10	08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	209	248	216	
Total, worst case		12	197								209			
Sun reduction		0,24	0,39								0,27			
Oper. time red.		0,94	0,94								0,94			
Wind dir. red.		0,66	0,66								0,66			
Total reduction		0,15	0,24								0,17			
Total, real		2	48								35			

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

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

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CP - Gruguli

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:08 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:51	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	05:25 20:56	04:31 21:52	04:28 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:29	08:24 15:40
4	08:47 15:51	08:06 16:57	07:01 17:59	06:38 19:56	05:23 20:58	04:30 21:53	04:29 22:05	05:18 21:19	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:39
5	08:47 15:50	08:04 16:50	06:58 17:52	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:51	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:45 15:53	08:00 16:55	06:53 17:57	06:30 20:02	05:16 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:35	07:32 16:21	08:30 15:37
8	08:45 15:54	07:58 16:57	06:50 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:18	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:25 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:16	08:33 15:36
10	08:43 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:12	08:36 15:35
12	08:42 16:01	07:49 17:06	06:40 18:07	06:17 20:12	05:06 21:14	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:37 15:35
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Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: CQ - Aramsala

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:08 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:51	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:23	06:16 20:09	07:16 18:49	07:21 16:31	08:22 15:41
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	05:25 20:56	04:31 21:52	04:28 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:29	08:24 15:40
4	08:47 15:51	08:06 16:57	07:01 17:59	06:38 19:56	05:23 20:58	04:30 21:53	04:29 22:05	05:18 21:19	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:39
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31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:14		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: CR - Alksni š i

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:08 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:25	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
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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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CS - Lejsalie š i

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:08 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:33	08:21 15:42
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:51	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	05:25 20:56	04:31 21:52	04:28 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:29	08:24 15:40
4	08:47 15:51	08:06 16:57	07:01 17:59	06:38 19:56	05:23 20:58	04:30 21:53	04:29 22:05	05:18 21:19	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:39
5	08:47 15:50	08:04 16:50	06:58 17:52	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:51	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:45 15:53	08:00 16:55	06:53 17:57	06:30 20:02	05:16 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:35	07:32 16:20	08:30 15:37
8	08:45 15:54	07:58 16:57	06:50 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:18	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:25 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:16	08:33 15:36
10	08:43 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:12	08:36 15:35
12	08:42 16:01	07:49 17:06	06:40 18:07	06:17 20:12	05:06 21:14	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:10	08:37 15:35
13	08:41 16:02	07:47 17:08	06:37 18:10	06:15 20:14	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:38 18:20	07:45 16:09	08:38 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:16	05:02 21:18	04:23 22:04	04:41 21:55	05:38 20:57	06:40 19:37	07:40 18:17	07:47 16:07	08:39 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:34	07:43 18:15	07:49 16:05	08:41 15:35
16	08:37 16:08	07:40 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:04 20:23	04:56 21:24	04:22 22:06	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:01	08:42 15:35
18	08:35 16:12	07:36 17:19	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:26	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:06	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:04	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 21:30	04:22 22:07	04:50 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:56	08:45 15:35
21	08:31 16:18	07:28 17:26	06:16 18:26	05:54 20:31	04:49 21:31	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:28	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:23 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:32	07:00 19:10	08:02 17:52	08:08 15:50	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:44 20:39	04:42 21:38	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:07	08:04 17:50	08:10 15:49	08:47 15:38
26	08:23 16:28	07:16 17:37	06:02 18:37	05:42 20:42	04:41 21:40	04:23 22:08	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:47	08:12 15:48	08:48 15:38
27	08:21 16:30	07:14 17:39	06:00 18:39	05:39 20:44	04:39 21:42	04:24 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:24 22:07	05:04 21:33	06:06 20:22	07:08 18:59	07:10 16:43	08:15 15:45	08:48 15:40
29	08:18 16:35		05:54 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:31	06:08 20:20	07:10 18:57	07:13 16:40	08:17 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:46	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:14		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: CT - Araj

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:49	18:47 (12) 19:01 (12)	05:30 20:52
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:52	18:46 (12) 18:59 (12)	05:28 20:54
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	18:46 (12) 18:58 (12)	05:26 20:56
4	08:47 15:49	08:07 16:48	07:01 17:50	06:39 19:56	18:45 (12) 18:57 (12)	05:23 20:58
5	08:47 15:50	08:04 16:50	06:58 17:53	06:36 19:58	18:44 (12) 18:55 (12)	05:21 21:00
6	08:46 15:51	08:02 16:53	06:56 17:55	06:33 20:00	18:44 (12) 18:55 (12)	05:19 21:02
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	18:44 (12) 18:54 (12)	05:17 21:04
8	08:45 15:54	07:58 16:57	06:50 17:59	06:28 20:04	18:45 (12) 18:54 (12)	05:14 21:06
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	18:44 (12) 18:53 (12)	05:12 21:08
10	08:43 15:58	07:54 17:02	06:45 18:03	06:23 20:08	18:45 (12) 18:54 (12)	05:10 21:10
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	18:45 (12) 18:53 (12)	05:08 21:12
12	08:42 16:01	07:49 17:06	06:40 18:08	06:17 20:12	18:46 (12) 18:53 (12)	05:06 21:14
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:14	18:47 (12) 18:54 (12)	05:04 21:16
14	08:40 16:05	07:45 17:11	06:35 18:12	06:12 20:17	18:48 (12) 18:54 (12)	05:02 21:18
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	18:51 (12) 18:55 (12)	05:00 21:20
16	08:37 16:08	07:40 17:15	06:29 18:16	06:07 20:21	18:54 (12) 18:55 (12)	04:58 21:22
17	08:36 16:10	07:38 17:17	06:27 18:18	06:05 20:23		04:56 21:24
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25		04:54 21:26
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27		04:53 21:28
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29		04:51 21:30
21	08:31 16:18	07:28 17:26	06:16 18:27	05:54 20:31		04:49 21:31
22	08:29 16:20	07:26 17:29	06:13 18:29	05:52 20:33		04:47 21:33
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35		04:46 21:35
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37		04:44 21:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:39		04:43 21:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42		04:41 21:40
27	08:21 16:31	07:14 17:40	06:00 18:39	05:40 20:44		04:40 21:42
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46		04:38 21:43
29	08:18 16:35		05:55 18:43	05:35 20:48		04:37 21:45
30	08:16 16:37		06:52 19:45	05:33 20:50		04:36 21:46
31	08:14 16:39		06:49 19:47	05:30 20:50		04:34 21:48
Potential sun hours	235	265	365	425	507	529
Total, worst case			98	143		
Sun reduction			0,39	0,48		
Oper. time red.			0,94	0,94		
Wind dir. red.			0,66	0,66		
Total reduction			0,24	0,30		
Total, real			24	42	15	

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

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

Calculation: Real Case Curtailment Shadow receptor: CT - Araj

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	18:45 (12)	07:14	07:19
	22:06	21:26	20:12	18:53 (12)	18:51	16:34
2	04:28	05:14	06:16	18:44 (12)	07:16	07:21
	22:06	21:24	20:09	18:52 (12)	18:49	16:31
3	04:28	05:16	06:18	18:43 (12)	07:18	07:23
	22:05	21:21	20:07	18:52 (12)	18:46	16:29
4	04:29	05:18	20:46 (9)	18:42 (12)	07:20	07:26
	22:05	21:19	20:47 (9)	18:51 (12)	18:43	16:27
5	04:30	05:20	20:23 (9)	18:40 (12)	07:22	07:28
	22:04	21:17	20:45 (9)	18:50 (12)	18:41	16:25
6	04:31	05:22	20:23 (9)	18:40 (12)	07:24	07:30
	22:03	21:15	20:44 (9)	18:50 (12)	18:38	16:23
7	04:32	05:24	20:24 (9)	18:40 (12)	07:26	07:32
	22:03	21:13	20:42 (9)	18:50 (12)	18:36	16:21
8	04:34	05:26	20:25 (9)	18:39 (12)	07:28	07:34
	22:02	21:11	20:40 (9)	18:51 (12)	18:33	16:19
9	04:35	05:28	20:26 (9)	18:39 (12)	07:30	07:36
	22:01	21:08	20:38 (9)	18:51 (12)	18:30	16:17
10	04:36	05:30	20:28 (9)	18:39 (12)	07:32	07:39
	22:00	21:06	20:36 (9)	18:52 (12)	18:28	16:15
11	04:37	05:32	20:29 (9)	18:39 (12)	07:34	07:41
	21:59	21:04	20:33 (9)	18:53 (12)	18:25	16:13
12	04:39	05:34	06:36	18:40 (12)	07:36	07:43
	21:58	21:02	19:43	18:54 (12)	18:22	16:11
13	04:40	05:36	06:38	18:40 (12)	07:38	07:45
	21:57	20:59	19:40	18:56 (12)	18:20	16:09
14	04:41	05:38	06:40	18:41 (12)	07:41	07:47
	21:55	20:57	19:37	19:00 (12)	18:17	16:07
15	04:43	05:40	06:42	18:42 (12)	07:43	07:49
	21:54	20:55	19:35	19:05 (12)	18:15	16:05
16	04:44	05:42	06:44	18:44 (12)	07:45	07:51
	21:53	20:52	19:32	19:03 (12)	18:12	16:03
17	04:46	05:44	06:46	18:46 (12)	07:47	07:54
	21:51	20:50	19:29	19:00 (12)	18:10	16:02
18	04:47	05:46	06:48		07:49	07:56
	21:50	20:47	19:26		18:07	16:00
19	04:49	05:48	06:50		07:51	07:58
	21:49	20:45	19:24		18:05	15:58
20	04:51	05:50	06:52		07:53	08:00
	21:47	20:42	19:21		18:02	15:57
21	04:52	05:52	06:54		07:55	08:02
	21:46	20:40	19:18		18:00	15:55
22	04:54	05:54	06:56		07:57	08:04
	21:44	20:37	19:16		17:57	15:54
23	04:56	05:56	06:58		08:00	08:06
	21:42	20:35	19:13		17:55	15:52
24	04:57	05:58	07:00		08:02	08:08
	21:41	20:32	19:10		17:52	15:51
25	04:59	06:00	07:02		08:04	08:10
	21:39	20:30	19:08		17:50	15:49
26	05:01	06:02	07:04		07:06	08:12
	21:37	20:27	19:05		16:48	15:48
27	05:03	06:04	07:06		07:08	08:14
	21:35	20:25	19:02		16:45	15:47
28	05:05	06:06	18:53 (12)	07:08	07:10	08:15
	21:33	20:22	18:56 (12)	18:59	16:43	15:46
29	05:07	06:08	18:50 (12)	07:10	07:13	08:17
	21:31	20:20	18:55 (12)	18:57	16:40	15:44
30	05:08	06:10	18:48 (12)	07:12	07:15	08:19
	21:30	20:17	18:54 (12)	18:54	16:38	15:43
31	05:10	06:12	18:47 (12)	07:17		08:48
	21:28	20:14	18:53 (12)	16:36		15:43
Potential sun hours	530	470	385	324	248	216
Total, worst case			220			
Sun reduction		0,51	0,43			
Oper. time red.		0,94	0,94			
Wind dir. red.		0,63	0,66			
Total reduction		0,30	0,26			
Total, real		22	58			

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CU - Plavinas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:08 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:51	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	05:25 20:56	04:31 21:52	04:28 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:29	08:24 15:40
4	08:47 15:51	08:06 16:57	07:01 17:59	06:38 19:56	05:23 20:58	04:30 21:53	04:29 22:05	05:18 21:19	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:39
5	08:47 15:50	08:04 16:50	06:58 17:52	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:51	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:45 15:53	08:00 16:55	06:53 17:57	06:30 20:02	05:16 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:35	07:32 16:21	08:30 15:37
8	08:45 15:54	07:58 16:57	06:50 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:18	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:25 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:16	08:33 15:36
10	08:43 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:12	08:36 15:35
12	08:42 16:01	07:49 17:06	06:40 18:07	06:17 20:12	05:06 21:14	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:14	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:38 18:20	07:45 16:09	08:38 15:35
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17	08:36 16:10	07:38 17:17	06:27 18:18	06:04 20:23	04:56 21:24	04:22 22:06	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:01	08:42 15:35
18	08:35 16:12	07:36 17:19	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:26	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:06	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:04	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 21:30	04:22 22:07	04:50 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:56	08:45 15:35
21	08:31 16:18	07:28 17:26	06:16 18:26	05:54 20:31	04:49 21:31	04:22 22:07	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:28	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
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31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:14		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CV - Zališi

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:46	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:41	17:44	19:49	20:52	21:49	22:06	21:26	20:12	18:51	16:33	15:42
2	08:48	08:10	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:51	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:47	08:08	07:03	06:41	05:25	04:31	04:28	05:16	06:18	07:18	07:23	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:05	21:21	20:07	18:46	16:29	15:40
4	08:47	08:06	07:01	06:38	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:50	19:56	20:58	21:53	22:05	21:19	20:04	18:43	16:27	15:39
5	08:47	08:04	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:27
	15:50	16:50	17:52	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:02	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:38
7	08:45	08:00	06:53	06:30	05:16	04:27	04:32	05:24	06:26	07:26	07:32	08:30
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	15:54	16:57	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:18	15:37
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	15:56	16:59	18:01	20:06	21:08	21:59	22:01	21:08	19:51	18:30	16:16	15:36
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	15:57	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:14	15:36
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13	08:41	07:47	06:37	06:15	05:04	04:23	04:40	05:36	06:38	07:38	07:45	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:35
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	16:04	17:11	18:12	20:16	21:18	22:04	21:55	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49	08:41
	16:06	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:34	18:15	16:05	15:35
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	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03	15:35
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18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:43
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	16:14	17:22	18:22	20:27	21:28	22:06	21:49	20:45	19:24	18:04	15:58	15:35
20	08:32	07:31	06:19	05:57	04:51	04:22	04:50	05:50	06:52	07:53	08:00	08:45
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	16:18	17:26	18:26	20:31	21:31	22:07	21:45	20:40	19:18	18:00	15:55	15:36
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23	08:28	07:23	06:11	05:49	04:46	04:22	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:35	21:35	22:08	21:42	20:35	19:13	17:55	15:52	15:37
24	08:26	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:37	21:37	22:08	21:41	20:32	19:10	17:52	15:50	15:37
25	08:25	07:19	06:05	05:44	04:42	04:23	04:59	06:00	07:02	08:04	08:10	08:47
	16:26	17:35	18:35	20:39	21:38	22:08	21:39	20:30	19:07	17:50	15:49	15:38
26	08:23	07:16	06:02	05:42	04:41	04:23	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:27	19:05	16:47	15:48	15:38
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	16:37		19:45	20:50	21:46	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:14		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:47		21:48		21:28	20:14		16:36		15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CW - Grugules

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:08 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:51	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
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4	08:47 15:51	08:06 16:57	07:01 17:59	06:38 20:04	05:23 21:06	04:30 21:58	04:29 22:02	05:18 21:11	06:20 19:53	07:20 18:33	07:26 16:18	08:26 15:37
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18	08:35 16:12	07:36 17:19	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:26	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:06	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 21:30	04:22 22:07	04:50 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:56	08:45 15:35
21	08:31 16:18	07:28 17:26	06:16 18:26	05:54 20:31	04:49 21:31	04:22 22:07	04:52 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:28	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:32	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:44 20:39	04:42 21:38	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:07	08:04 17:50	08:10 15:49	08:47 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:47	08:12 15:48	08:48 15:39
27	08:21 16:30	07:14 17:39	06:00 18:39	05:40 20:44	04:39 21:42	04:24 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 18:59	07:10 16:43	08:15 15:45	08:48 15:40
29	08:18 16:35		05:54 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:31	06:08 20:20	07:10 18:57	07:13 16:40	08:17 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:46	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:14		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CX - Madaras

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:08 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:51	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	05:25 20:56	04:31 21:52	04:28 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:29	08:24 15:40
4	08:47 15:51	08:06 16:57	07:01 17:59	06:38 19:56	05:23 20:58	04:30 21:53	04:29 22:05	05:18 21:19	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:39
5	08:47 15:50	08:04 16:50	06:58 17:52	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:51	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:45 15:53	08:00 16:55	06:53 17:57	06:30 20:02	05:16 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:35	07:32 16:21	08:30 15:37
8	08:45 15:54	07:58 16:57	06:50 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:18	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:25 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:16	08:33 15:36
10	08:43 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:12	08:36 15:35
12	08:42 16:01	07:49 17:06	06:40 18:07	06:17 20:12	05:06 21:14	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:14	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:38 18:20	07:45 16:09	08:38 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:16	05:02 21:18	04:23 22:04	04:41 21:55	05:38 20:57	06:40 19:37	07:40 18:17	07:47 16:07	08:39 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:34	07:43 18:15	07:49 16:05	08:41 15:35
16	08:37 16:08	07:40 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:03	08:41 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:04 20:23	04:56 21:24	04:22 22:06	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:01	08:42 15:35
18	08:35 16:12	07:36 17:19	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:26	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:06	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:04	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 21:30	04:22 22:07	04:50 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:56	08:45 15:35
21	08:31 16:18	07:28 17:26	06:16 18:26	05:54 20:31	04:49 21:31	04:22 22:07	04:52 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:28	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:23 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:32	07:00 19:10	08:02 17:52	08:08 15:50	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:44 20:39	04:42 21:38	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:07	08:04 17:50	08:10 15:49	08:47 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:23 22:08	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:47	08:12 15:48	08:48 15:38
27	08:21 16:30	07:14 17:39	06:00 18:39	05:40 20:44	04:39 21:42	04:24 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 18:59	07:10 16:43	08:15 15:45	08:48 15:40
29	08:18 16:35		05:54 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:31	06:08 20:20	07:10 18:57	07:13 16:40	08:17 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:46	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:14		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: CY - Vuš karnieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June
1	08:48	08:12	07:09	06:47	05:30	19:44 (11) 04:33
	15:45	16:42	17:44	19:49	20:52	29 20:13 (11) 21:49
2	08:48	08:10	07:06	06:44	05:28	19:44 (11) 04:32
	15:46	16:44	17:46	19:52	20:54	29 20:13 (11) 21:51
3	08:47	08:08	07:03	06:41	05:26	19:44 (11) 04:31
	15:47	16:46	17:48	19:54	20:56	29 20:13 (11) 21:52
4	08:47	08:06	07:01	06:39	05:23	19:44 (11) 04:30
	15:48	16:48	17:50	19:56	20:58	29 20:13 (11) 21:53
5	08:47	08:04	06:58	06:36	05:21	19:45 (11) 04:29
	15:50	16:50	17:53	19:58	21:00	27 20:12 (11) 21:55
6	08:46	08:02	06:56	06:33	05:19	19:45 (11) 04:28
	15:51	16:53	17:55	20:00	21:02	27 20:12 (11) 21:56
7	08:45	08:00	06:53	06:31	05:17	19:46 (11) 04:27
	15:53	16:55	17:57	20:02	21:04	25 20:11 (11) 21:57
8	08:45	07:58	06:50	06:28	05:14	19:46 (11) 04:26
	15:54	16:57	17:59	20:04	21:06	25 20:11 (11) 21:58
9	08:44	07:56	06:48	06:25	05:12	19:47 (11) 04:26
	15:56	16:59	18:01	20:06	21:08	23 20:10 (11) 21:59
10	08:43	07:54	06:45	06:23	05:10	19:48 (11) 04:25
	15:58	17:02	18:03	20:08	21:10	21 20:09 (11) 22:00
11	08:43	07:52	06:43	06:20	05:08	19:49 (11) 04:24
	15:59	17:04	18:05	20:10	21:12	18 20:07 (11) 22:01
12	08:42	07:49	06:40	06:17	05:06	19:50 (11) 04:24
	16:01	17:06	18:08	20:12	21:14	16 20:06 (11) 22:02
13	08:41	07:47	06:37	06:15	05:04	19:52 (11) 04:23
	16:03	17:08	18:10	20:14	21:16	12 20:04 (11) 22:03
14	08:40	07:45	06:35	06:12	05:02	19:55 (11) 04:23
	16:04	17:11	18:12	20:17	21:18	7 20:02 (11) 22:04
15	08:39	07:43	06:32	06:10	05:00	04:23
	16:06	17:13	18:14	20:19	21:20	22:04
16	08:37	07:40	06:29	06:07	04:58	04:22
	16:08	17:15	18:16	20:21	21:22	22:05
17	08:36	07:38	06:27	06:05	04:56	04:22
	16:10	17:17	18:18	20:23	21:24	22:06
18	08:35	07:36	06:24	06:02	04:54	04:22
	16:12	17:20	18:20	20:25	21:26	22:06
19	08:34	07:33	06:21	05:59	04:53	04:22
	16:14	17:22	18:22	20:27	21:28	22:06
20	08:32	07:31	06:19	05:57	04:51	04:22
	16:16	17:24	18:24	20:29	21:30	22:07
21	08:31	07:28	06:16	05:54	19:58 (11) 04:49	04:22
	16:18	17:26	18:27	20:31	20:03 (11) 21:31	22:07
22	08:29	07:26	06:13	05:52	19:54 (11) 04:47	04:22
	16:20	17:28	18:29	20:33	20:05 (11) 21:33	22:07
23	08:28	07:24	06:11	05:49	19:51 (11) 04:46	04:23
	16:22	17:31	18:31	20:35	20:07 (11) 21:35	22:08
24	08:26	07:21	06:08	05:47	19:50 (11) 04:44	04:23
	16:24	17:33	18:33	20:37	20:09 (11) 21:37	22:08
25	08:25	07:19	06:05	05:44	19:49 (11) 04:43	04:23
	16:26	17:35	18:35	20:39	20:11 (11) 21:38	22:08
26	08:23	07:16	06:03	05:42	19:47 (11) 04:41	04:24
	16:28	17:37	18:37	20:42	20:12 (11) 21:40	22:08
27	08:21	07:14	06:00	05:40	19:46 (11) 04:40	04:24
	16:31	17:40	18:39	20:44	20:12 (11) 21:42	22:07
28	08:20	07:11	05:57	05:37	19:46 (11) 04:38	04:25
	16:33	17:42	18:41	20:46	20:13 (11) 21:43	22:07
29	08:18		05:55	05:35	19:45 (11) 04:37	04:25
	16:35		18:43	20:48	20:13 (11) 21:45	22:07
30	08:16		06:52	05:32	19:44 (11) 04:36	04:26
	16:37		19:45	20:50	20:13 (11) 21:46	22:07
31	08:14		06:49		04:34	
	16:39		19:47		21:48	
Potential sun hours	235	265	365	425	507	529
Total, worst case				208		
Sun reduction				0,48		317
Oper. time red.				0,94		0,53
Wind dir. red.				0,62		0,94
Total reduction				0,28		0,62
Total, real				58		0,31

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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SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: CY - Vu š karnieki

Assumptions for shadow calculations

Flicker curtailment applied to this receptor

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	20:00 (11)	06:14	07:14	07:19
	22:06	21:26	16	20:16 (11)	20:12	18:51
2	04:28	05:14	19:59 (11)	06:16	07:16	16:34
	22:06	21:24	19	20:18 (11)	20:09	18:49
3	04:28	05:16	19:58 (11)	06:18	07:18	16:31
	22:05	21:21	21	20:19 (11)	20:07	18:46
4	04:29	05:18	19:57 (11)	06:20	07:20	16:29
	22:05	21:19	23	20:20 (11)	20:04	18:43
5	04:30	05:20	19:56 (11)	06:22	07:22	16:27
	22:04	21:17	24	20:20 (11)	20:01	18:41
6	04:31	05:22	19:55 (11)	06:24	07:24	16:25
	22:03	21:15	26	20:21 (11)	19:59	18:38
7	04:32	05:24	19:55 (11)	06:26	07:26	16:23
	22:03	21:13	26	20:21 (11)	19:56	18:35
8	04:34	05:26	19:54 (11)	06:28	07:28	16:21
	22:02	21:11	28	20:22 (11)	19:53	18:33
9	04:35	05:28	19:54 (11)	06:30	07:30	16:19
	22:01	21:08	28	20:22 (11)	19:51	18:30
10	04:36	05:30	19:53 (11)	06:32	07:32	16:17
	22:00	21:06	28	20:21 (11)	19:48	18:28
11	04:37	05:32	19:53 (11)	06:34	07:34	16:15
	21:59	21:04	29	20:22 (11)	19:45	18:25
12	04:39	05:34	19:53 (11)	06:36	07:36	16:13
	21:58	21:02	29	20:22 (11)	19:43	18:22
13	04:40	05:36	19:53 (11)	06:38	07:38	16:11
	21:57	20:59	28	20:21 (11)	19:40	18:20
14	04:41	05:38	19:53 (11)	06:40	07:41	16:09
	21:55	20:57	28	20:21 (11)	19:37	18:17
15	04:43	05:40	19:53 (11)	06:42	07:43	16:07
	21:54	20:55	28	20:21 (11)	19:35	18:15
16	04:44	05:42	19:54 (11)	06:44	07:45	16:05
	21:53	20:52	26	20:20 (11)	19:32	18:12
17	04:46	05:44	19:53 (11)	06:46	07:47	16:03
	21:51	20:50	26	20:19 (11)	19:29	18:10
18	04:47	05:46	19:54 (11)	06:48	07:49	16:02
	21:50	20:47	24	20:18 (11)	19:26	18:07
19	04:49	05:48	19:55 (11)	06:50	07:51	16:00
	21:49	20:45	20	20:15 (11)	19:24	18:05
20	04:51	05:50	19:56 (11)	06:52	07:53	15:58
	21:47	20:42	17	20:13 (11)	19:21	18:02
21	04:52	05:52	19:58 (11)	06:54	07:55	15:57
	21:46	20:40	13	20:11 (11)	19:18	18:00
22	04:54	05:54	20:01 (11)	06:56	07:57	15:55
	21:44	20:37	8	20:09 (11)	19:16	18:00
23	04:56	05:56		06:58	08:00	15:54
	21:42	20:35		19:13	17:55	15:52
24	04:57	05:58		07:00	08:02	15:52
	21:41	20:32		19:10	17:52	15:51
25	04:59	06:00		07:02	08:04	15:51
	21:39	20:30		19:08	17:50	15:49
26	05:01	06:02		07:04	07:06	15:49
	21:37	20:27		19:05	16:47	15:48
27	05:03	06:04		07:06	07:08	15:48
	21:35	20:25		19:02	16:45	15:47
28	05:05	06:06		07:08	07:10	15:47
	21:33	20:22		18:59	16:43	15:45
29	05:06	06:08		07:10	07:13	15:45
	21:31	20:20		18:57	16:40	15:44
30	05:08	20:06 (11)	06:10	07:12	07:15	15:44
	21:30	20:11 (11)	20:17	18:54	16:38	15:43
31	05:10	20:03 (11)	06:12		07:17	15:43
	21:28	20:15 (11)	20:14		16:36	15:43
Potential sun hours	530	470		385	324	248
Total, worst case			515			216
Sun reduction	17		0,51			
Oper. time red.	0,51		0,94			
Wind dir. red.	0,94		0,62			
Total reduction	0,62		0,30			
Total, real	5		154			

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

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

Calculation: Real Case Curtailment Shadow receptor: CZ - Vecares

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:46	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:41	17:44	19:49	20:52	21:49	22:06	21:26	20:12	18:51	16:34	15:42
2	08:48	08:10	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:51	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:47	08:08	07:03	06:41	05:25	04:31	04:28	05:16	06:18	07:18	07:23	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:05	21:21	20:07	18:46	16:29	15:40
4	08:47	08:06	07:01	06:38	05:23	04:30	04:29	05:18	06:20	07:20	07:26	08:26
	15:48	16:48	17:50	19:56	20:58	21:53	22:05	21:19	20:04	18:43	16:27	15:39
5	08:47	08:04	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:27
	15:50	16:50	17:52	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:02	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:38
7	08:45	08:00	06:53	06:30	05:16	04:27	04:32	05:24	06:26	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:35	16:21	15:37
8	08:45	07:58	06:50	06:28	05:14	04:26	04:33	05:26	06:28	07:28	07:34	08:32
	15:54	16:57	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:18	15:37
9	08:44	07:56	06:48	06:25	05:12	04:25	04:35	05:28	06:30	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:01	21:08	19:51	18:30	16:16	15:36
10	08:43	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:39	08:35
	15:57	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:14	15:36
11	08:43	07:52	06:43	06:20	05:08	04:24	04:37	05:32	06:34	07:34	07:41	08:36
	15:59	17:04	18:05	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:12	15:35
12	08:42	07:49	06:40	06:17	05:06	04:24	04:38	05:34	06:36	07:36	07:43	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:58	21:02	19:43	18:22	16:11	15:35
13	08:41	07:47	06:37	06:15	05:04	04:23	04:40	05:36	06:38	07:38	07:45	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:40	07:47	08:39
	16:04	17:11	18:12	20:16	21:18	22:04	21:55	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49	08:41
	16:06	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:34	18:15	16:05	15:35
16	08:37	07:40	06:29	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:51	08:41
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03	15:35
17	08:36	07:38	06:27	06:04	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:42
	16:10	17:17	18:18	20:23	21:24	22:06	21:51	20:50	19:29	18:10	16:01	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:43
	16:12	17:19	18:20	20:25	21:26	22:06	21:50	20:47	19:26	18:07	16:00	15:35
19	08:34	07:33	06:21	05:59	04:52	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:06	21:49	20:45	19:24	18:04	15:58	15:35
20	08:32	07:31	06:19	05:57	04:51	04:22	04:50	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:24	20:29	21:30	22:07	21:47	20:42	19:21	18:02	15:56	15:35
21	08:31	07:28	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:55	08:02	08:45
	16:18	17:26	18:26	20:31	21:31	22:07	21:45	20:40	19:18	18:00	15:55	15:36
22	08:29	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:57	08:04	08:46
	16:20	17:28	18:29	20:33	21:33	22:07	21:44	20:37	19:16	17:57	15:53	15:36
23	08:28	07:23	06:11	05:49	04:46	04:22	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:35	21:35	22:08	21:42	20:35	19:13	17:55	15:52	15:37
24	08:26	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:37	21:37	22:08	21:41	20:32	19:10	17:52	15:51	15:37
25	08:25	07:19	06:05	05:44	04:42	04:23	04:59	06:00	07:02	08:04	08:10	08:47
	16:26	17:35	18:35	20:39	21:38	22:08	21:39	20:30	19:07	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:23	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:27	19:05	16:47	15:48	15:39
27	08:21	07:14	06:00	05:40	04:39	04:24	05:03	06:04	07:06	07:08	08:14	08:48
	16:30	17:39	18:39	20:44	21:42	22:07	21:35	20:25	19:02	16:45	15:47	15:39
28	08:20	07:11	05:57	05:37	04:38	04:25	05:05	06:06	07:08	07:10	08:15	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	18:59	16:43	15:45	15:40
29	08:18		05:54	05:35	04:37	04:25	05:06	06:08	07:10	07:12	08:17	08:48
	16:35		18:43	20:48	21:45	22:07	21:31	20:20	18:57	16:40	15:44	15:41
30	08:16		06:52	05:32	04:35	04:26	05:08	06:10	07:12	07:15	08:19	08:48
	16:37		19:45	20:50	21:46	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:14		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:47		21:48		21:28	20:14		16:36		15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DA - Strautmali

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:41	07:09 17:44	06:46 19:49	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:51	07:19 16:34	08:21 15:42
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:51	05:28 20:54	04:32 21:51	04:27 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	08:47 15:47	08:08 16:46	07:03 17:48	06:41 19:54	05:25 20:56	04:31 21:52	04:28 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:29	08:24 15:40
4	08:47 15:51	08:06 16:57	07:01 17:59	06:38 19:56	05:23 20:58	04:30 21:53	04:29 22:05	05:18 21:19	06:20 20:04	07:20 18:43	07:26 16:27	08:26 15:39
5	08:47 15:50	08:04 16:50	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:51	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:31 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:27 21:57	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:35	07:32 16:21	08:30 15:37
8	08:45 15:54	07:58 16:57	06:50 17:59	06:28 20:04	05:14 21:06	04:26 21:58	04:33 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:18	08:32 15:37
9	08:44 15:56	07:56 16:59	06:48 18:01	06:25 20:06	05:12 21:08	04:26 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:16	08:33 15:36
10	08:43 15:57	07:54 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:14	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:05	06:20 20:10	05:08 21:12	04:24 22:01	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:12	08:36 15:35
12	08:42 16:01	07:49 17:06	06:40 18:07	06:17 20:12	05:06 21:14	04:24 22:02	04:38 21:58	05:34 21:02	06:36 19:43	07:36 18:22	07:43 16:11	08:37 15:35
13	08:41 16:03	07:47 17:08	06:37 18:10	06:15 20:14	05:04 21:16	04:23 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:38 18:20	07:45 16:09	08:38 15:35
14	08:40 16:04	07:45 17:11	06:35 18:12	06:12 20:16	05:02 21:18	04:23 22:04	04:41 21:55	05:38 20:57	06:40 19:37	07:40 18:17	07:47 16:07	08:39 15:35
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:34	07:43 18:15	07:49 16:05	08:41 15:35
16	08:37 16:08	07:40 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:03	08:42 15:35
17	08:36 16:10	07:38 17:17	06:27 18:18	06:04 20:23	04:56 21:24	04:22 22:06	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:01	08:42 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06	04:47 21:50	05:46 20:47	06:48 19:26	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:21 18:22	05:59 20:27	04:52 21:28	04:22 22:06	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:24	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:56	08:45 15:35
21	08:31 16:18	07:28 17:26	06:16 18:26	05:54 20:31	04:49 21:31	04:22 22:07	04:52 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:28	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:53	08:46 15:36
23	08:28 16:22	07:24 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:22 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08	04:57 21:41	05:58 20:32	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	08:25 16:26	07:19 17:35	06:05 18:35	05:44 20:39	04:42 21:38	04:23 22:08	04:59 21:39	06:00 20:30	07:02 19:07	08:04 17:50	08:10 15:49	08:47 15:38
26	08:23 16:28	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:47	08:12 15:48	08:48 15:39
27	08:21 16:30	07:14 17:39	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:39
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 18:59	07:10 16:43	08:15 15:45	08:48 15:40
29	08:18 16:35		05:54 18:43	05:35 20:48	04:37 21:45	04:25 22:07	05:06 21:31	06:08 20:20	07:10 18:57	07:13 16:40	08:17 15:44	08:48 15:41
30	08:16 16:37		06:52 19:45	05:32 20:50	04:35 21:46	04:26 22:07	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	08:14 16:39		06:49 19:47		04:34 21:48		05:10 21:28	06:12 20:14		07:17 16:36		08:48 15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: DB - Jaunari

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:46	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:41	17:44	19:49	20:52	21:49	22:06	21:26	20:12	18:51	16:34	15:42
2	08:48	08:10	07:06	06:44	05:28	04:32	04:27	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:51	20:54	21:51	22:06	21:24	20:09	18:49	16:31	15:41
3	08:47	08:08	07:03	06:41	05:25	04:31	04:28	05:16	06:18	07:18	07:23	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:05	21:21	20:07	18:46	16:29	15:40
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	15:48	16:48	17:50	19:56	20:58	21:53	22:05	21:19	20:04	18:43	16:27	15:39
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6	08:46	08:02	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:38
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8	08:45	07:58	06:50	06:28	05:14	04:26	04:33	05:26	06:28	07:28	07:34	08:32
	15:54	16:57	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:18	15:37
9	08:44	07:56	06:48	06:25	05:12	04:26	04:35	05:28	06:30	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:01	21:08	19:51	18:30	16:16	15:36
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	15:59	17:04	18:05	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:12	15:35
12	08:42	07:49	06:40	06:17	05:06	04:24	04:38	05:34	06:36	07:36	07:43	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:58	21:02	19:43	18:22	16:11	15:35
13	08:41	07:47	06:37	06:15	05:04	04:23	04:40	05:36	06:38	07:38	07:45	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:40	07:47	08:39
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15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49	08:41
	16:06	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:34	18:15	16:05	15:35
16	08:37	07:40	06:29	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:51	08:41
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17	08:36	07:38	06:27	06:04	04:56	04:22	04:46	05:44	06:46	07:47	07:54	08:42
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19	08:34	07:33	06:21	05:59	04:52	04:22	04:49	05:48	06:50	07:51	07:58	08:44
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20	08:32	07:31	06:19	05:57	04:51	04:22	04:50	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:24	20:29	21:30	22:07	21:47	20:42	19:21	18:02	15:56	15:35
21	08:31	07:28	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:55	08:02	08:45
	16:18	17:26	18:26	20:31	21:31	22:07	21:45	20:40	19:18	18:00	15:55	15:36
22	08:29	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:57	08:04	08:46
	16:20	17:28	18:29	20:33	21:33	22:07	21:44	20:37	19:16	17:57	15:53	15:36
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	16:22	17:31	18:31	20:35	21:35	22:08	21:42	20:35	19:13	17:55	15:52	15:37
24	08:26	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:37	21:37	22:08	21:41	20:32	19:10	17:52	15:51	15:37
25	08:25	07:19	06:05	05:44	04:42	04:23	04:59	06:00	07:02	08:04	08:10	08:47
	16:26	17:35	18:35	20:39	21:38	22:08	21:39	20:30	19:07	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:42	21:40	22:08	21:37	20:27	19:05	16:47	15:48	15:39
27	08:21	07:14	06:00	05:40	04:39	04:24	05:03	06:04	07:06	07:08	08:14	08:48
	16:30	17:39	18:39	20:44	21:42	22:07	21:35	20:25	19:02	16:45	15:47	15:39
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	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	18:59	16:43	15:45	15:40
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	16:37		19:45	20:50	21:46	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:14		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:47		21:48		21:28	20:14		16:36		15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: DC - Vidsala

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:46	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:41	17:44	19:49	20:52	21:49	22:06	21:25	20:12	18:51	16:34	15:42
2	08:48	08:10	07:06	06:44	05:28	04:32	04:28	05:14	06:16	07:16	07:21	08:22
	15:46	16:44	17:46	19:51	20:54	21:51	22:06	21:23	20:09	18:49	16:31	15:41
3	08:47	08:08	07:03	06:41	05:25	04:31	04:28	05:16	06:18	07:18	07:23	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:05	21:21	20:06	18:46	16:29	15:40
4	08:47	08:06	07:01	06:38	05:23	04:30	04:29	05:18	06:20	07:20	07:25	08:26
	15:48	16:48	17:50	19:56	20:58	21:53	22:05	21:19	20:04	18:43	16:27	15:39
5	08:46	08:04	06:58	06:36	05:21	04:29	04:30	05:20	06:22	07:22	07:28	08:27
	15:50	16:50	17:52	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:02	06:56	06:33	05:19	04:28	04:31	05:22	06:24	07:24	07:30	08:29
	15:51	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:38
7	08:45	08:00	06:53	06:30	05:17	04:27	04:32	05:24	06:26	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:02	21:13	19:56	18:35	16:21	15:37
8	08:45	07:58	06:50	06:28	05:14	04:26	04:34	05:26	06:28	07:28	07:34	08:32
	15:54	16:57	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:19	15:37
9	08:44	07:56	06:48	06:25	05:12	04:26	04:35	05:28	06:30	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:01	21:08	19:51	18:30	16:16	15:36
10	08:43	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:38	08:35
	15:57	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:14	15:36
11	08:42	07:52	06:43	06:20	05:08	04:24	04:37	05:32	06:34	07:34	07:41	08:36
	15:59	17:04	18:05	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:13	15:35
12	08:41	07:49	06:40	06:17	05:06	04:24	04:39	05:34	06:36	07:36	07:43	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:58	21:02	19:42	18:22	16:11	15:35
13	08:41	07:47	06:37	06:15	05:04	04:23	04:40	05:36	06:38	07:38	07:45	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:56	20:59	19:40	18:20	16:09	15:35
14	08:39	07:45	06:35	06:12	05:02	04:23	04:41	05:38	06:40	07:40	07:47	08:39
	16:04	17:11	18:12	20:16	21:18	22:03	21:55	20:57	19:37	18:17	16:07	15:35
15	08:38	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49	08:40
	16:06	17:13	18:14	20:18	21:20	22:04	21:54	20:54	19:34	18:15	16:05	15:35
16	08:37	07:40	06:29	06:07	04:58	04:22	04:44	05:42	06:44	07:45	07:51	08:41
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:03	15:35
17	08:36	07:38	06:27	06:04	04:56	04:22	04:46	05:44	06:46	07:47	07:53	08:42
	16:10	17:17	18:18	20:23	21:24	22:05	21:51	20:50	19:29	18:10	16:01	15:35
18	08:35	07:36	06:24	06:02	04:54	04:22	04:47	05:46	06:48	07:49	07:56	08:43
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:47	19:26	18:07	16:00	15:35
19	08:34	07:33	06:21	05:59	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:06	21:48	20:45	19:24	18:05	15:58	15:35
20	08:32	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:47	20:42	19:21	18:02	15:57	15:35
21	08:31	07:28	06:16	05:54	04:49	04:22	04:52	05:52	06:54	07:55	08:02	08:45
	16:18	17:26	18:26	20:31	21:31	22:07	21:45	20:40	19:18	18:00	15:55	15:36
22	08:29	07:26	06:13	05:52	04:47	04:22	04:54	05:54	06:56	07:57	08:04	08:46
	16:20	17:28	18:29	20:33	21:33	22:07	21:44	20:37	19:16	17:57	15:53	15:36
23	08:28	07:23	06:11	05:49	04:46	04:23	04:56	05:56	06:58	07:59	08:06	08:46
	16:22	17:31	18:31	20:35	21:35	22:07	21:42	20:35	19:13	17:55	15:52	15:37
24	08:26	07:21	06:08	05:47	04:44	04:23	04:57	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:37	21:37	22:07	21:40	20:32	19:10	17:52	15:51	15:37
25	08:25	07:19	06:05	05:44	04:43	04:23	04:59	06:00	07:02	08:04	08:10	08:47
	16:26	17:35	18:35	20:39	21:38	22:07	21:39	20:30	19:07	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	07:06	08:12	08:48
	16:28	17:37	18:37	20:41	21:40	22:07	21:37	20:27	19:05	16:47	15:48	15:39
27	08:21	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	07:08	08:13	08:48
	16:31	17:39	18:39	20:44	21:42	22:07	21:35	20:25	19:02	16:45	15:47	15:39
28	08:20	07:11	05:57	05:37	04:38	04:25	05:05	06:06	07:08	07:10	08:15	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	18:59	16:43	15:45	15:40
29	08:18		05:54	05:35	04:37	04:25	05:06	06:08	07:10	07:12	08:17	08:48
	16:35		18:43	20:48	21:45	22:07	21:31	20:20	18:57	16:40	15:44	15:41
30	08:16		06:52	05:32	04:36	04:26	05:08	06:10	07:12	07:15	08:19	08:48
	16:37		19:45	20:50	21:46	22:07	21:29	20:17	18:54	16:38	15:43	15:42
31	08:14		06:49		04:34		05:10	06:12		07:17		08:48
	16:39		19:47		21:48		21:27	20:14		16:36		15:43
Potential sun hours	235	265	365	425	507	529	529	470	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

SKEPAST & PUHKIM

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DD - Jaunie Robe žnieki

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Reference year for calendar

2025

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:47	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:23 15:42
3	08:47 15:48	08:09 16:46	07:04 17:49	06:42 19:54	05:26 20:56	04:32 21:52	04:29 22:05	05:17 21:22	06:18 20:07	07:18 18:46	07:24 16:30	08:24 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:31 21:53	04:30 22:05	05:18 21:19	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:58 17:53	06:36 19:58	05:22 21:00	04:30 21:55	04:31 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	05:19 21:02	04:29 21:56	04:32 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:39
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:30 15:38
8	08:45 15:55	07:58 16:58	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:08	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:31	07:37 16:17	08:33 15:37
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11	08:42 16:00	07:52 17:04	06:43 18:06	06:20 20:10	05:09 21:12	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:07	06:40 18:08	06:18 20:13	05:07 21:14	04:25 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:36
13	08:41 16:03	07:47 17:09	06:38 18:10	06:15 20:15	05:05 21:16	04:24 22:03	04:41 21:57	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:38 15:36
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:03 21:18	04:24 22:04	04:42 21:55	05:38 20:57	06:40 19:37	07:41 18:18	07:47 16:07	08:39 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:49 16:06	08:40 15:35
16	08:37 16:09	07:40 17:16	06:30 18:16	06:07 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:13	07:51 16:04	08:41 15:35
17	08:36 16:11	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:05	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:42 15:35
18	08:35 16:13	07:36 17:20	06:24 18:21	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:36
19	08:34 16:15	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:06	04:50 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:32 16:17	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	08:31 16:19	07:29 17:27	06:16 18:27	05:55 20:31	04:50 21:31	04:23 22:07	04:53 21:45	05:52 20:40	06:54 19:19	07:55 18:00	08:02 15:56	08:45 15:36
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29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:31	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
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Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
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Table layout: For each day in each month the following matrix apply

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Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DE - Smelceja

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:34 21:49	04:27 22:06	05:13 21:25	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:47 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:23	06:16 20:09	07:16 18:49	07:21 16:32	08:22 15:42
3	08:47 15:48	08:08 16:46	07:03 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:29 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:29	08:24 15:41
4	08:47 15:49	08:06 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:53	04:30 22:05	05:18 21:19	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:46 15:50	08:04 16:51	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:54	04:31 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:52	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:32 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:28 21:57	04:33 22:02	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:30 15:38
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9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:08	04:26 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:17	08:33 15:37
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11	08:42 16:00	07:52 17:04	06:43 18:06	06:20 20:10	05:08 21:12	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:36
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31	08:14 16:40		06:49 19:47		04:35 21:48		05:11 21:27	06:12 20:14		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DF - Kukas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1,17 2,29 4,58 6,82 8,69 9,44 8,63 7,75 5,49 2,82 0,76 0,60

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
373 431 565 449 510 745 768 916 1 192 1 023 777 489 8 238
Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:47	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:22 15:42
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4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:31 21:53	04:30 22:05	05:18 21:19	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
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	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DG - O šini

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:23	06:16 20:09	07:16 18:49	07:21 16:32	08:22 15:42
3	08:47 15:48	08:08 16:46	07:04 17:49	06:41 19:54	05:26 20:56	04:31 21:52	04:29 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:30	08:24 15:41
4	08:47 15:49	08:06 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:53	04:30 22:05	05:18 21:19	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:46 15:50	08:04 16:51	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:31 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:52	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:29 21:56	04:32 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:39
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:28 21:57	04:33 22:02	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:30 15:38
8	08:45 15:55	07:58 16:58	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:08	04:26 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:17	08:33 15:37
10	08:43 15:58	07:54 17:02	06:45 18:04	06:23 20:08	05:11 21:10	04:26 22:00	04:37 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	08:42 16:00	07:52 17:04	06:43 18:06	06:20 20:10	05:09 21:12	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:36
12	08:41 16:01	07:49 17:07	06:40 18:08	06:18 20:12	05:06 21:14	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:36 18:23	07:43 16:11	08:37 15:36
13	08:41 16:03	07:47 17:09	06:37 18:10	06:15 20:15	05:04 21:16	04:24 22:03	04:41 21:56	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:38 15:36
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:02 21:18	04:24 22:03	04:42 21:55	05:38 20:57	06:40 19:37	07:41 18:18	07:47 16:07	08:39 15:35
15	08:38 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:49 16:05	08:40 15:35
16	08:37 16:09	07:40 17:15	06:30 18:16	06:07 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:04	08:41 15:35
17	08:36 16:11	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:05	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:53 16:02	08:42 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:06	04:50 21:48	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:29	04:23 22:07	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31	04:50 21:31	04:23 22:07	04:53 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:21	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:55 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:07	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:46 15:37
24	08:26 16:25	07:21 17:33	06:08 18:33	05:47 20:37	04:45 21:37	04:23 22:07	04:58 21:40	05:58 20:32	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:05 18:35	05:45 20:39	04:43 21:38	04:24 22:07	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:47 15:38
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:42 21:40	04:24 22:07	05:02 21:37	06:02 20:27	07:04 19:05	07:06 16:48	08:12 15:48	08:47 15:39
27	08:21 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:25 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:13 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	04:39 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 19:00	07:10 16:43	08:15 15:46	08:48 15:41
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:31	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	08:16 16:38		06:52 19:45	05:33 20:50	04:36 21:46	04:27 22:07	05:09 21:29	06:10 20:17	07:12 18:54	07:15 16:39	08:19 15:44	08:48 15:43
31	08:14 16:40		06:49 19:48		04:35 21:48		05:11 21:27	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DH - O šini

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:23	06:16 20:09	07:16 18:49	07:21 16:32	08:22 15:42
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15	08:38 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:49 16:05	08:40 15:35
16	08:37 16:09	07:40 17:15	06:30 18:16	06:07 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:04	08:41 15:35
17	08:36 16:11	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:05	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:53 16:02	08:42 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:06	04:50 21:48	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:29	04:23 22:07	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31	04:50 21:31	04:23 22:07	04:53 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:21	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:55 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:07	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:46 15:37
24	08:26 16:25	07:21 17:33	06:08 18:33	05:47 20:37	04:45 21:37	04:23 22:07	04:58 21:40	05:58 20:32	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:05 18:35	05:45 20:39	04:43 21:38	04:24 22:07	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:47 15:38
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27	08:21 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:25 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:13 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	04:39 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 19:00	07:10 16:43	08:15 15:46	08:48 15:41
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:31	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	08:16 16:38		06:52 19:45	05:33 20:50	04:36 21:46	04:27 22:07	05:09 21:29	06:10 20:17	07:12 18:54	07:15 16:39	08:19 15:44	08:48 15:43
31	08:14 16:40		06:49 19:48		04:35 21:48		05:11 21:27	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

SKEPAST & PUHKIM

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DI - Robe ž nieki

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:26	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:21	08:22
	15:47	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:32	15:42
3	08:47	08:09	07:04	06:42	05:26	04:32	04:29	05:17	06:18	07:18	07:23	08:24
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	15:49	16:49	17:51	19:56	20:58	21:53	22:05	21:19	20:04	18:44	16:27	15:40
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16	08:37	07:40	06:30	06:08	04:59	04:23	04:45	05:42	06:44	07:45	07:51	08:41
	16:09	17:16	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:13	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:44	06:46	07:47	07:54	08:42
	16:11	17:18	18:18	20:23	21:24	22:05	21:51	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:13	17:20	18:20	20:25	21:26	22:06	21:50	20:47	19:27	18:07	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:15	17:22	18:23	20:27	21:28	22:06	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:17	17:24	18:25	20:29	21:29	22:07	21:47	20:43	19:21	18:03	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:55	08:02	08:45
	16:19	17:27	18:27	20:31	21:31	22:07	21:45	20:40	19:19	18:00	15:56	15:36
22	08:29	07:26	06:14	05:52	04:48	04:23	04:55	05:54	06:56	07:58	08:04	08:46
	16:21	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:58	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:46
	16:23	17:31	18:31	20:35	21:35	22:07	21:42	20:35	19:13	17:55	15:53	15:37
24	08:26	07:21	06:08	05:47	04:45	04:24	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:37	21:37	22:07	21:40	20:33	19:10	17:53	15:51	15:38
25	08:25	07:19	06:06	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:47
	16:27	17:36	18:35	20:40	21:38	22:07	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:43	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:07	21:37	20:27	19:05	16:48	15:49	15:39
27	08:21	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:08	08:13	08:48
	16:31	17:40	18:39	20:44	21:42	22:07	21:35	20:25	19:02	16:46	15:47	15:40
28	08:20	07:11	05:58	05:38	04:39	04:25	05:05	06:06	07:08	07:10	08:15	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	19:00	16:43	15:46	15:41
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30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:46	20:50	21:46	22:07	21:29	20:17	18:54	16:39	15:44	15:43
31	08:14		06:50		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DJ - Pumpuri

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:25	20:12	18:52	16:34	15:43
2	08:47	08:10	07:06	06:44	05:28	04:33	04:28	05:14	06:16	07:16	07:21	08:22
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:47	08:08	07:04	06:41	05:26	04:31	04:29	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:54	20:56	21:52	22:05	21:21	20:07	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:53	22:04	21:19	20:04	18:44	16:27	15:40
5	08:46	08:04	06:58	06:36	05:21	04:29	04:31	05:20	06:22	07:22	07:28	08:27
	15:50	16:51	17:53	19:58	21:00	21:54	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:02	06:56	06:33	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:45	08:00	06:53	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:02	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:58	17:59	20:04	21:06	21:58	22:01	21:11	19:53	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:30	07:36	08:33
	15:56	17:00	18:01	20:06	21:08	21:59	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:30	06:32	07:32	07:39	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:36
11	08:42	07:52	06:43	06:20	05:09	04:25	04:38	05:32	06:34	07:34	07:41	08:36
	16:00	17:04	18:06	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:13	15:36
12	08:41	07:49	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:36	07:43	08:37
	16:01	17:06	18:08	20:12	21:14	22:02	21:57	21:02	19:43	18:23	16:11	15:36
13	08:40	07:47	06:37	06:15	05:04	04:24	04:40	05:36	06:38	07:39	07:45	08:38
	16:03	17:09	18:10	20:14	21:16	22:03	21:56	20:59	19:40	18:20	16:09	15:35
14	08:39	07:45	06:35	06:13	05:02	04:24	04:42	05:38	06:40	07:41	07:47	08:39
	16:05	17:11	18:12	20:17	21:18	22:03	21:55	20:57	19:37	18:18	16:07	15:35
15	08:38	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49	08:40
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:05	15:35
16	08:37	07:40	06:29	06:07	04:59	04:23	04:45	05:42	06:44	07:45	07:51	08:41
	16:09	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:53	08:42
	16:11	17:18	18:18	20:23	21:24	22:05	21:51	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:47	19:27	18:07	16:00	15:35
19	08:33	07:33	06:21	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:06	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:29	22:07	21:47	20:42	19:21	18:02	15:57	15:36
21	08:31	07:28	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:55	08:02	08:45
	16:18	17:27	18:27	20:31	21:31	22:07	21:45	20:40	19:18	18:00	15:55	15:36
22	08:29	07:26	06:13	05:52	04:48	04:23	04:54	05:54	06:56	07:57	08:04	08:46
	16:20	17:29	18:29	20:33	21:33	22:07	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:46
	16:23	17:31	18:31	20:35	21:35	22:07	21:42	20:35	19:13	17:55	15:52	15:37
24	08:26	07:21	06:08	05:47	04:45	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:37	21:36	22:07	21:40	20:32	19:10	17:53	15:51	15:38
25	08:25	07:19	06:05	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:47
	16:27	17:35	18:35	20:39	21:38	22:07	21:39	20:30	19:08	17:50	15:50	15:38
26	08:23	07:16	06:03	05:42	04:42	04:24	05:01	06:02	07:04	07:06	08:12	08:47
	16:29	17:38	18:37	20:42	21:40	22:07	21:37	20:27	19:05	16:48	15:48	15:39
27	08:21	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:08	08:13	08:48
	16:31	17:40	18:39	20:44	21:41	22:07	21:35	20:25	19:02	16:45	15:47	15:40
28	08:20	07:11	05:57	05:38	04:39	04:25	05:05	06:06	07:08	07:10	08:15	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:17	08:48
	16:35		18:43	20:48	21:45	22:07	21:31	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:45	20:50	21:46	22:06	21:29	20:17	18:54	16:38	15:44	15:43
31	08:14		06:49		04:35		05:11	06:12		07:17		08:48
	16:40		19:47		21:48		21:27	20:14		16:36		15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: DK - Pumpuri

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:25	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:47 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:14 21:23	06:16 20:09	07:16 18:49	07:21 16:32	08:22 15:42
3	08:47 15:48	08:08 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:29 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:30	08:24 15:41
4	08:47 15:49	08:06 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:53	04:30 22:04	05:18 21:19	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:46 15:50	08:04 16:51	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:54	04:31 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:52	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:29 21:56	04:32 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:39
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:28 21:57	04:33 22:02	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:30 15:38
8	08:45 15:55	07:58 16:58	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58	04:34 22:01	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:08	04:26 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:17	08:33 15:37
10	08:43 15:58	07:54 17:02	06:45 18:04	06:23 20:08	05:11 21:10	04:26 22:00	04:37 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:34 15:36
11	08:42 16:00	07:52 17:04	06:43 18:06	06:20 20:10	05:09 21:12	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:36
12	08:41 16:01	07:49 17:06	06:40 18:08	06:18 20:12	05:06 21:14	04:24 22:02	04:39 21:57	05:34 21:02	06:36 19:43	07:36 18:23	07:43 16:11	08:37 15:36
13	08:40 16:03	07:47 17:09	06:37 18:10	06:15 20:14	05:04 21:16	04:24 22:03	04:40 21:56	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:38 15:35
14	08:39 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:02 21:18	04:24 22:03	04:42 21:55	05:38 20:57	06:40 19:37	07:41 18:18	07:47 16:07	08:39 15:35
15	08:38 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:49 16:05	08:40 15:35
16	08:37 16:09	07:40 17:15	06:29 18:16	06:07 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:04	08:41 15:35
17	08:36 16:11	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:05	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:53 16:02	08:42 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	08:33 16:14	07:33 17:22	06:21 18:22	06:00 20:27	04:53 21:28	04:23 22:06	04:50 21:48	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:29	04:23 22:07	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:28 17:27	06:16 18:27	05:55 20:31	04:50 21:31	04:23 22:07	04:53 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:07	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:46 15:37
24	08:26 16:25	07:21 17:33	06:08 18:33	05:47 20:37	04:45 21:36	04:23 22:07	04:58 21:40	05:58 20:32	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:05 18:35	05:45 20:39	04:43 21:38	04:24 22:07	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:47 15:38
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:42 21:40	04:24 22:07	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:48	08:12 15:48	08:47 15:39
27	08:21 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:41	04:25 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:13 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	04:39 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 19:00	07:10 16:43	08:15 15:46	08:48 15:41
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:31	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	08:16 16:38		06:52 19:45	05:33 20:50	04:36 21:46	04:27 22:06	05:09 21:29	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:44	08:48 15:43
31	08:14 16:40		06:49 19:47		04:35 21:48		05:11 21:27	06:12 20:14		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DL - Berzkaines

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

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

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Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DM - Arsmenieki

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DN - Smelceju majas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

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Idle start wind speed 3,0m/s

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2	08:47 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:33 21:51	04:28 22:06	05:15 21:23	06:16 20:09	07:16 18:49	07:21 16:32	08:22 15:42
3	08:47 15:48	08:08 16:46	07:04 17:49	06:41 19:54	05:26 20:56	04:31 21:52	04:29 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:30	08:24 15:41
4	08:47 15:49	08:06 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:53	04:30 22:04	05:18 21:19	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:46 15:50	08:04 16:51	06:58 17:53	06:36 19:58	05:21 21:00	04:30 21:54	04:31 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:52	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:29 21:56	04:32 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:39
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:28 21:57	04:33 22:02	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:30 15:38
8	08:45 15:55	07:58 16:58	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58	04:34 22:01	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:08	04:26 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:17	08:33 15:37
10	08:43 15:58	07:54 17:02	06:45 18:04	06:23 20:08	05:11 21:10	04:26 22:00	04:37 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:34 15:36
11	08:42 16:00	07:52 17:04	06:43 18:06	06:20 20:10	05:09 21:12	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:36
12	08:41 16:01	07:49 17:07	06:40 18:08	06:18 20:12	05:06 21:14	04:25 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:36 18:23	07:43 16:11	08:37 15:36
13	08:40 16:03	07:47 17:09	06:37 18:10	06:15 20:14	05:04 21:16	04:24 22:03	04:41 21:56	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:38 15:36
14	08:39 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:02 21:18	04:24 22:03	04:42 21:55	05:38 20:57	06:40 19:37	07:41 18:18	07:47 16:07	08:39 15:35
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16	08:37 16:09	07:40 17:15	06:30 18:16	06:07 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:04	08:41 15:35
17	08:36 16:11	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:05	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:53 16:02	08:42 15:35
18	08:35 16:13	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:06	04:50 21:48	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
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22	08:29 16:21	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:55 21:44	05:54 20:37	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:07	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:46 15:37
24	08:26 16:25	07:21 17:33	06:08 18:33	05:47 20:37	04:45 21:36	04:24 22:07	04:58 21:40	05:58 20:32	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:05 18:35	05:45 20:39	04:43 21:38	04:24 22:07	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:47 15:39
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:42 21:40	04:24 22:07	05:02 21:37	06:02 20:27	07:04 19:05	07:06 16:48	08:12 15:48	08:47 15:39
27	08:21 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:41	04:25 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:13 15:47	08:48 15:40
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29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:31	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
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31	08:14 16:40		06:49 19:47		04:35 21:48		05:11 21:27	06:12 20:14		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DO - Zemites

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:25	20:12	18:52	16:34	15:43
2	08:47	08:10	07:06	06:44	05:28	04:32	04:28	05:14	06:16	07:16	07:21	08:22
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:47	08:08	07:03	06:41	05:26	04:31	04:29	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:54	20:56	21:52	22:05	21:21	20:07	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:53	22:04	21:19	20:04	18:44	16:27	15:40
5	08:46	08:04	06:58	06:36	05:21	04:29	04:31	05:20	06:22	07:22	07:28	08:27
	15:50	16:51	17:53	19:58	21:00	21:54	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:02	06:56	06:33	05:19	04:28	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:38
7	08:45	08:00	06:53	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:02	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:01	21:11	19:53	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:30	07:36	08:33
	15:56	17:00	18:01	20:06	21:08	21:59	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:36	05:30	06:32	07:32	07:39	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:36
11	08:42	07:52	06:43	06:20	05:08	04:25	04:38	05:32	06:34	07:34	07:41	08:36
	16:00	17:04	18:06	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:13	15:36
12	08:41	07:49	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:36	07:43	08:37
	16:01	17:06	18:08	20:12	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:40	07:47	06:37	06:15	05:04	04:24	04:40	05:36	06:38	07:38	07:45	08:38
	16:03	17:09	18:10	20:14	21:16	22:03	21:56	20:59	19:40	18:20	16:09	15:35
14	08:39	07:45	06:35	06:12	05:02	04:24	04:42	05:38	06:40	07:41	07:47	08:39
	16:05	17:11	18:12	20:17	21:18	22:03	21:55	20:57	19:37	18:17	16:07	15:35
15	08:38	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49	08:40
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:05	15:35
16	08:37	07:40	06:29	06:07	04:59	04:23	04:45	05:42	06:44	07:45	07:51	08:41
	16:09	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:53	08:42
	16:10	17:18	18:18	20:23	21:24	22:05	21:51	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:47	19:27	18:07	16:00	15:35
19	08:33	07:33	06:21	06:00	04:53	04:23	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:22	20:27	21:28	22:06	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:29	22:07	21:47	20:42	19:21	18:02	15:57	15:36
21	08:31	07:28	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:55	08:02	08:45
	16:18	17:27	18:27	20:31	21:31	22:07	21:45	20:40	19:18	18:00	15:55	15:36
22	08:29	07:26	06:13	05:52	04:48	04:23	04:54	05:54	06:56	07:57	08:04	08:46
	16:20	17:29	18:29	20:33	21:33	22:07	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:46
	16:22	17:31	18:31	20:35	21:35	22:07	21:42	20:35	19:13	17:55	15:52	15:37
24	08:26	07:21	06:08	05:47	04:45	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:37	21:36	22:07	21:40	20:32	19:10	17:53	15:51	15:38
25	08:25	07:19	06:05	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:47
	16:27	17:35	18:35	20:39	21:38	22:07	21:39	20:30	19:08	17:50	15:50	15:38
26	08:23	07:16	06:03	05:42	04:42	04:24	05:01	06:02	07:04	07:06	08:12	08:47
	16:29	17:38	18:37	20:42	21:40	22:07	21:37	20:27	19:05	16:48	15:48	15:39
27	08:21	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:08	08:13	08:48
	16:31	17:40	18:39	20:44	21:41	22:07	21:35	20:25	19:02	16:45	15:47	15:40
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	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	19:00	16:43	15:46	15:41
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	16:35		18:43	20:48	21:45	22:07	21:31	20:20	18:57	16:41	15:45	15:42
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	16:37		19:45	20:50	21:46	22:06	21:29	20:17	18:54	16:38	15:44	15:43
31	08:14		06:49		04:35		05:11	06:12		07:17		08:48
	16:40		19:47		21:48		21:27	20:14		16:36		15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment Shadow receptor: DP - Arsmeneki

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:25	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:47 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:33 21:50	04:28 22:06	05:14 21:23	06:16 20:09	07:16 18:49	07:21 16:32	08:22 15:42
3	08:47 15:48	08:08 16:46	07:03 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:29 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:30	08:24 15:41
4	08:47 15:49	08:06 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:53	04:30 22:04	05:18 21:19	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
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19	08:33 16:14	07:33 17:22	06:21 18:22	06:00 20:27	04:53 21:28	04:23 22:06	04:50 21:48	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:29	04:23 22:06	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:28 17:27	06:16 18:27	05:55 20:31	04:50 21:31	04:23 22:07	04:53 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:07	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:46 15:37
24	08:26 16:25	07:21 17:33	06:08 18:33	05:47 20:37	04:45 21:36	04:23 22:07	04:58 21:40	05:58 20:32	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:05 18:35	05:45 20:39	04:43 21:38	04:24 22:07	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:47 15:38
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:41	04:42 21:40	04:24 22:07	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:48	08:11 15:48	08:47 15:39
27	08:21 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:41	04:25 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:13 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	04:39 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 19:00	07:10 16:43	08:15 15:46	08:48 15:41
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:31	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	08:16 16:38		06:52 19:45	05:33 20:50	04:36 21:46	04:27 22:06	05:09 21:29	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:44	08:48 15:43
31	08:14 16:40		06:49 19:47		04:35 21:48		05:11 21:27	06:12 20:14		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DQ - Upi š i

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:27	05:13	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:28	05:15	06:16	07:16	07:21	08:22
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:47	08:08	07:04	06:41	05:26	04:31	04:29	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:49	19:54	20:56	21:52	22:05	21:21	20:07	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:49	17:51	19:56	20:58	21:53	22:05	21:19	20:04	18:44	16:27	15:40
5	08:46	08:04	06:58	06:36	05:21	04:29	04:31	05:20	06:22	07:22	07:28	08:27
	15:50	16:51	17:53	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:02	06:56	06:33	05:19	04:29	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:45	08:00	06:53	06:31	05:17	04:28	04:33	05:24	06:26	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:02	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:58	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:30	07:36	08:33
	15:56	17:00	18:01	20:06	21:08	21:59	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:30	06:32	07:32	07:39	08:35
	15:58	17:02	18:04	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:36
11	08:42	07:52	06:43	06:20	05:09	04:25	04:38	05:32	06:34	07:34	07:41	08:36
	16:00	17:04	18:06	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:13	15:36
12	08:41	07:49	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:36	07:43	08:37
	16:01	17:07	18:08	20:12	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:36	06:38	07:39	07:45	08:38
	16:03	17:09	18:10	20:14	21:16	22:03	21:56	20:59	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:13	05:02	04:24	04:42	05:38	06:40	07:41	07:47	08:39
	16:05	17:11	18:12	20:17	21:18	22:03	21:55	20:57	19:37	18:18	16:07	15:35
15	08:38	07:43	06:32	06:10	05:01	04:23	04:43	05:40	06:42	07:43	07:49	08:40
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:05	15:35
16	08:37	07:40	06:30	06:07	04:59	04:23	04:45	05:42	06:44	07:45	07:51	08:41
	16:09	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:53	08:42
	16:11	17:18	18:18	20:23	21:24	22:05	21:51	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:23	04:48	05:46	06:48	07:49	07:56	08:43
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:47	19:27	18:07	16:00	15:35
19	08:34	07:33	06:22	06:00	04:53	04:23	04:50	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:23	20:27	21:28	22:06	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:29	22:07	21:47	20:42	19:21	18:02	15:57	15:36
21	08:31	07:29	06:16	05:55	04:50	04:23	04:53	05:52	06:54	07:55	08:02	08:45
	16:18	17:27	18:27	20:31	21:31	22:07	21:45	20:40	19:18	18:00	15:55	15:36
22	08:29	07:26	06:14	05:52	04:48	04:23	04:54	05:54	06:56	07:58	08:04	08:46
	16:20	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:46
	16:23	17:31	18:31	20:35	21:35	22:07	21:42	20:35	19:13	17:55	15:53	15:37
24	08:26	07:21	06:08	05:47	04:45	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:25	17:33	18:33	20:37	21:37	22:07	21:40	20:32	19:10	17:53	15:51	15:38
25	08:25	07:19	06:05	05:45	04:43	04:24	05:00	06:00	07:02	08:04	08:10	08:47
	16:27	17:35	18:35	20:39	21:38	22:07	21:39	20:30	19:08	17:50	15:50	15:38
26	08:23	07:16	06:03	05:42	04:42	04:24	05:02	06:02	07:04	07:06	08:12	08:47
	16:29	17:38	18:37	20:42	21:40	22:07	21:37	20:27	19:05	16:48	15:48	15:39
27	08:21	07:14	06:00	05:40	04:40	04:25	05:03	06:04	07:06	07:08	08:13	08:48
	16:31	17:40	18:39	20:44	21:42	22:07	21:35	20:25	19:02	16:45	15:47	15:40
28	08:20	07:11	05:57	05:38	04:39	04:25	05:05	06:06	07:08	07:10	08:15	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:33	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	07:13	08:17	08:48
	16:35		18:43	20:48	21:45	22:07	21:31	20:20	18:57	16:41	15:45	15:42
30	08:16		06:52	05:33	04:36	04:27	05:09	06:10	07:12	07:15	08:19	08:48
	16:38		19:45	20:50	21:46	22:07	21:29	20:17	18:54	16:39	15:44	15:43
31	08:14		06:49		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:27	20:15		16:36		15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DR - Aizveji

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DS - Dzervites

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:25	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:47 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:33 21:50	04:28 22:06	05:15 21:23	06:16 20:09	07:16 18:49	07:21 16:32	08:22 15:42
3	08:47 15:48	08:08 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:29 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:30	08:24 15:41
4	08:47 15:49	08:06 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:53	04:30 22:04	05:18 21:19	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:46 15:50	08:04 16:51	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:54	04:31 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:52	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:29 21:56	04:32 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:39
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:28 21:57	04:33 22:02	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:30 15:38
8	08:45 15:55	07:58 16:58	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58	04:34 22:01	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:08	04:26 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:17	08:33 15:37
10	08:43 15:58	07:54 17:02	06:45 18:04	06:23 20:08	05:11 21:10	04:26 22:00	04:37 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:34 15:36
11	08:42 16:00	07:52 17:04	06:43 18:06	06:20 20:10	05:09 21:12	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:36
12	08:41 16:01	07:49 17:07	06:40 18:08	06:18 20:12	05:06 21:14	04:25 22:02	04:39 21:57	05:34 21:02	06:36 19:43	07:36 18:23	07:43 16:11	08:37 15:36
13	08:40 16:03	07:47 17:09	06:37 18:10	06:15 20:14	05:04 21:16	04:24 22:03	04:41 21:56	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:38 15:36
14	08:39 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:02 21:18	04:24 22:03	04:42 21:55	05:38 20:57	06:40 19:37	07:41 18:18	07:47 16:07	08:39 15:35
15	08:38 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:01 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:49 16:05	08:40 15:35
16	08:37 16:09	07:40 17:15	06:29 18:16	06:07 20:21	04:59 21:22	04:23 22:05	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:51 16:04	08:41 15:35
17	08:36 16:11	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:05	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:53 16:02	08:42 15:35
18	08:35 16:13	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	08:33 16:14	07:33 17:22	06:22 18:22	06:00 20:27	04:53 21:28	04:23 22:06	04:50 21:48	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
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21	08:31 16:18	07:28 17:27	06:16 18:27	05:55 20:31	04:50 21:31	04:23 22:07	04:53 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
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29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:31	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
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31	08:14 16:40		06:49 19:47		04:35 21:48		05:11 21:27	06:12 20:14		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DT - Jaunmasani

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:25	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
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22	08:29 16:21	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:55 21:44	05:54 20:37	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:37
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31	08:14 16:40		06:49 19:47		04:35 21:48		05:11 21:27	06:12 20:14		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DU - Airites

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:25	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
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17	08:36 16:11	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:05	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:53 16:02	08:42 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	08:33 16:14	07:33 17:22	06:21 18:22	06:00 20:27	04:53 21:28	04:23 22:06	04:49 21:48	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:29	04:23 22:07	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:28 17:27	06:16 18:27	05:55 20:31	04:50 21:31	04:23 22:07	04:53 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:07	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:46 15:37
24	08:26 16:25	07:21 17:33	06:08 18:33	05:47 20:37	04:45 21:36	04:23 22:07	04:58 21:40	05:58 20:32	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:05 18:35	05:45 20:39	04:43 21:38	04:24 22:07	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:47 15:38
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:42 21:40	04:24 22:07	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:48	08:12 15:48	08:47 15:39
27	08:21 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:41	04:25 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:13 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	04:39 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 19:00	07:10 16:43	08:15 15:46	08:48 15:41
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:31	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	08:16 16:38		06:52 19:45	05:33 20:50	04:36 21:46	04:27 22:06	05:09 21:29	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:44	08:48 15:43
31	08:14 16:40		06:49 19:47		04:35 21:48		05:11 21:27	06:12 20:14		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar

Calculation: Real Case Curtailment Shadow receptor: DV - Upmalas

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

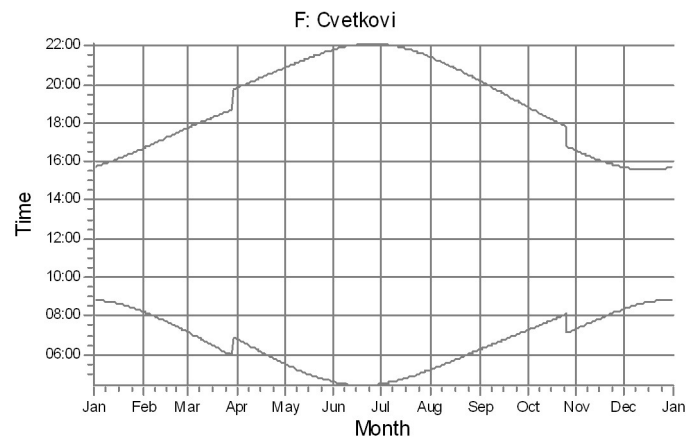
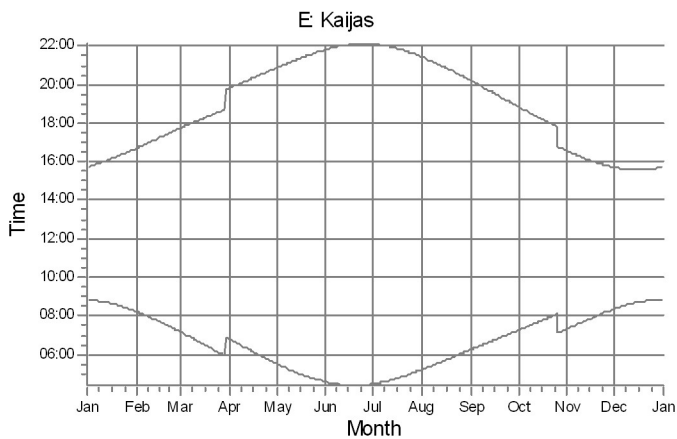
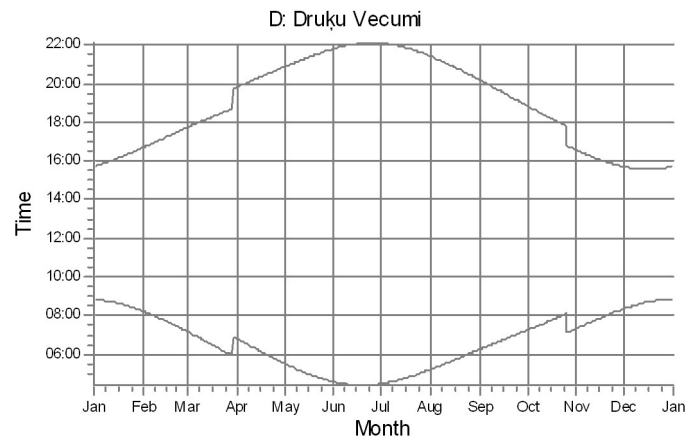
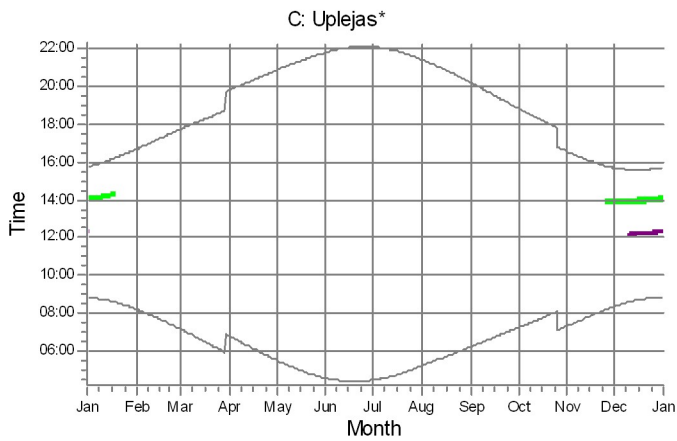
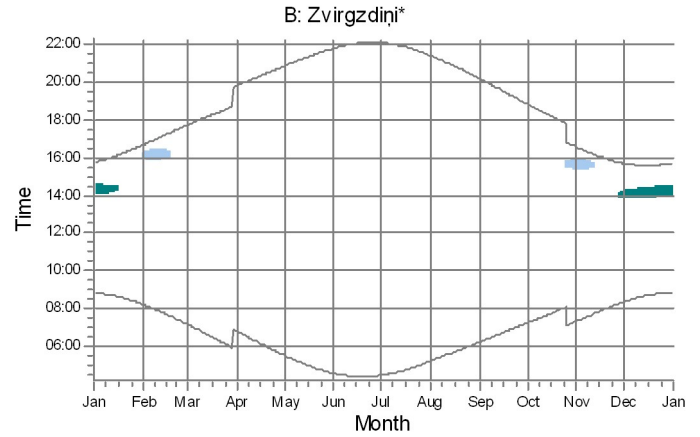
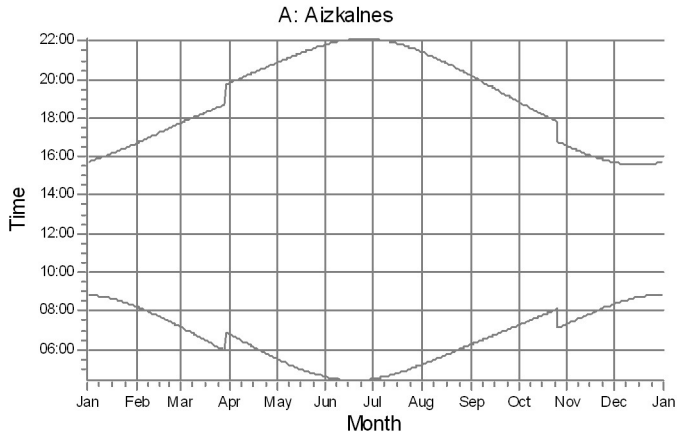
	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	05:31 20:52	04:34 21:49	04:27 22:06	05:13 21:25	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:47 15:46	08:10 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:33 21:50	04:28 22:06	05:15 21:23	06:16 20:09	07:16 18:49	07:21 16:32	08:22 15:42
3	08:47 15:48	08:08 16:46	07:03 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:29 22:05	05:16 21:21	06:18 20:07	07:18 18:46	07:23 16:30	08:24 15:41
4	08:47 15:49	08:06 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:53	04:30 22:04	05:18 21:19	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:46 15:50	08:04 16:51	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:54	04:31 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:27 15:39
6	08:46 15:52	08:02 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:29 21:56	04:32 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:39
7	08:45 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:28 21:57	04:33 22:02	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:30 15:38
8	08:45 15:55	07:58 16:58	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58	04:34 22:01	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:08	04:26 21:59	04:35 22:01	05:28 21:08	06:30 19:51	07:30 18:30	07:36 16:17	08:33 15:37
10	08:43 15:58	07:54 17:02	06:45 18:03	06:23 20:08	05:11 21:10	04:26 22:00	04:37 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:34 15:36
11	08:42 16:00	07:52 17:04	06:43 18:06	06:20 20:10	05:09 21:12	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:36
12	08:41 16:01	07:49 17:06	06:40 18:08	06:18 20:12	05:06 21:14	04:24 22:02	04:39 21:57	05:34 21:02	06:36 19:43	07:36 18:23	07:43 16:11	08:37 15:36
13	08:40 16:03	07:47 17:09	06:37 18:10	06:15 20:14	05:04 21:16	04:24 22:03	04:41 21:56	05:36 20:59	06:38 19:40	07:38 18:20	07:45 16:09	08:38 15:36
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17	08:36 16:11	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:05	04:46 21:51	05:44 20:50	06:46 19:29	07:47 18:10	07:53 16:02	08:42 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:55 16:00	08:43 15:35
19	08:33 16:14	07:33 17:22	06:21 18:22	06:00 20:27	04:53 21:28	04:23 22:06	04:50 21:48	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:29	04:23 22:06	04:51 21:47	05:50 20:42	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:28 17:27	06:16 18:27	05:55 20:31	04:50 21:31	04:23 22:07	04:53 21:45	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:45 15:36
22	08:29 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:54 21:44	05:54 20:37	06:56 19:16	07:57 17:57	08:04 15:54	08:46 15:37
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:07	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:53	08:46 15:37
24	08:26 16:25	07:21 17:33	06:08 18:33	05:47 20:37	04:45 21:36	04:23 22:07	04:58 21:40	05:58 20:32	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:05 18:35	05:45 20:39	04:43 21:38	04:24 22:07	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:47 15:38
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:41	04:42 21:40	04:24 22:07	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:48	08:11 15:48	08:47 15:39
27	08:21 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:41	04:25 22:07	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:13 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	04:39 21:43	04:25 22:07	05:05 21:33	06:06 20:22	07:08 19:00	07:10 16:43	08:15 15:46	08:48 15:41
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:31	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	08:16 16:38		06:52 19:45	05:33 20:50	04:36 21:46	04:27 22:06	05:09 21:29	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:44	08:48 15:43
31	08:14 16:40		06:49 19:47		04:35 21:48		05:11 21:27	06:12 20:14		07:17 16:36		08:48 15:44
Potential sun hours	235	266	365	425	507	528	529	470	385	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Calculation: Real Case Curtailment



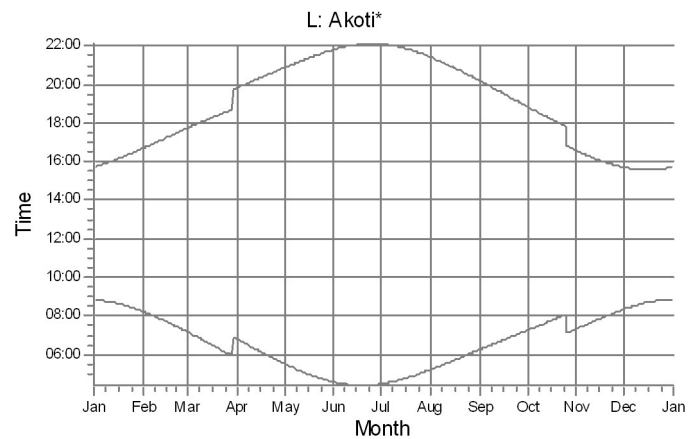
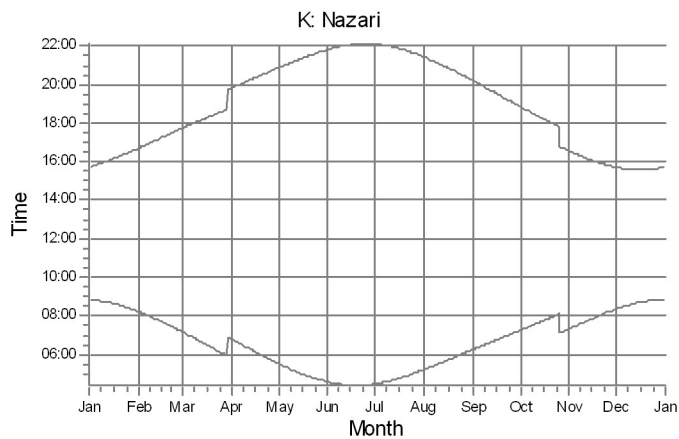
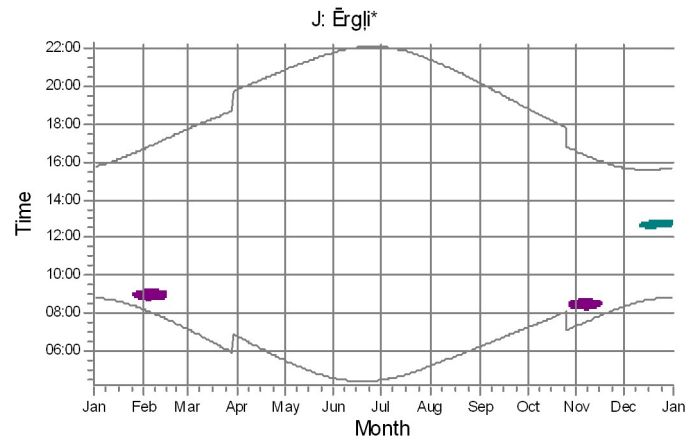
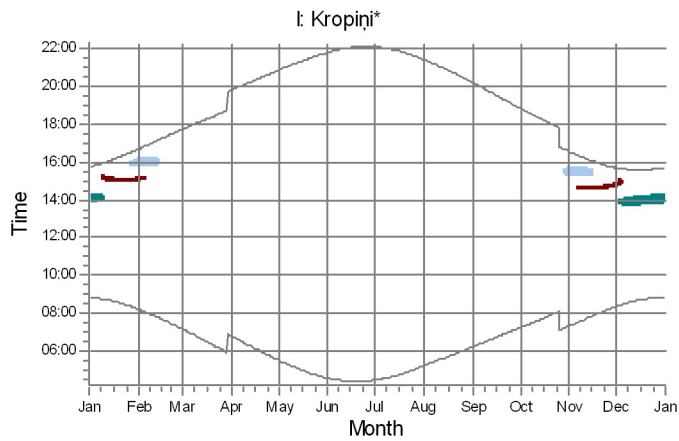
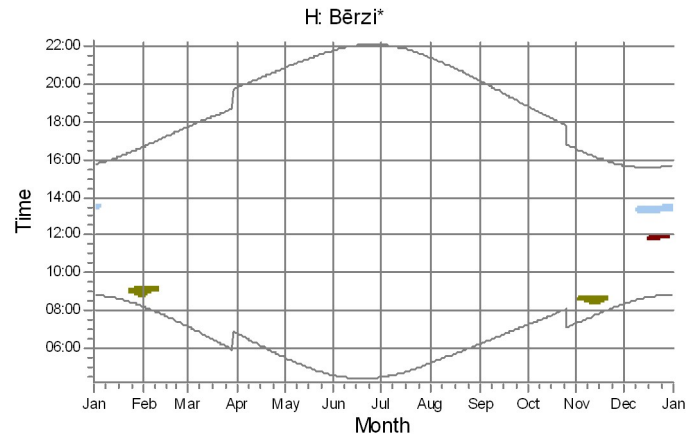
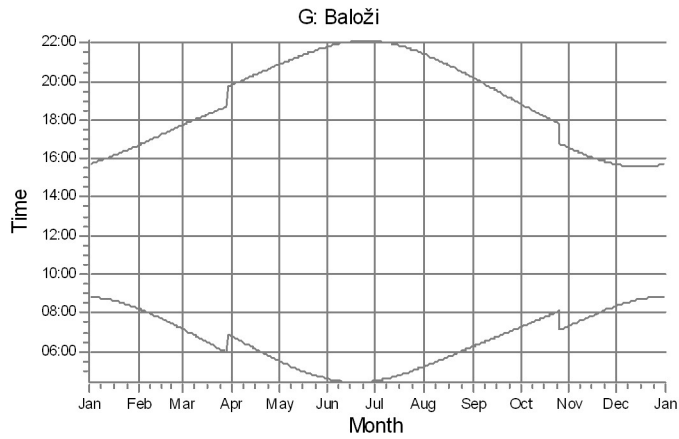
WTGs

6: 18-A	9: 24-A	11: 22-A
8: 17-A	10: 21-B	15: 13-A

* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



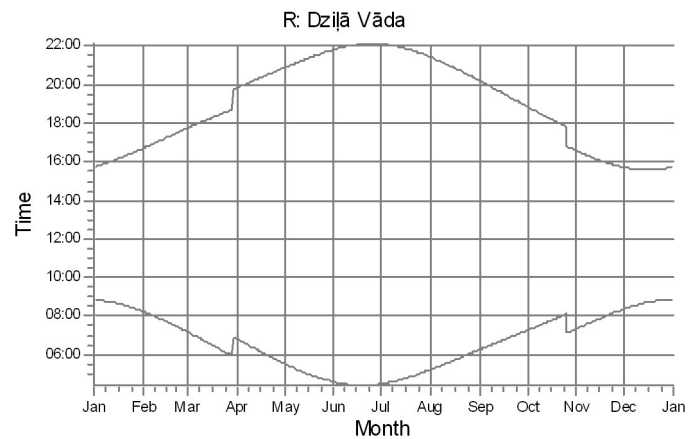
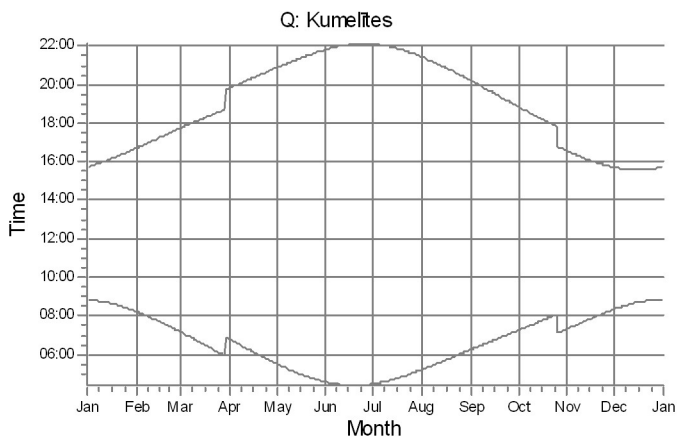
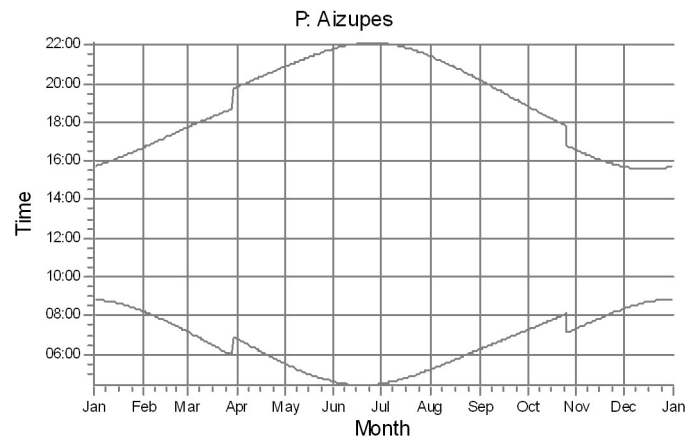
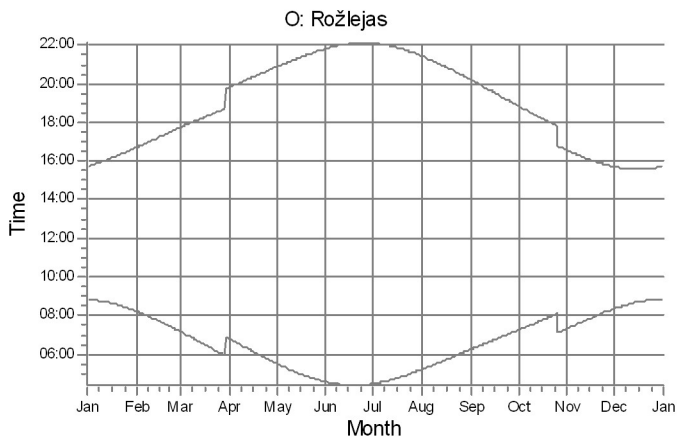
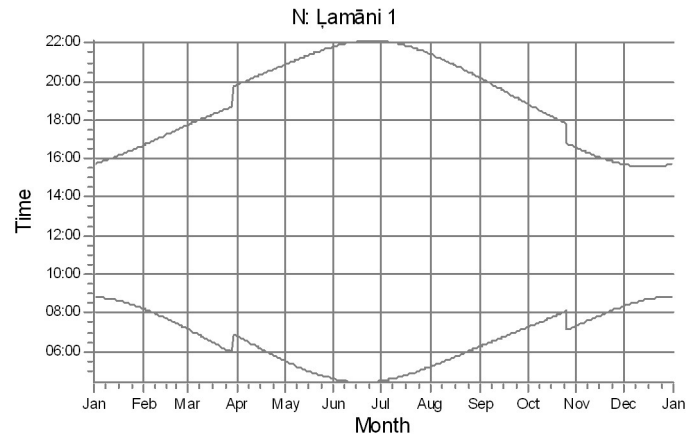
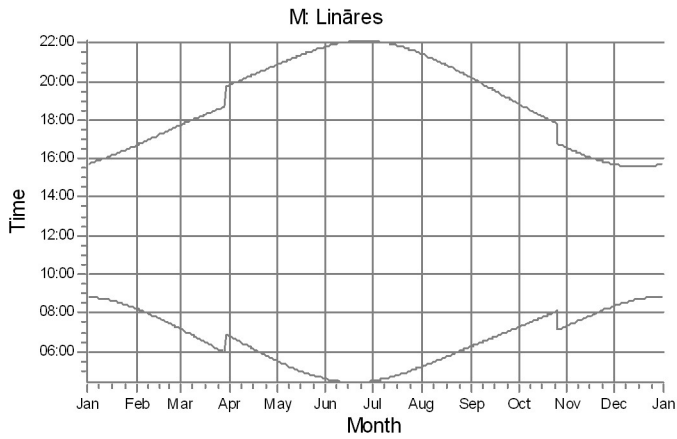
WTGs



* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

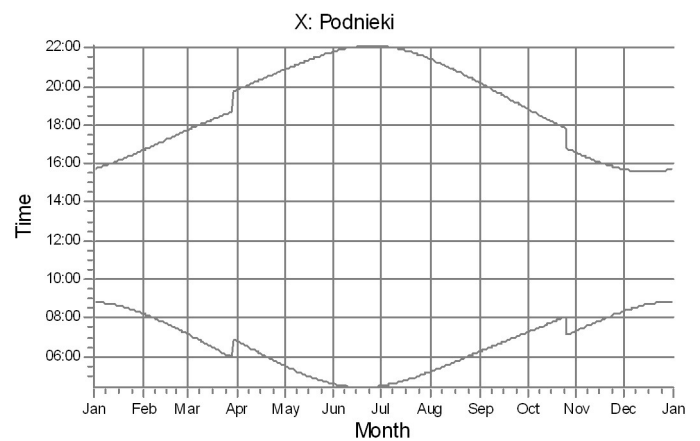
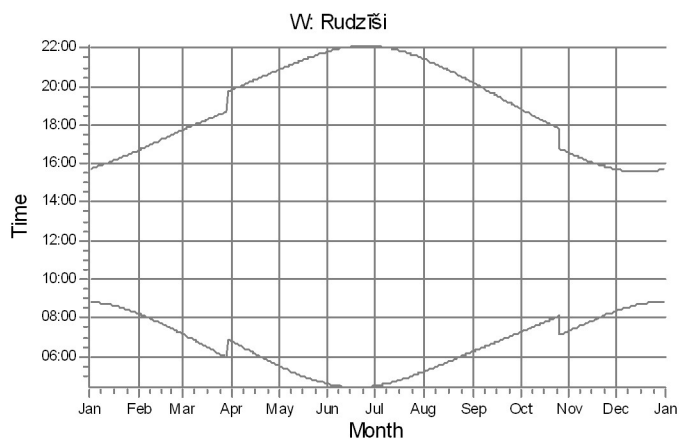
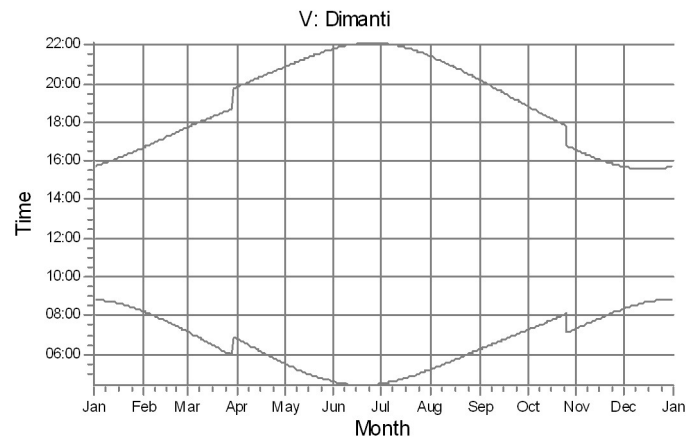
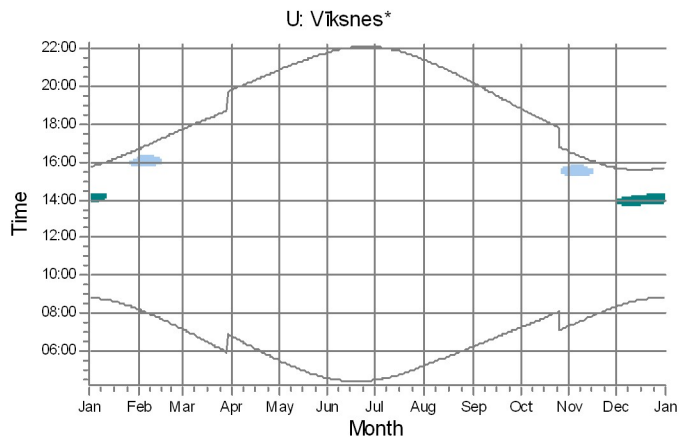
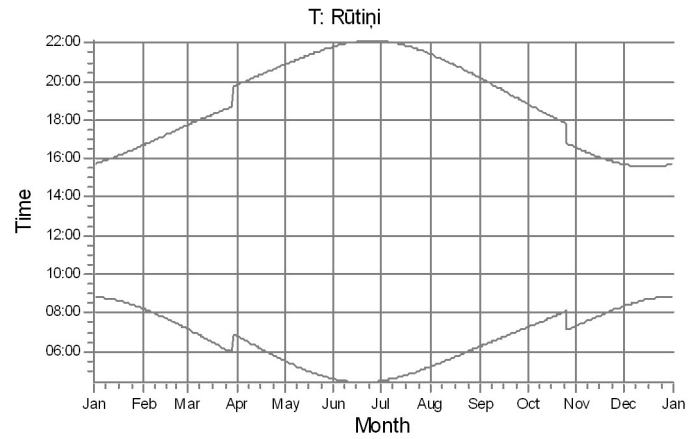
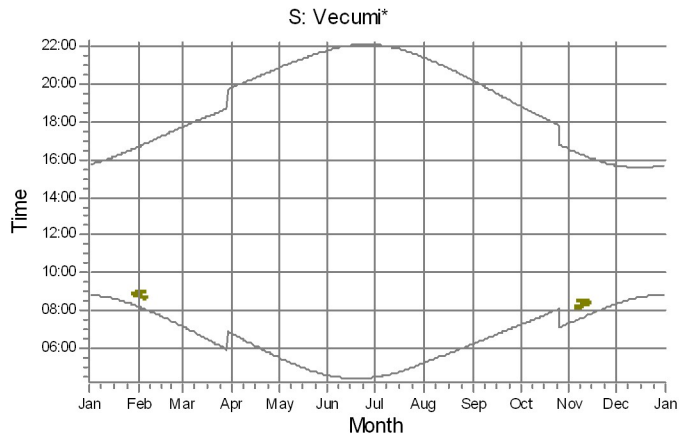
Calculation: Real Case Curtailment



WTGs

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



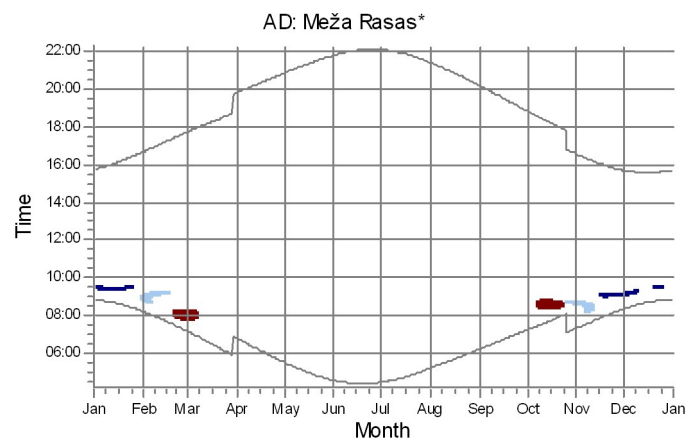
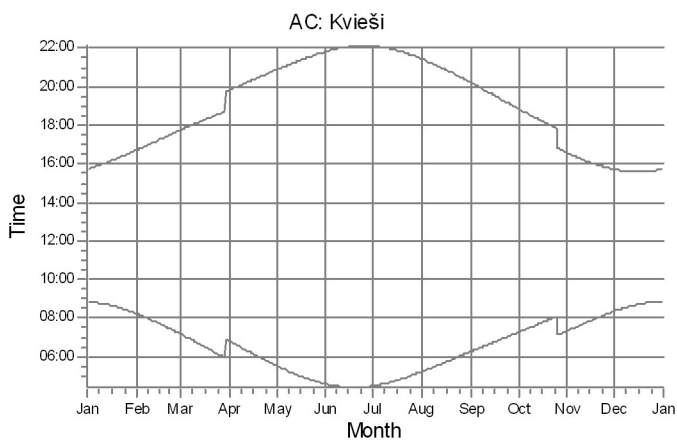
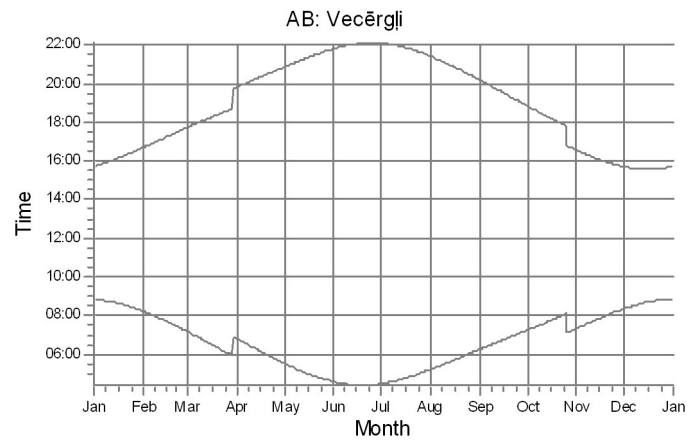
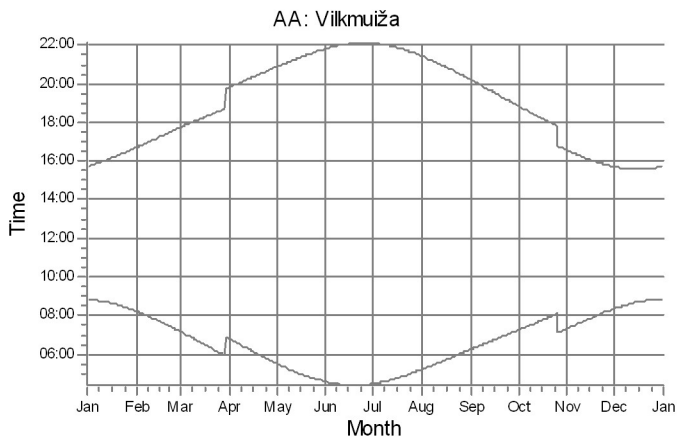
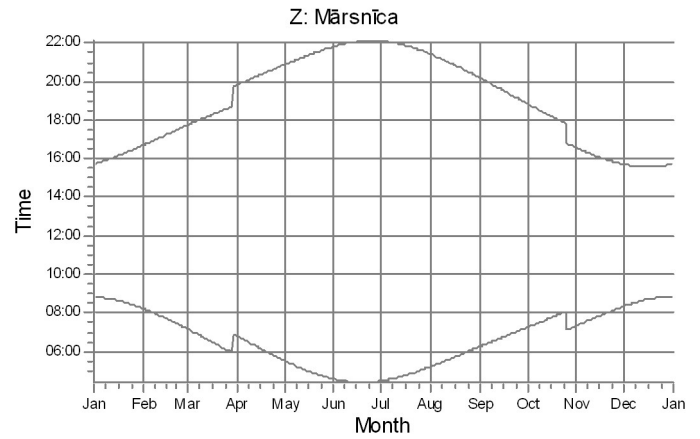
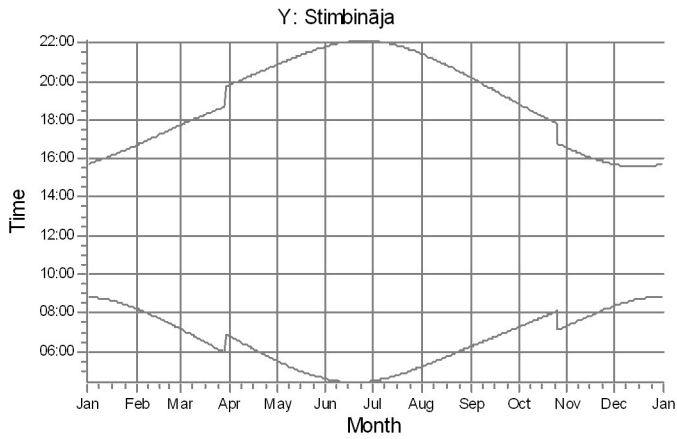
WTGs



* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



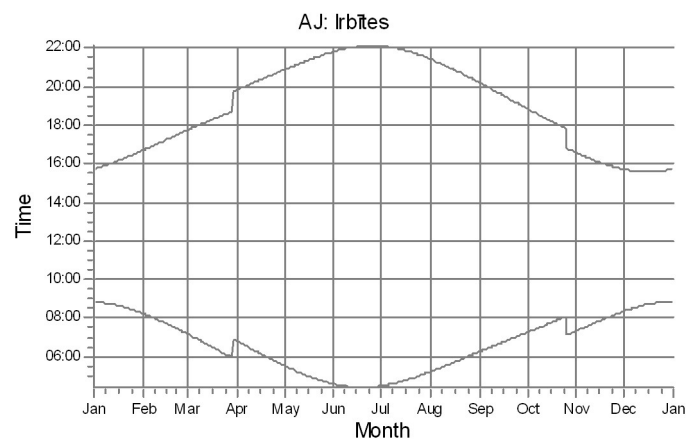
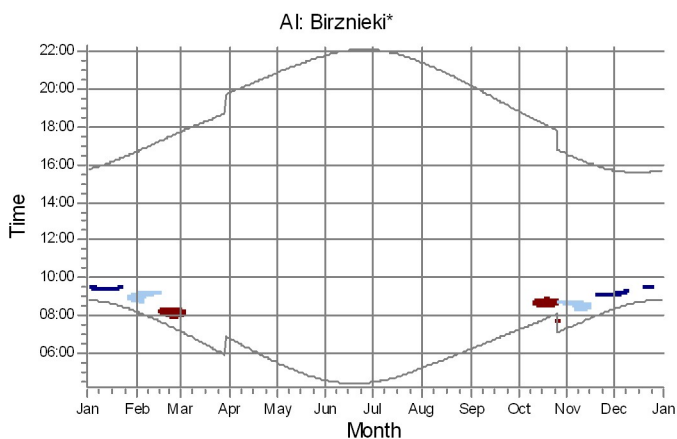
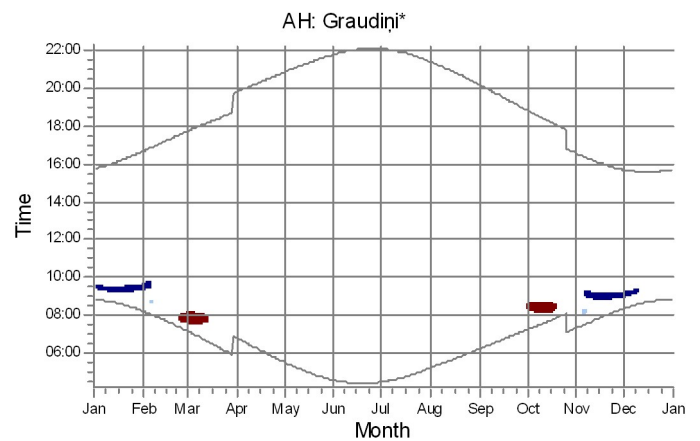
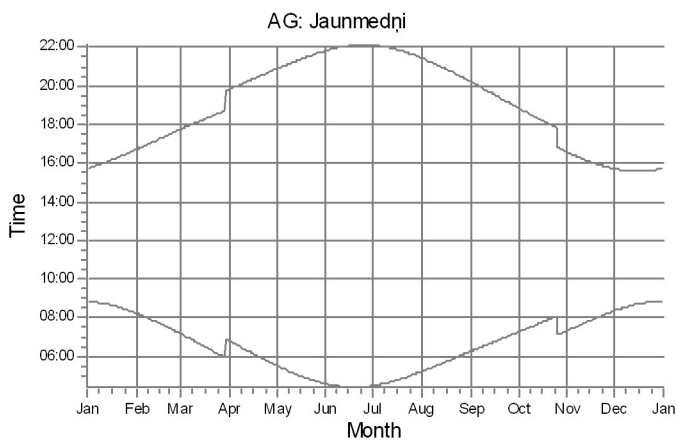
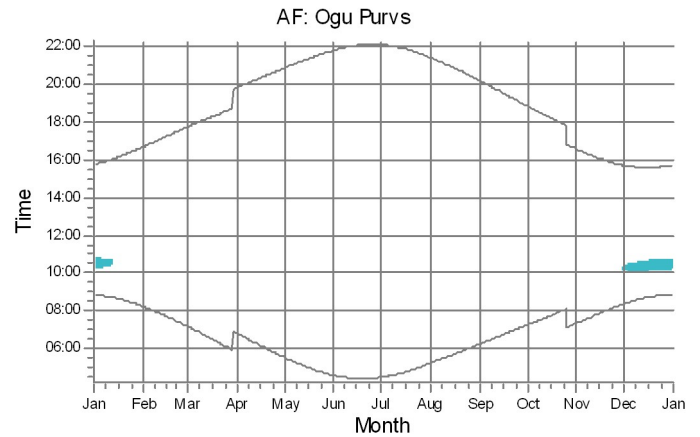
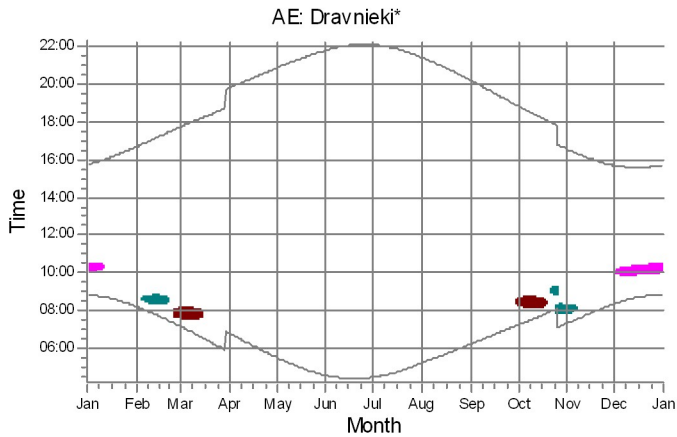
WTGs



* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



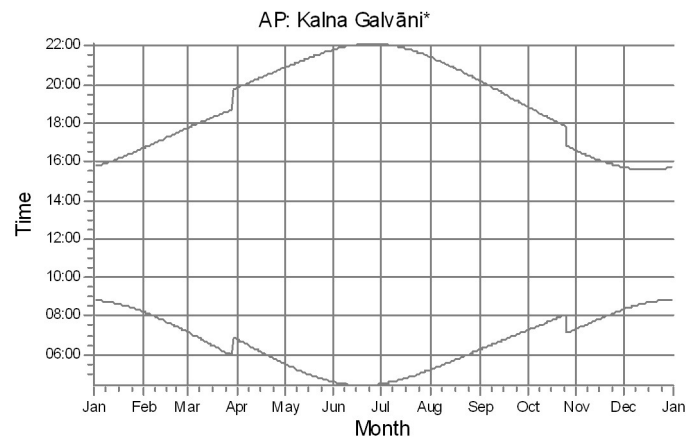
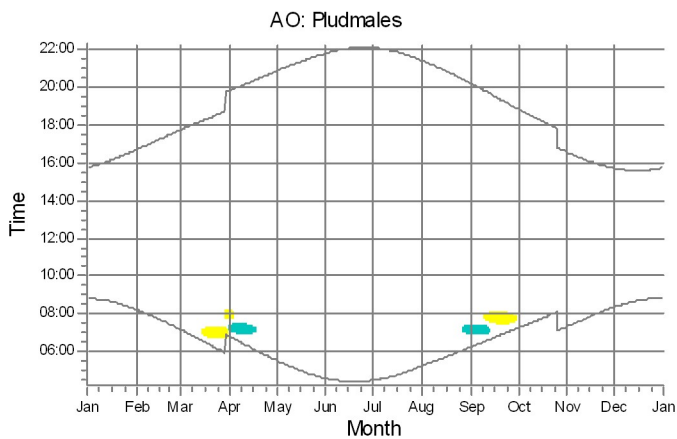
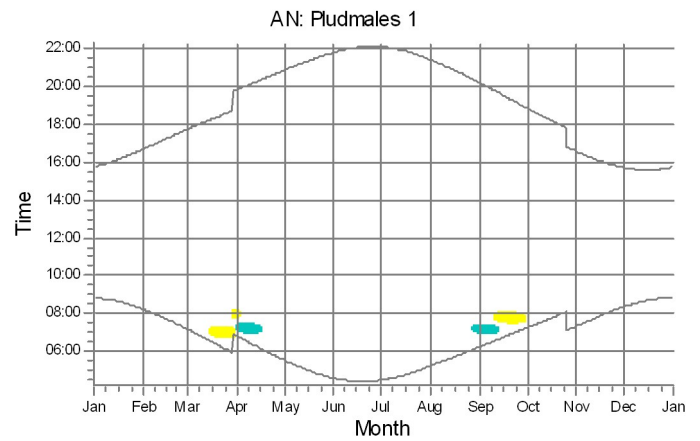
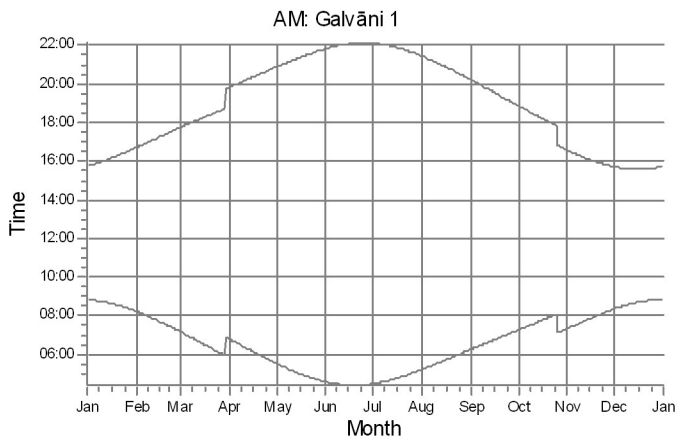
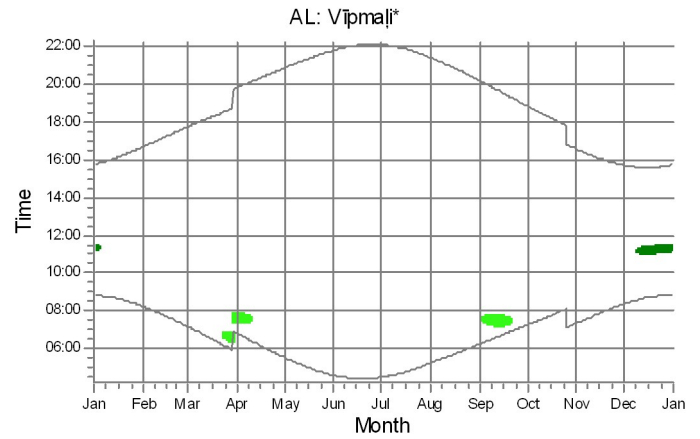
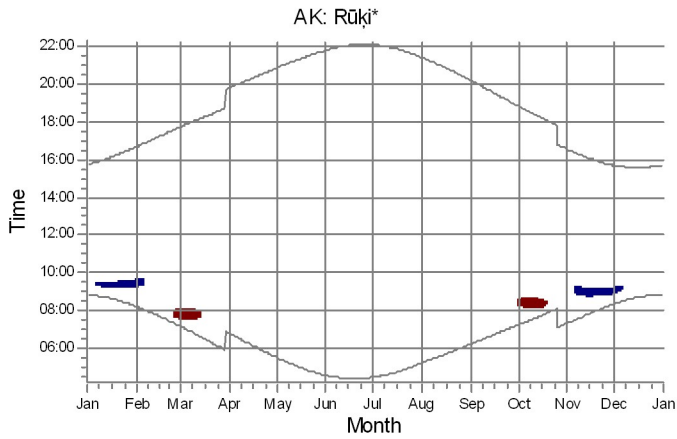
WTGs

5: 12-A	7: 14-A	15: 13-A
6: 18-A	8: 17-A	19: 03-A

* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



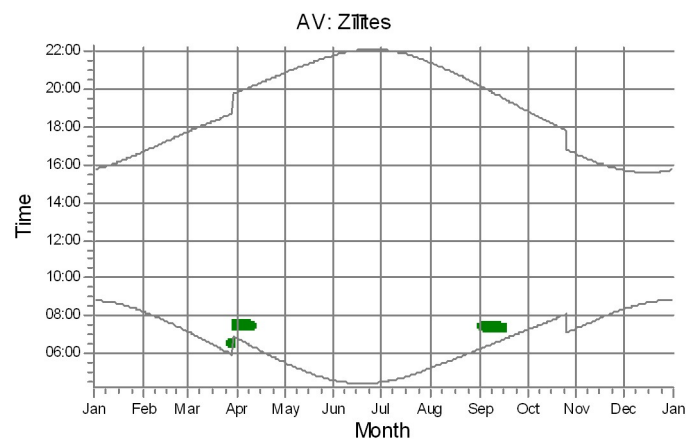
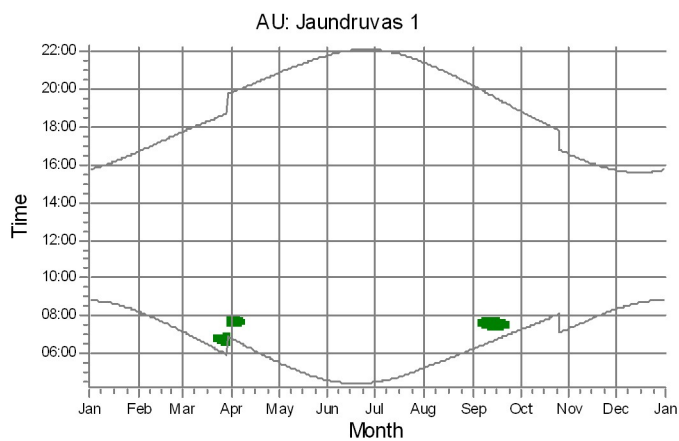
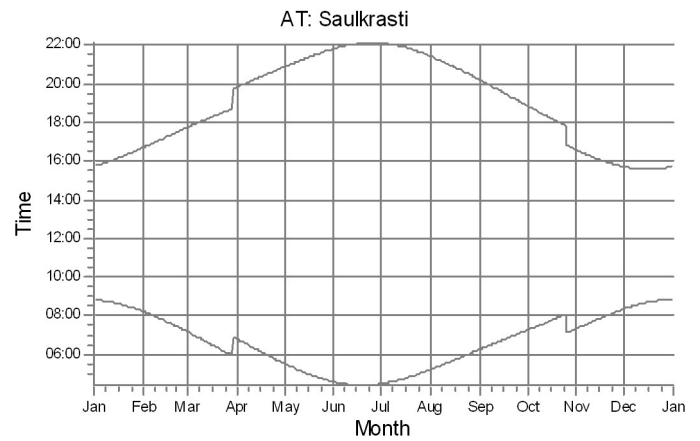
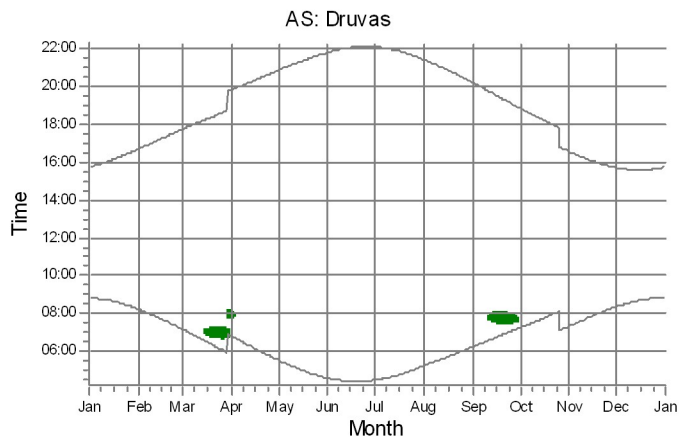
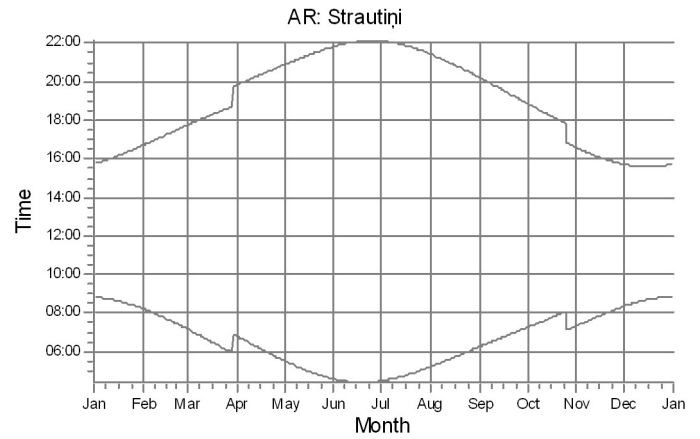
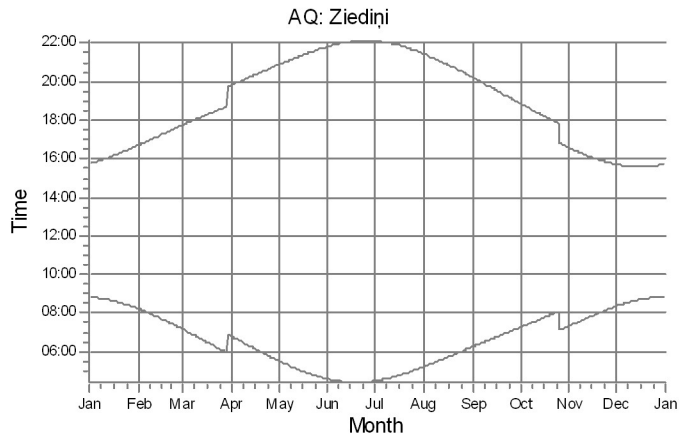
WTGs

	1: 1-A		7: 14-A		15: 13-A		19: 03-A		21: 06-A
	2: 2-A		8: 17-A		18: 08-B		20: 04-A		

* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



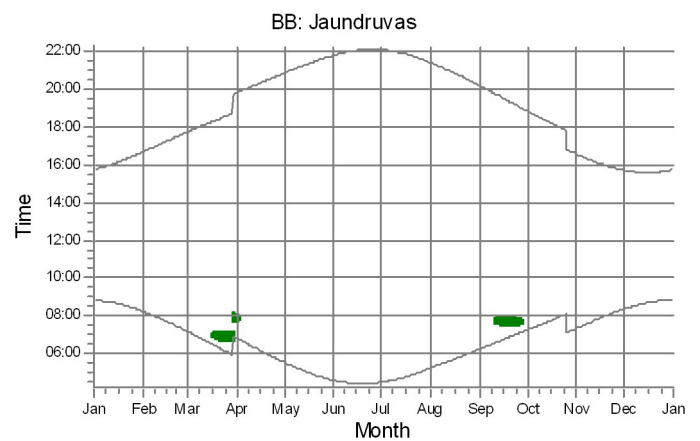
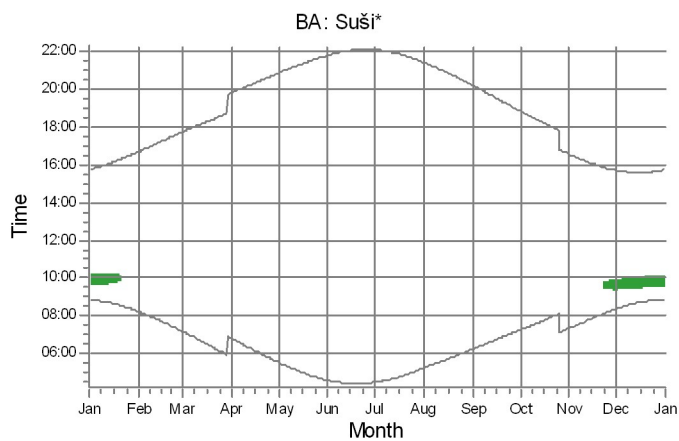
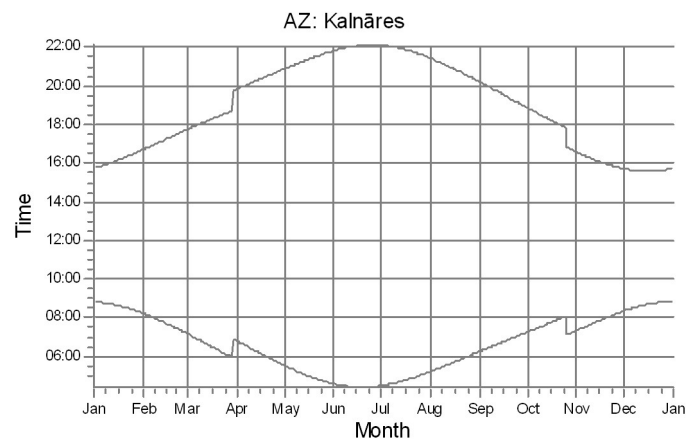
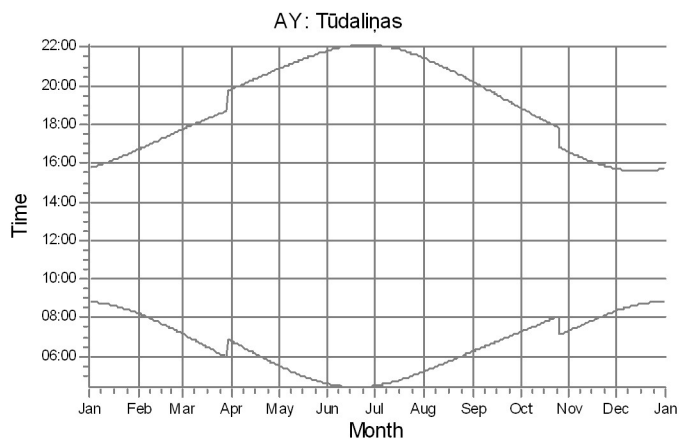
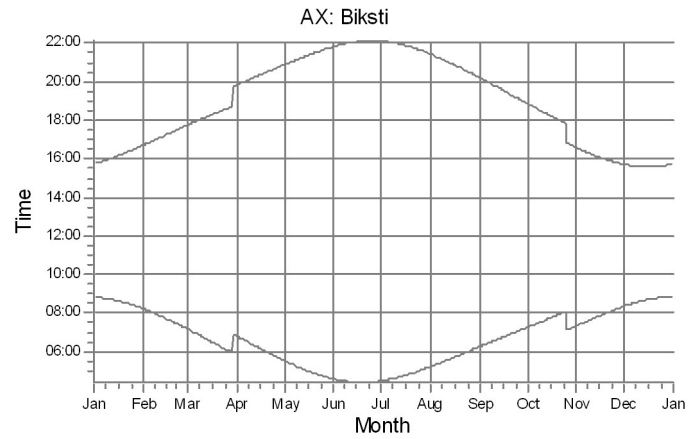
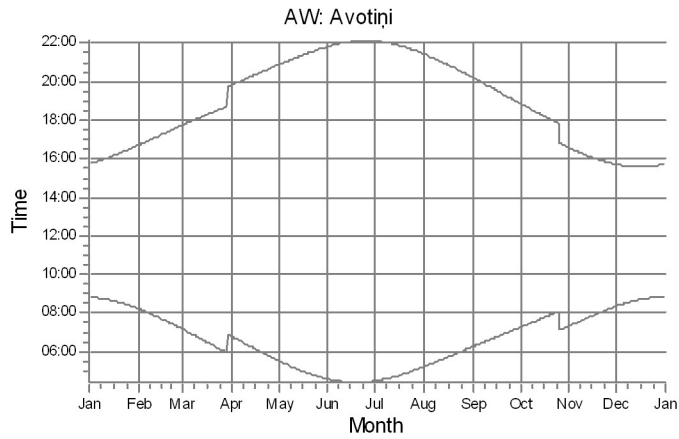
WTGs



1: 1-A

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



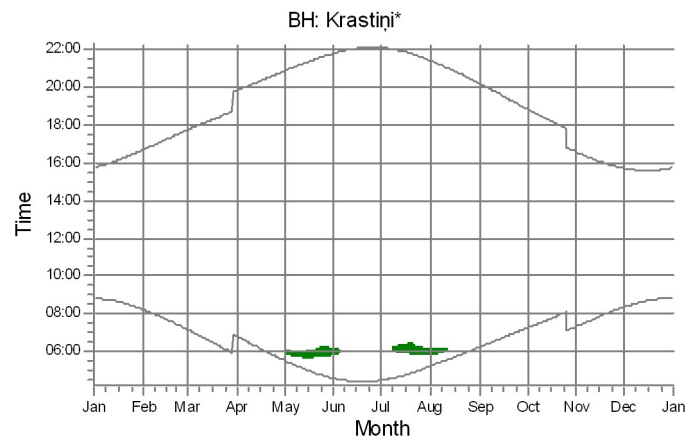
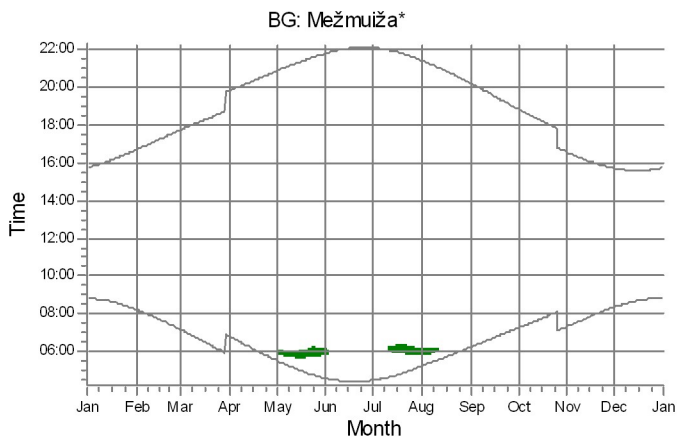
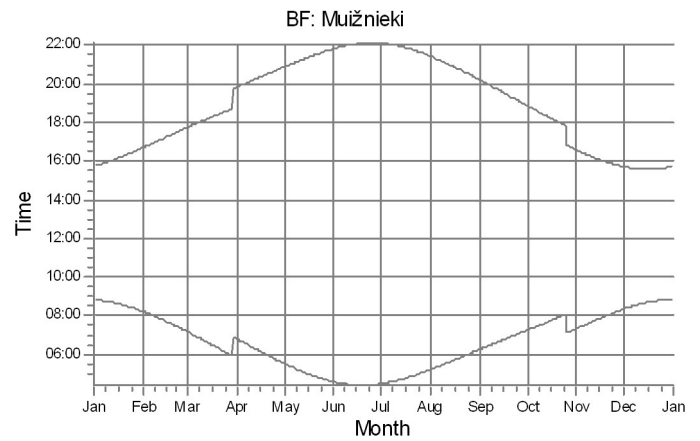
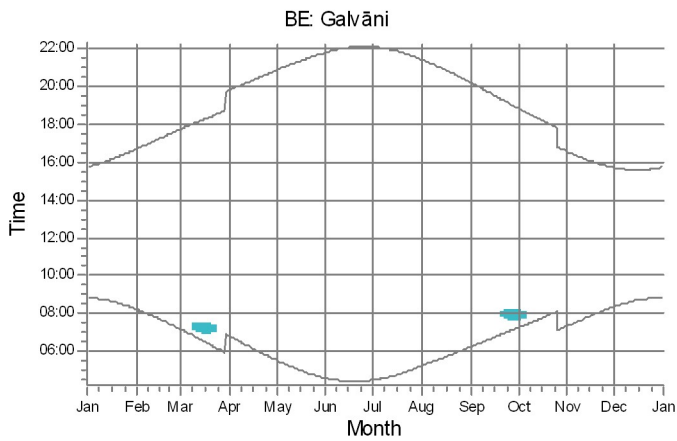
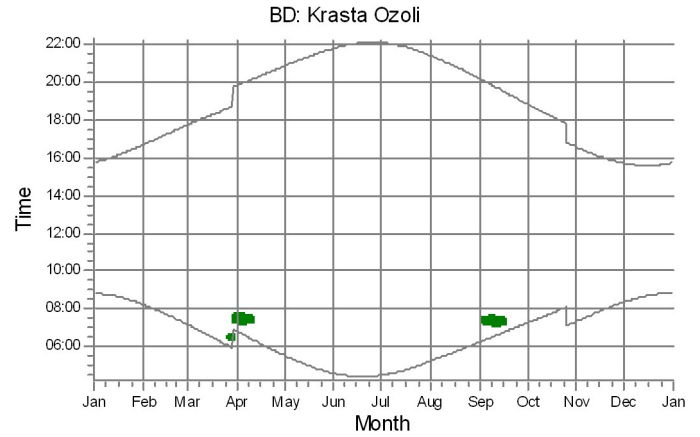
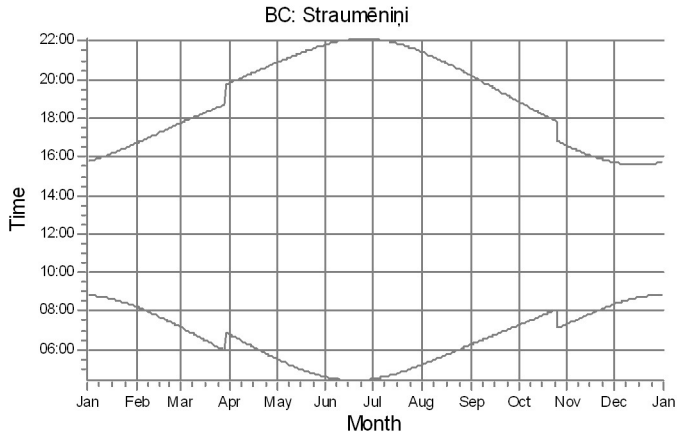
WTGs

1: 1-A 18: 08-B 19: 03-A 20: 04-A

* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



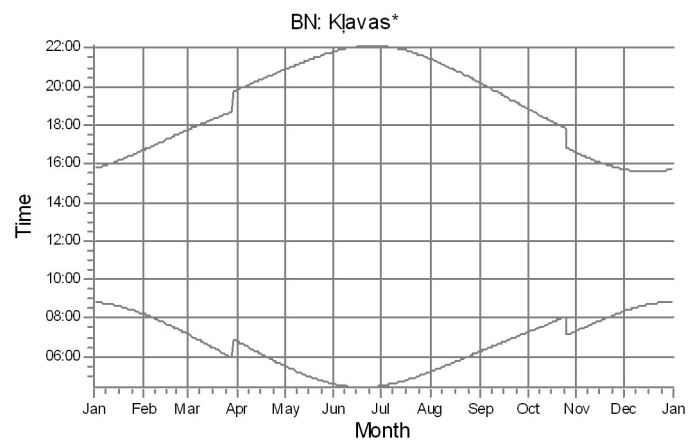
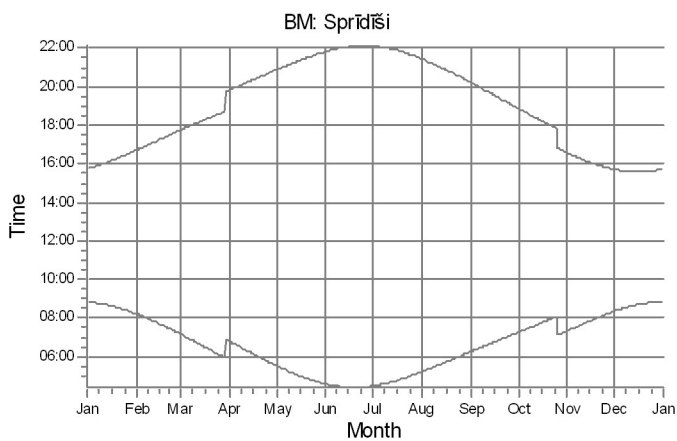
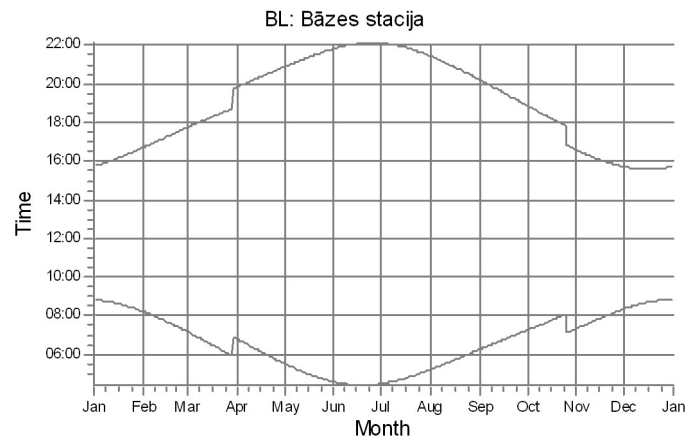
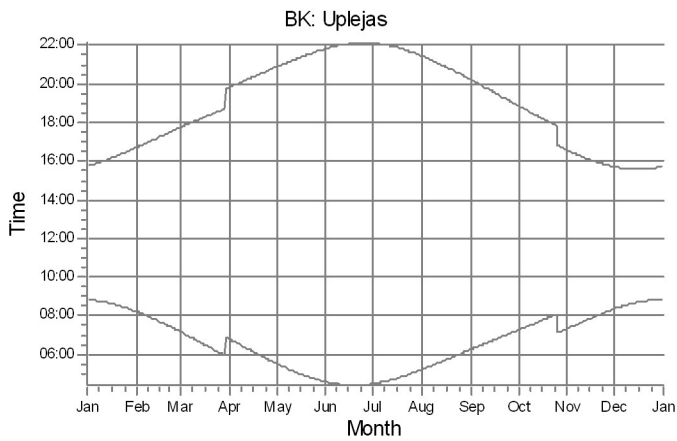
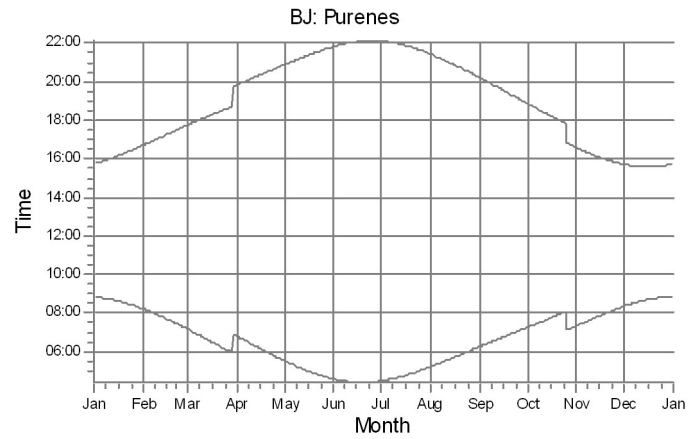
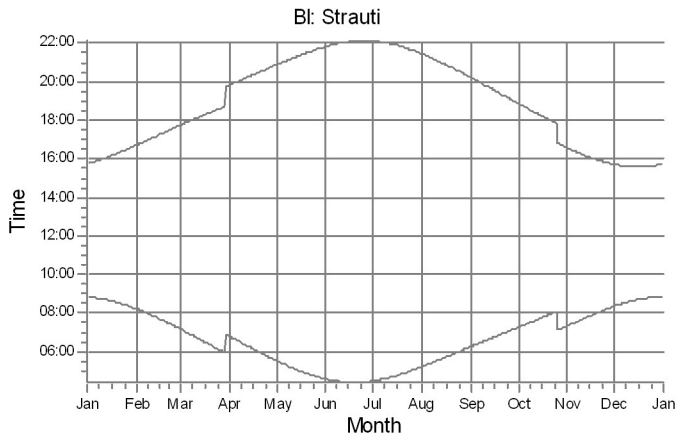
WTGs

1: 1-A 19: 03-A

* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



WTGs



2: 2-A

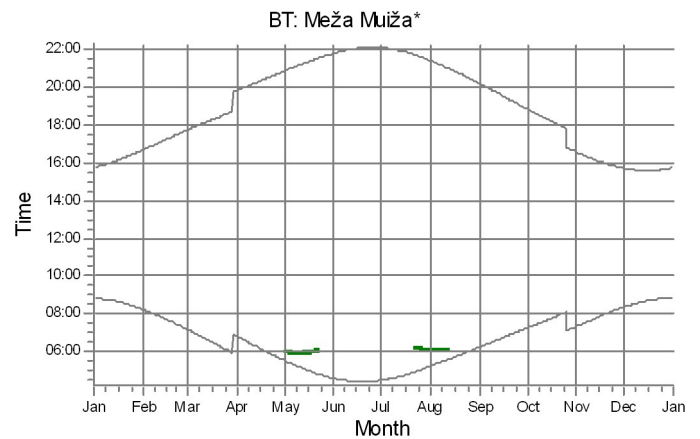
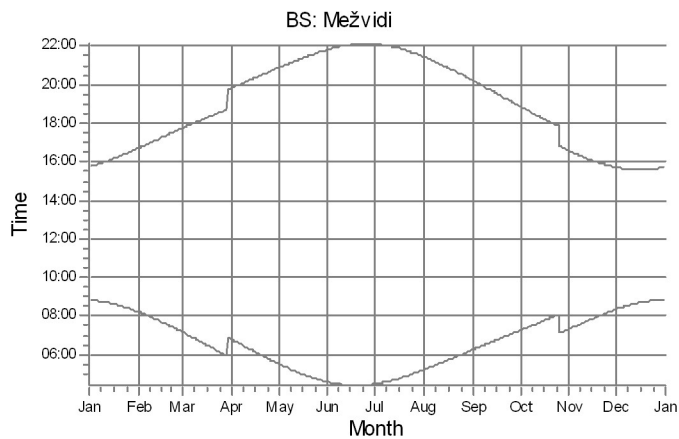
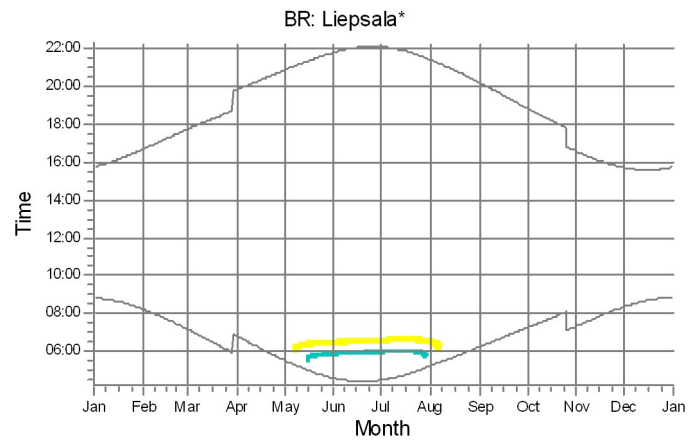
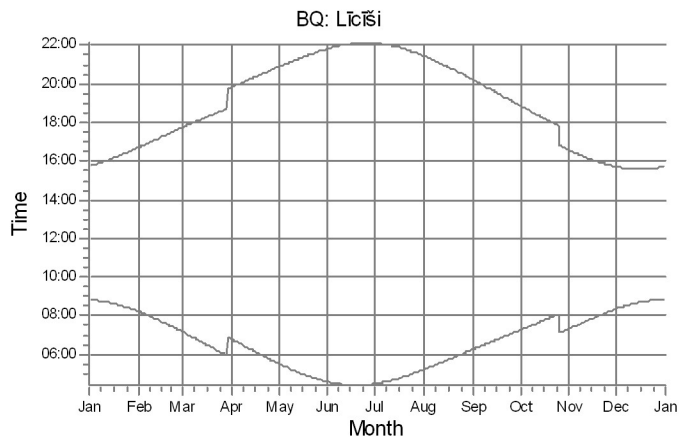
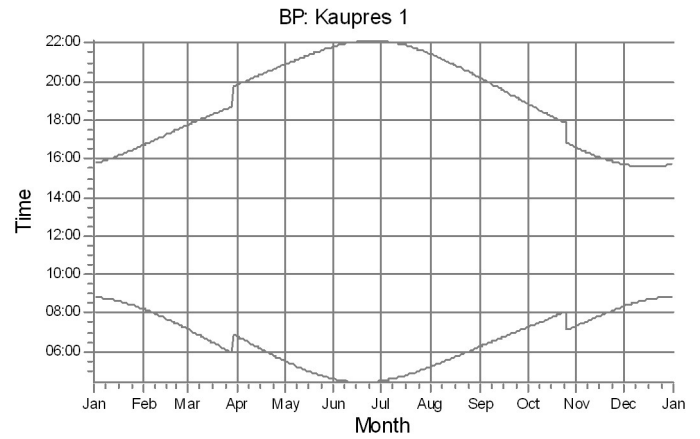
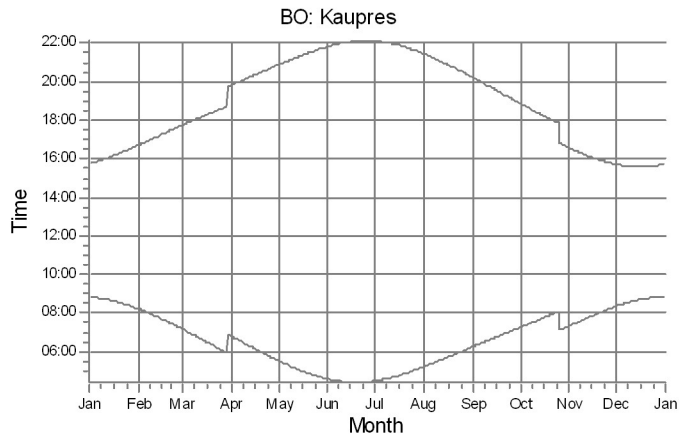


21: 06-A

* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



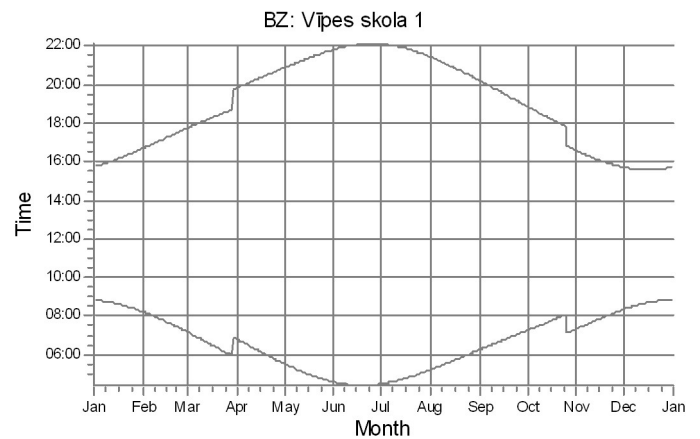
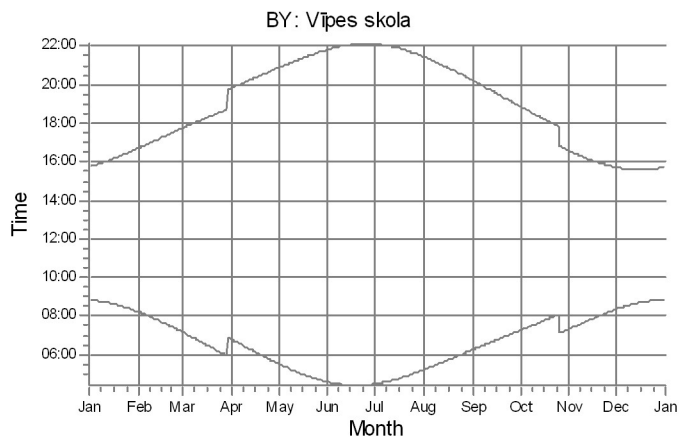
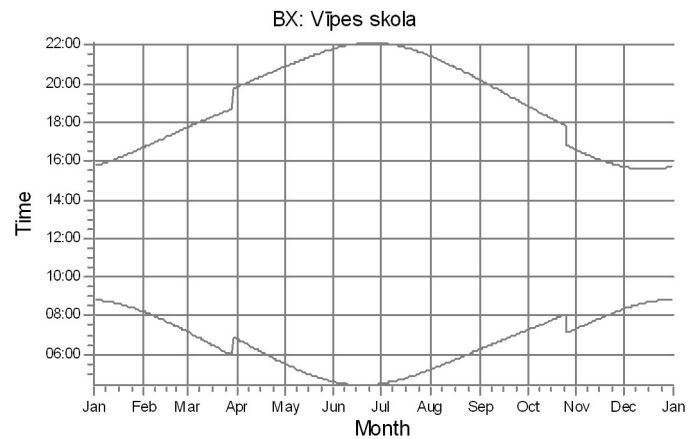
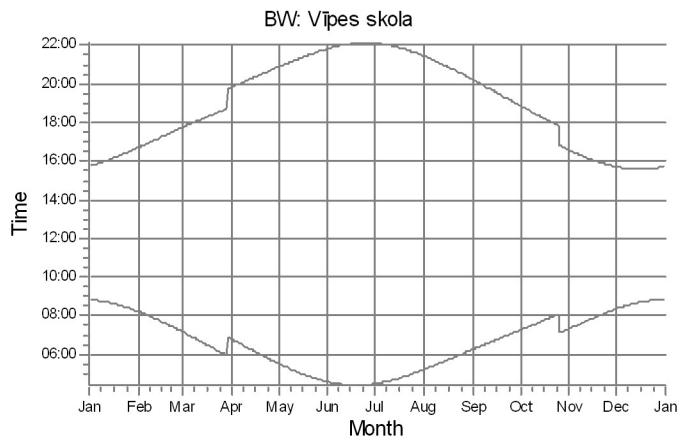
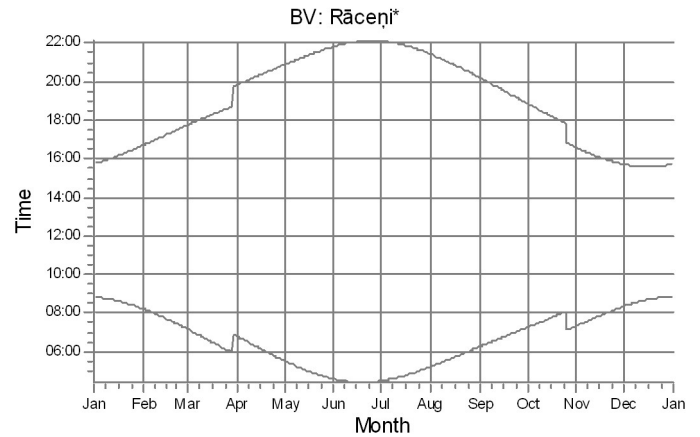
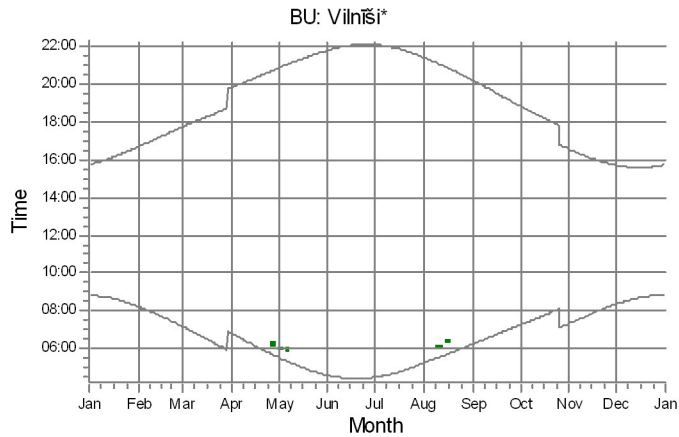
WTGs

1: 1-A 2: 2-A 21: 06-A

* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



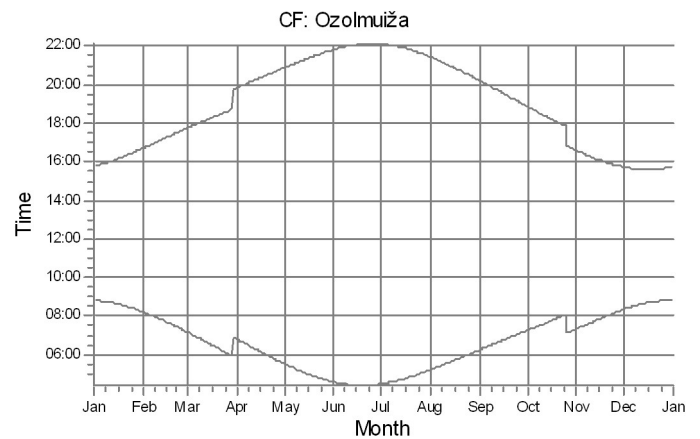
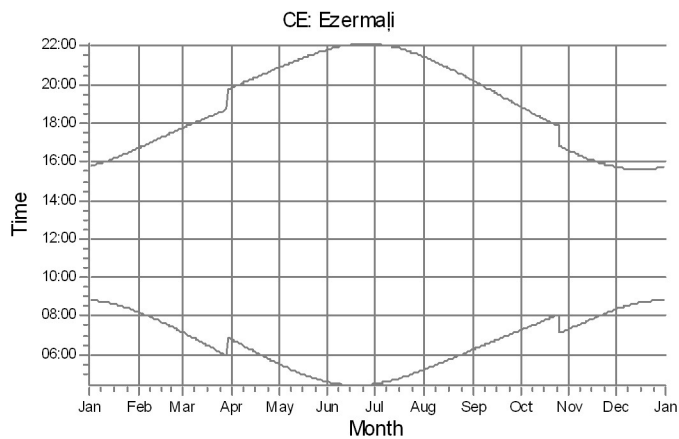
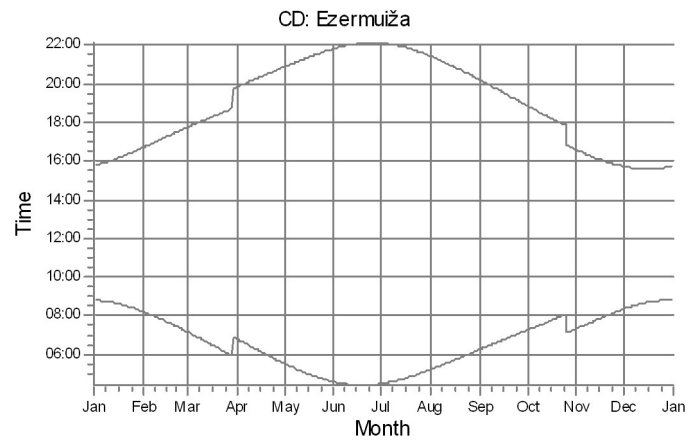
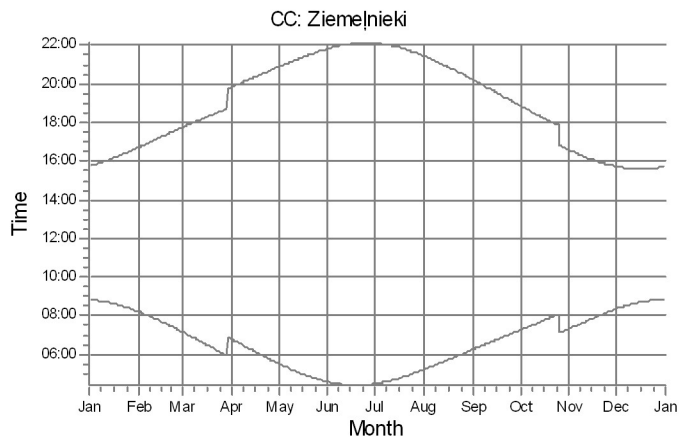
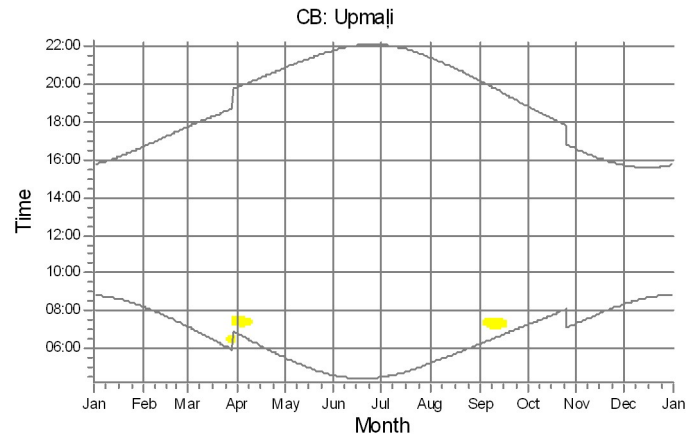
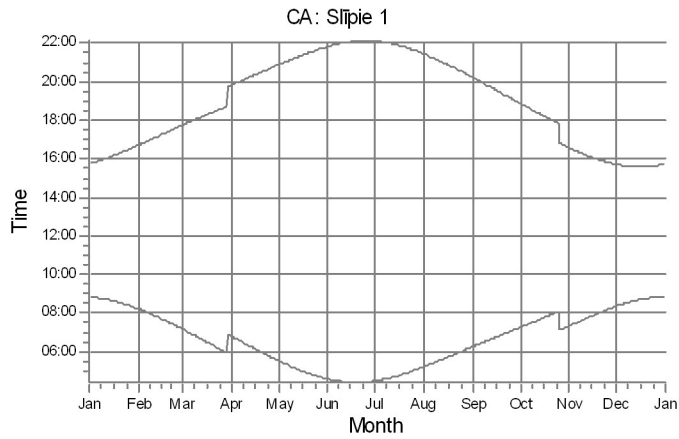
WTGs

1: 1-A

* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



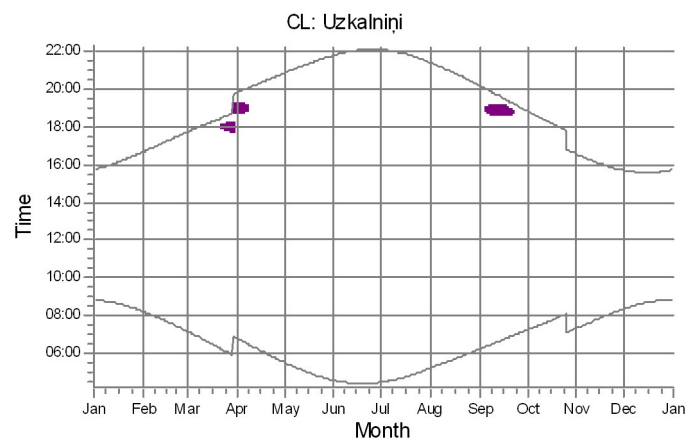
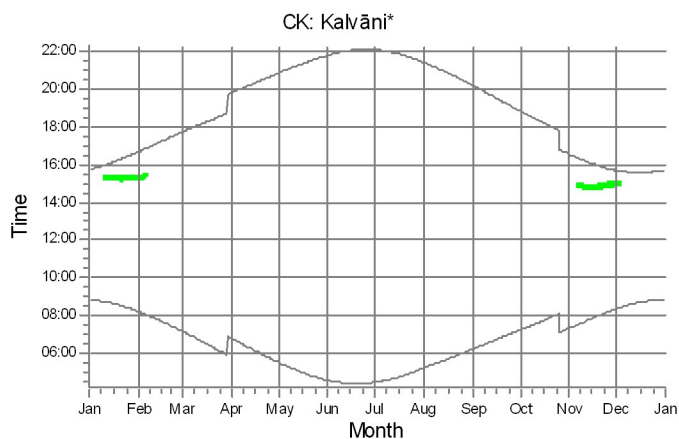
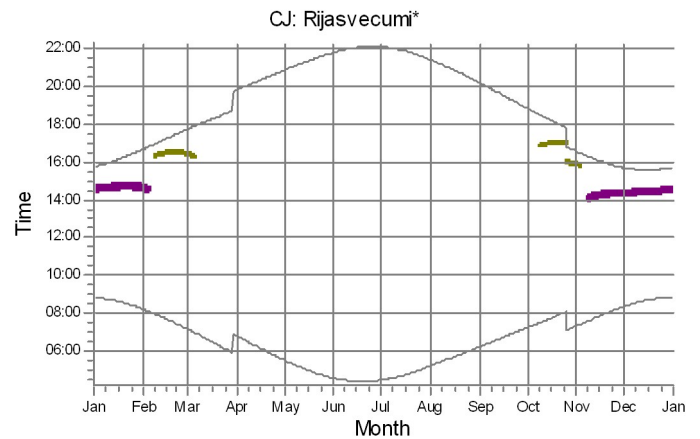
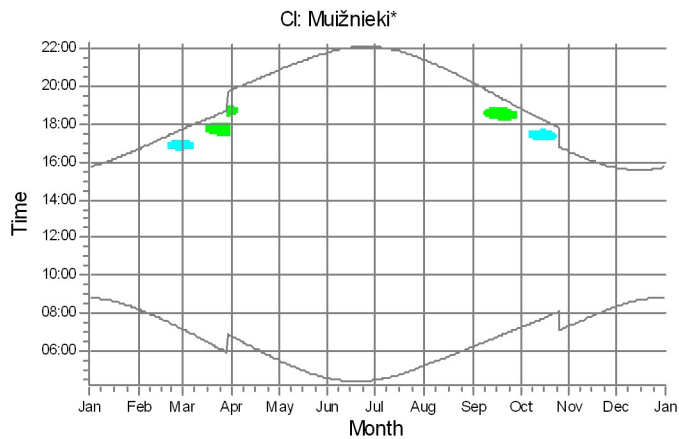
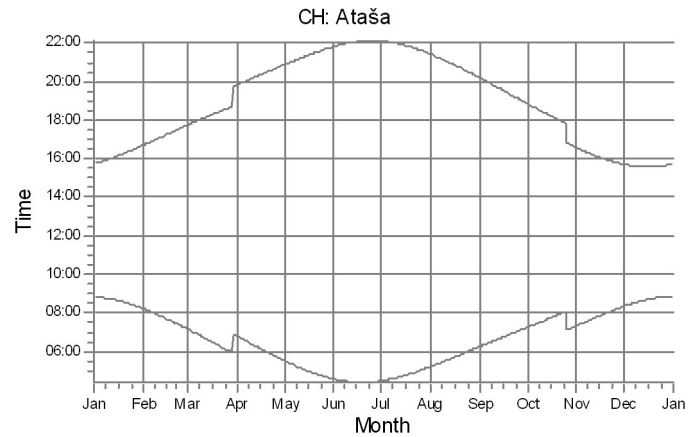
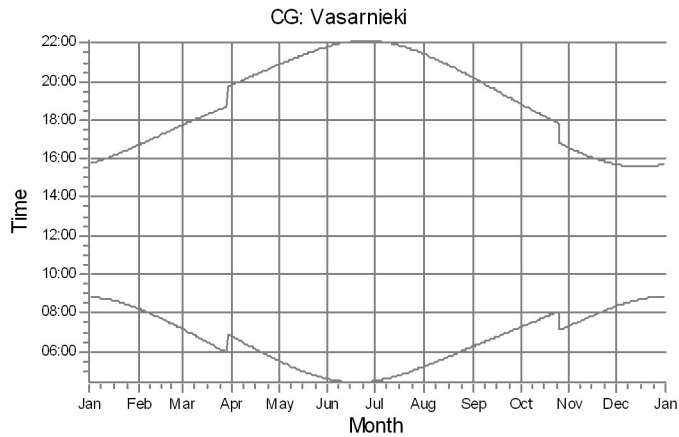
WTGs



2: 2-A

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



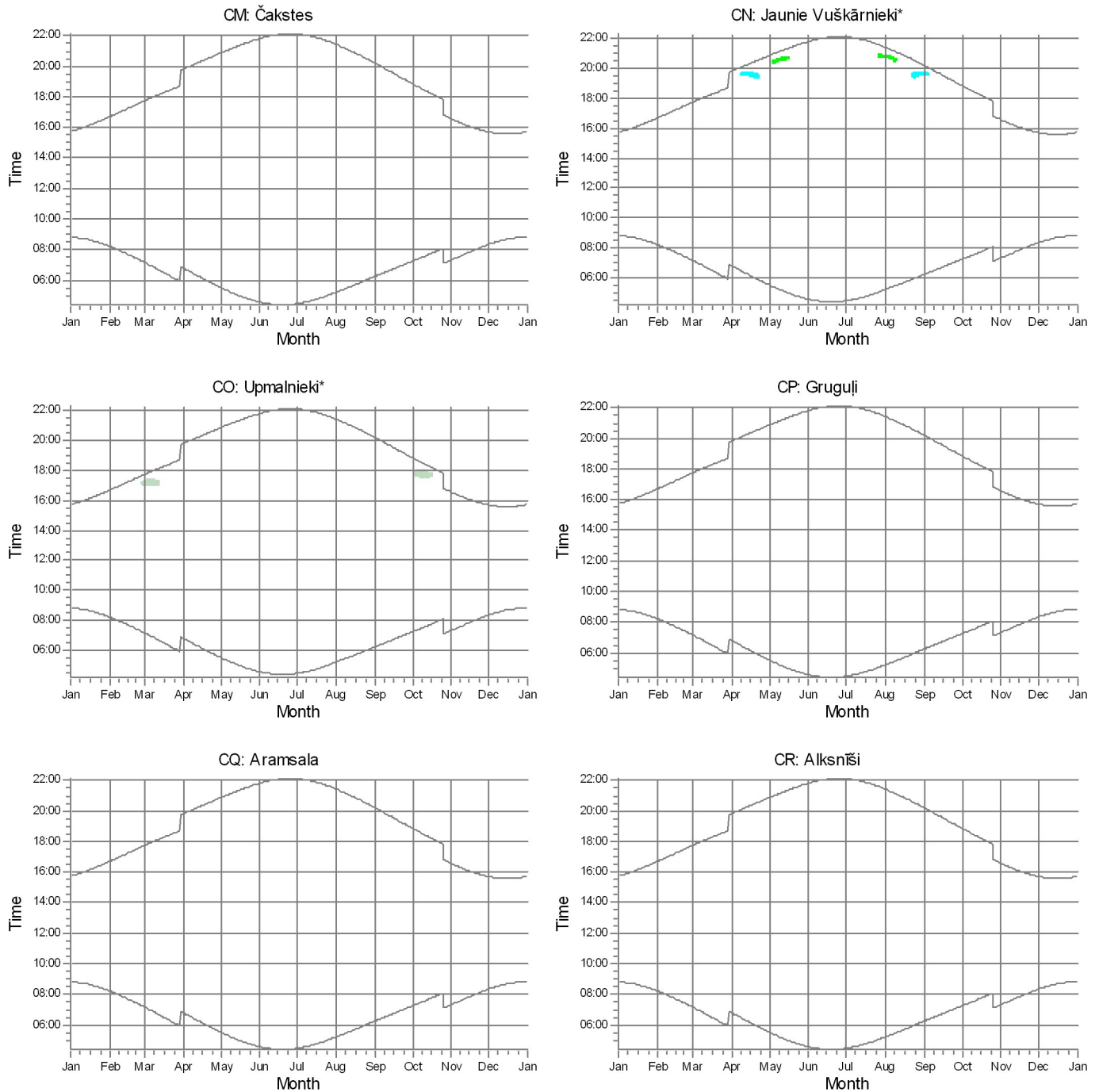
WTGs



* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



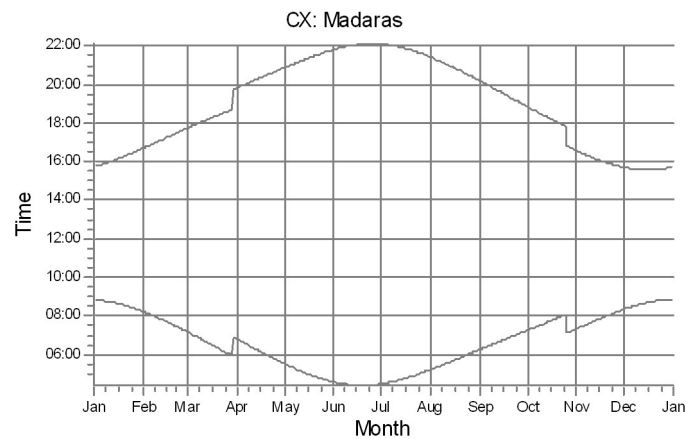
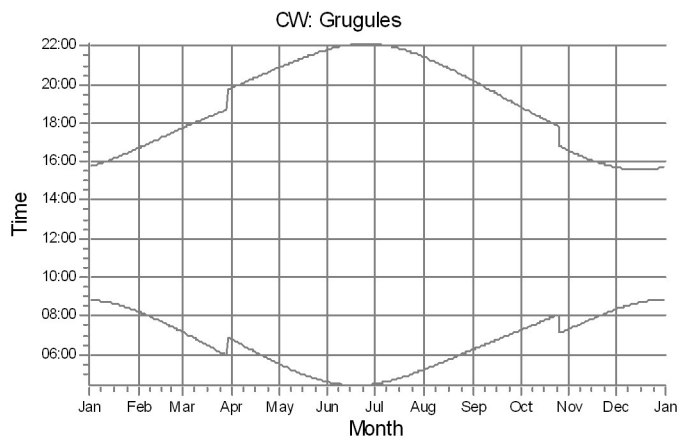
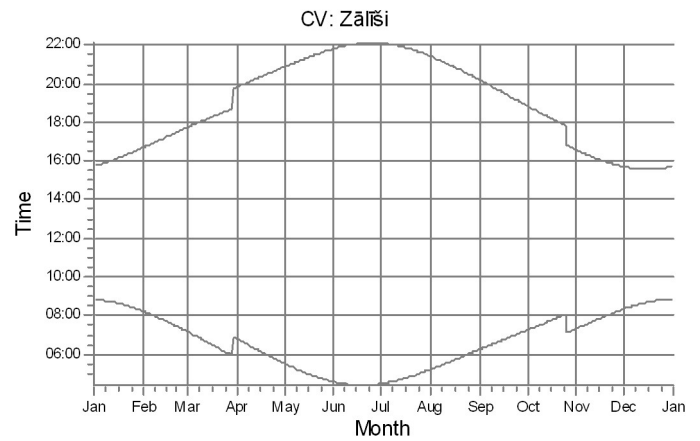
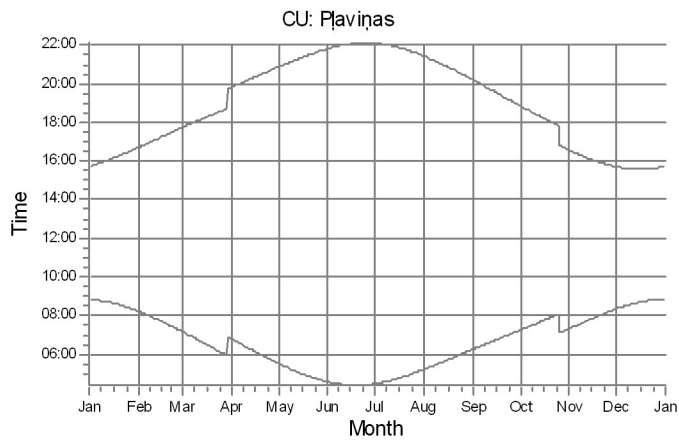
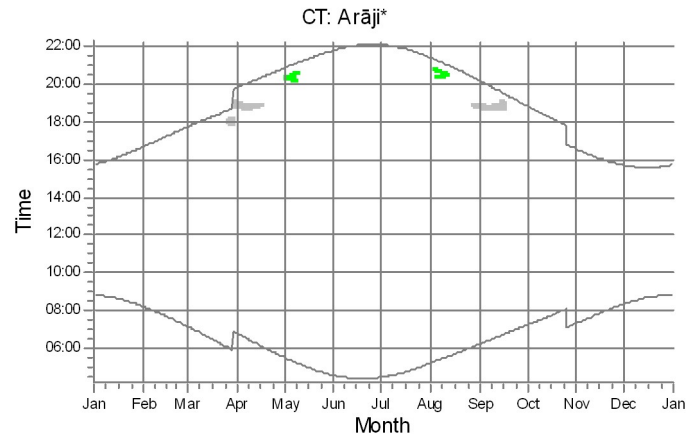
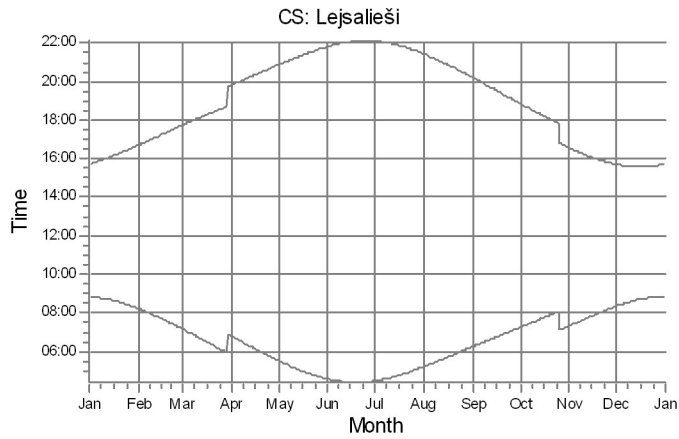
WTGs



* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



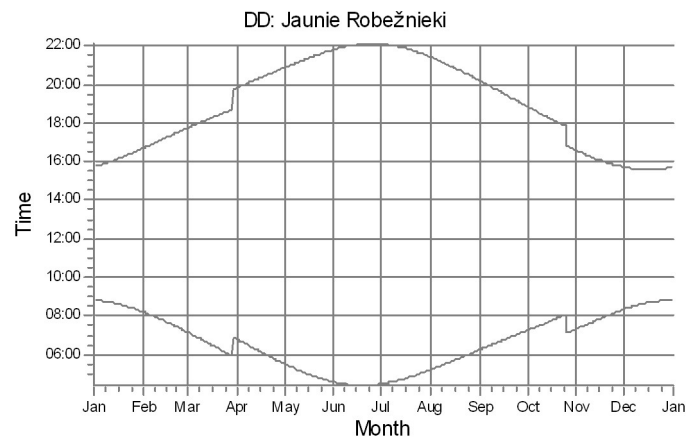
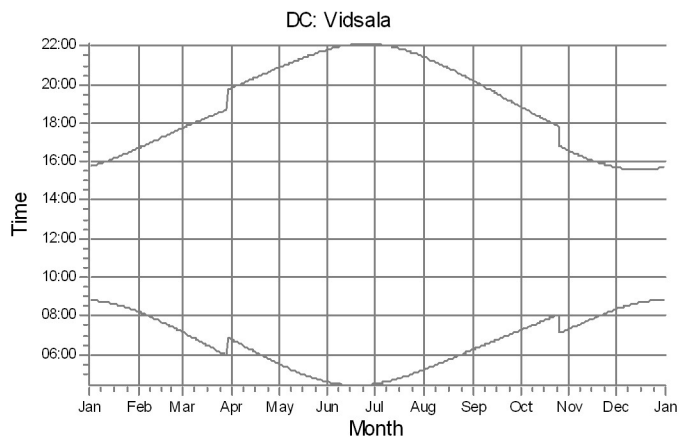
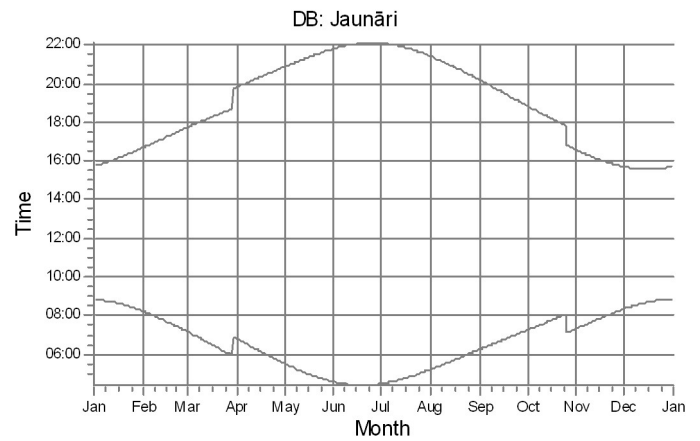
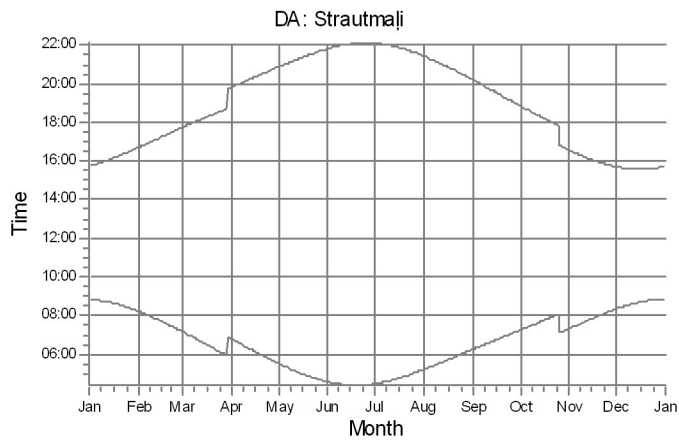
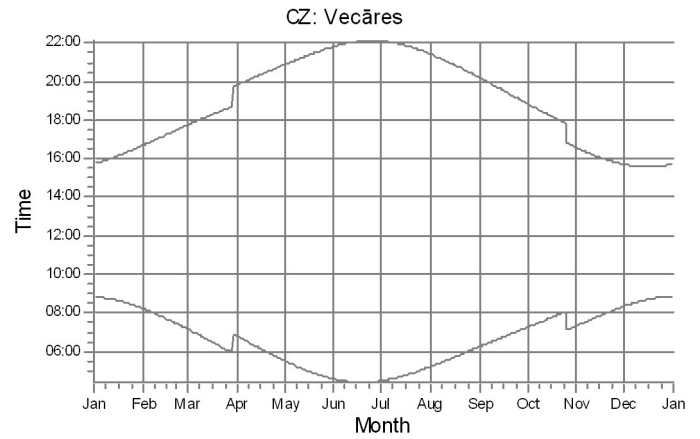
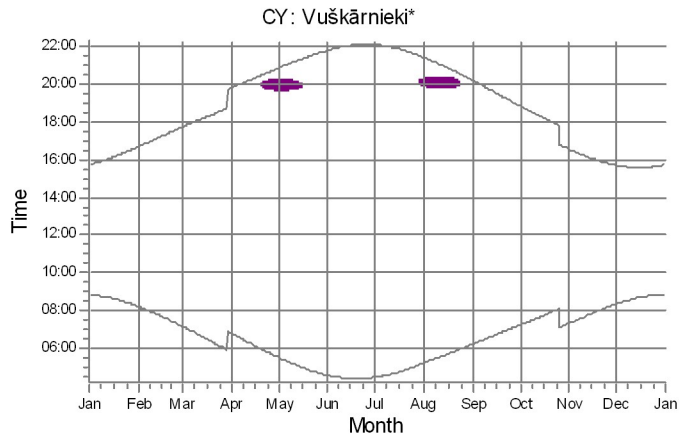
WTGs



* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



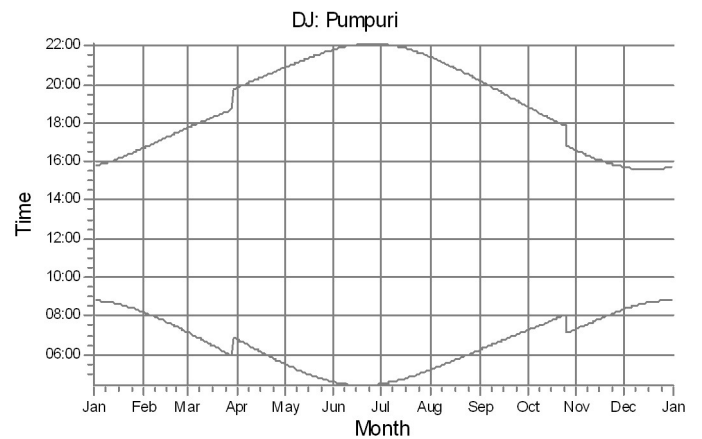
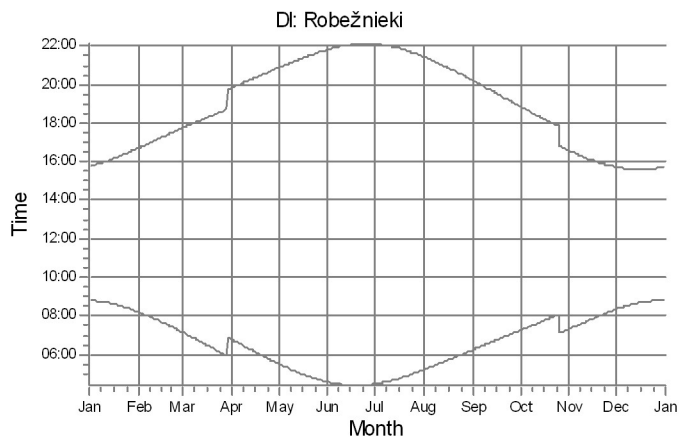
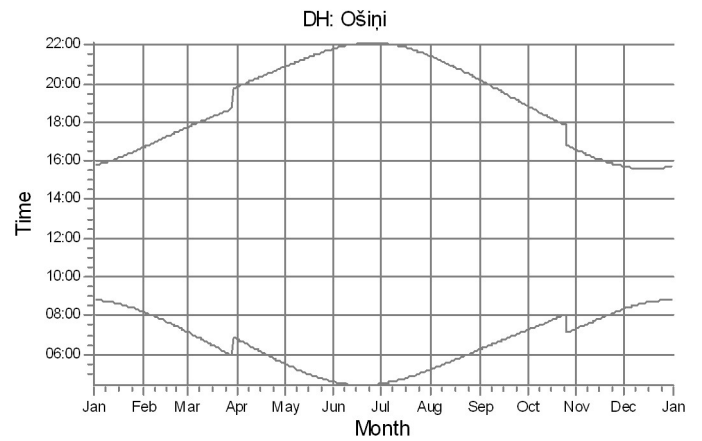
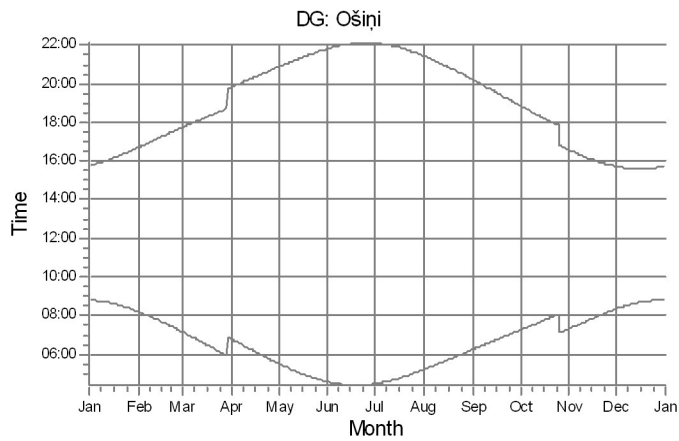
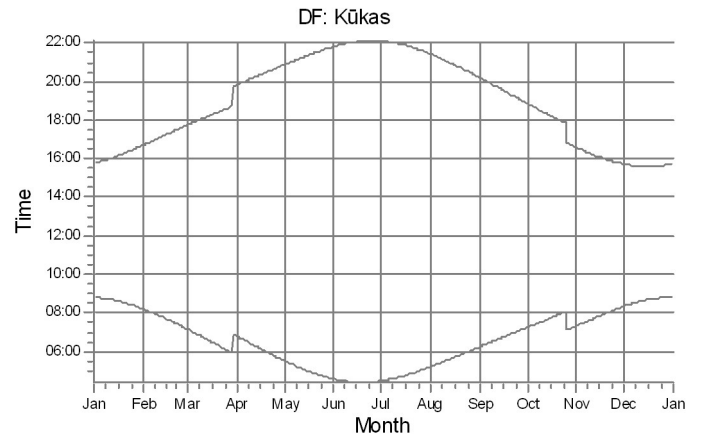
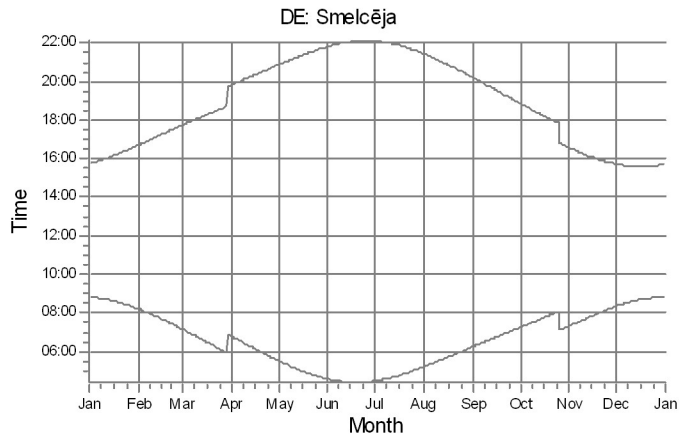
WTGs



* Results reduced by flicker curtailment

SHADOW - Calendar, graphical

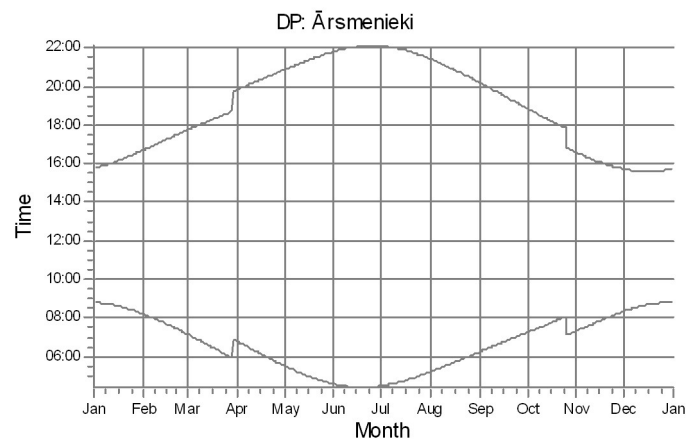
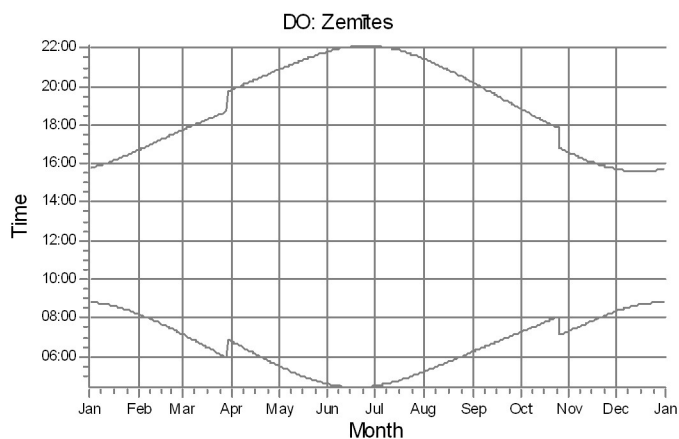
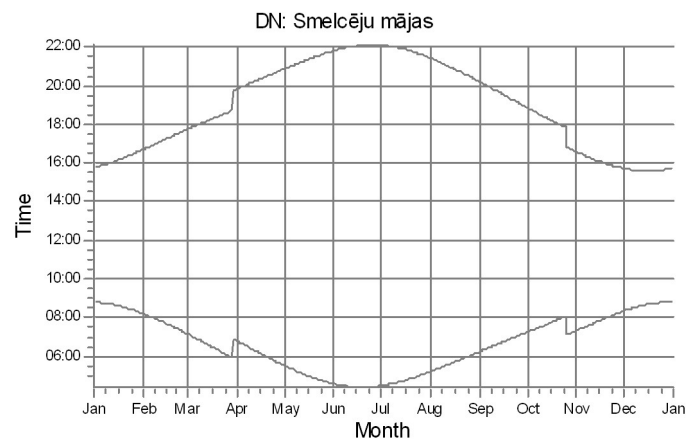
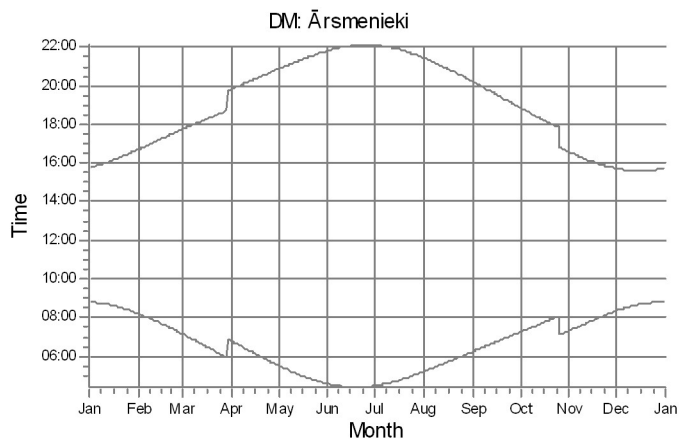
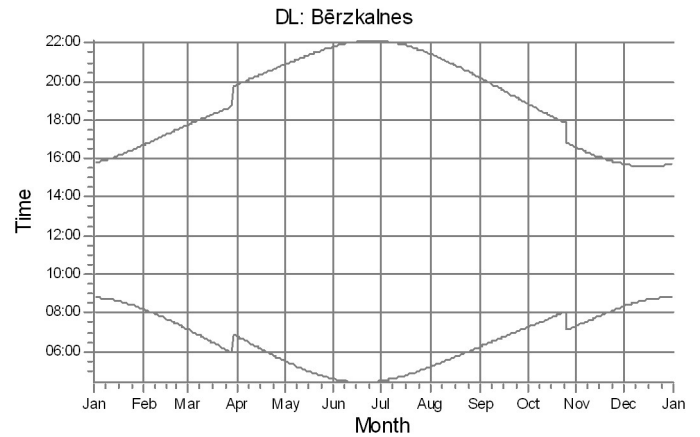
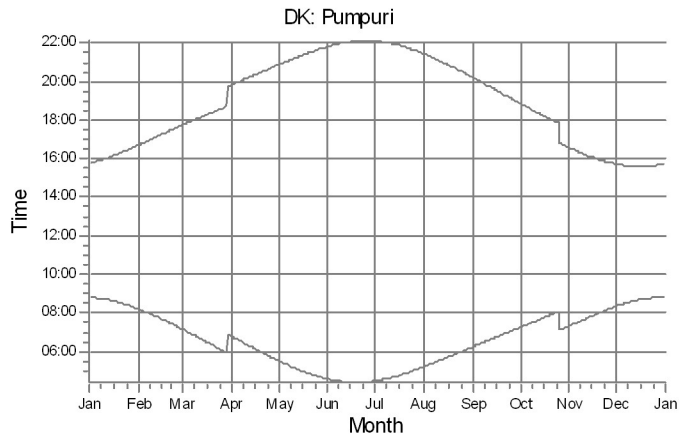
Calculation: Real Case Curtailment



WTGs

SHADOW - Calendar, graphical

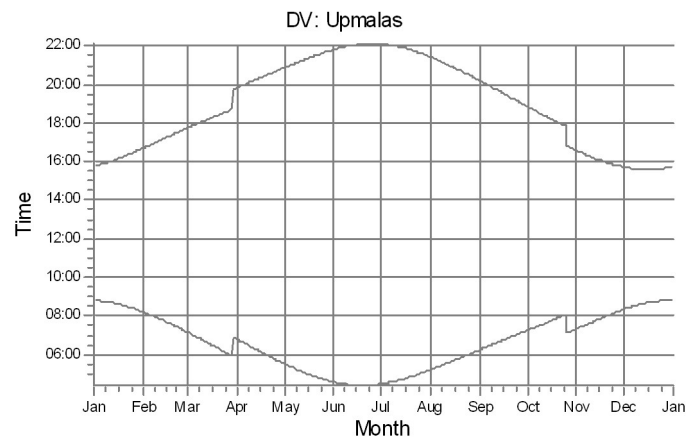
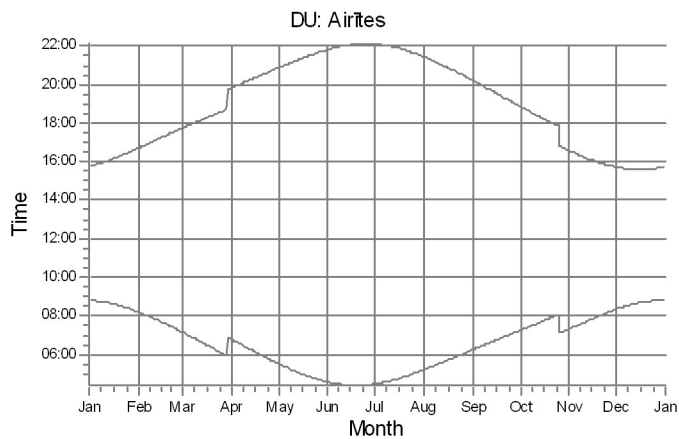
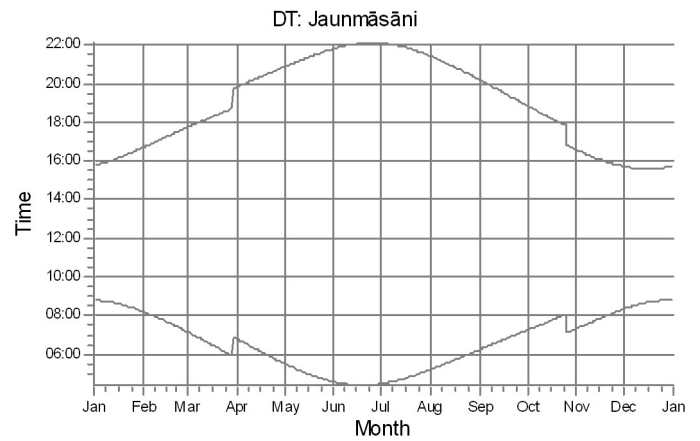
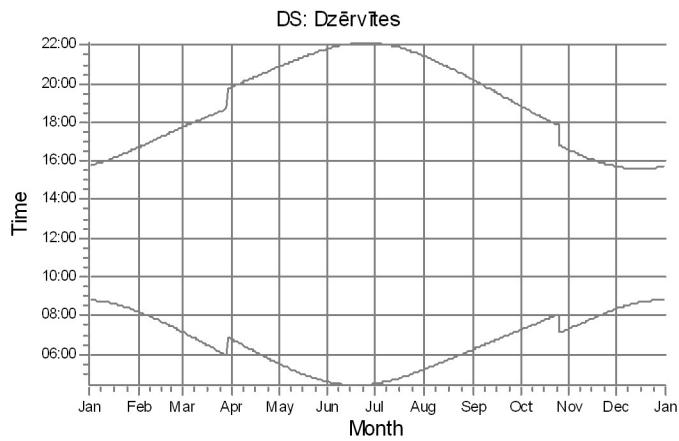
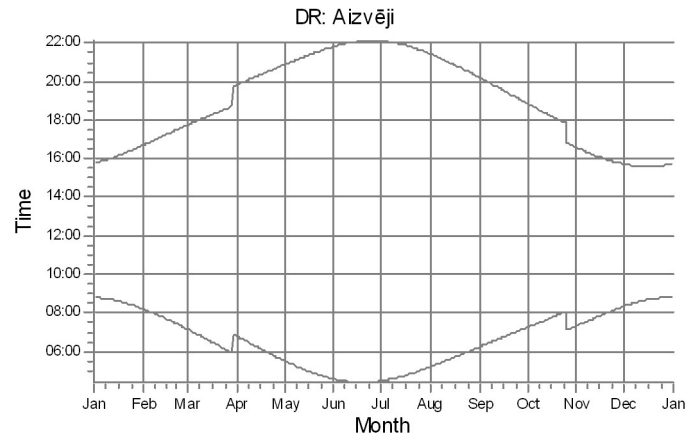
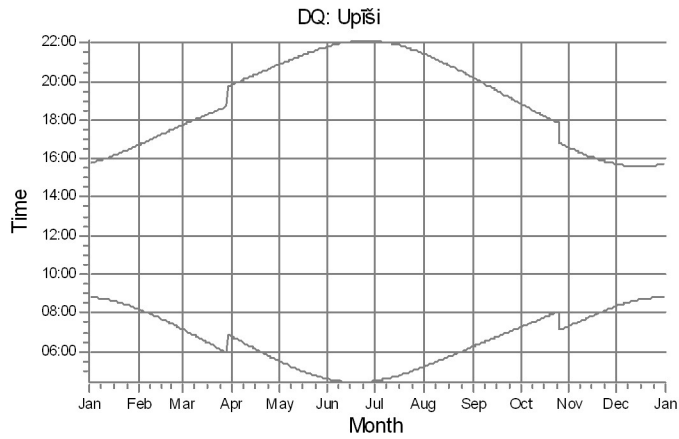
Calculation: Real Case Curtailment



WTGs

SHADOW - Calendar, graphical

Calculation: Real Case Curtailment



WTGs

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 1 - 1-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January		February		March	April		May		June	
1	08:48	11:14-11:27/13	08:13	07:09		06:47	07:16-08:02/46	05:31		04:34	05:53-06:07/14
	15:45		16:42	17:44		19:50		20:52		21:50	
2	08:48	11:16-11:27/11	08:11	07:06		06:44	07:16-07:58/42	05:28	05:59-06:00/1	04:32	05:54-06:06/12
	15:46		16:44	17:46		19:52		20:54		21:51	
3	08:48	11:17-11:25/8	08:09	07:04		06:42	07:15-07:55/40	05:26	05:56-05:58/2	04:31	05:57-06:05/8
	15:48		16:46	17:49		19:54		20:56		21:52	
4	08:47	11:21-11:23/2	08:07	07:01		06:39	07:16-07:55/39	05:24	05:54-05:57/3	04:30	05:59-06:03/4
	15:49		16:49	17:51		19:56		20:58		21:54	
5	08:47		08:05	06:59		06:36	07:15-07:53/38	05:21	05:52-05:57/5	04:29	
	15:50		16:51	17:53		19:58		21:00		21:55	
6	08:46		08:03	06:56		06:34	07:15-07:51/36	05:19	05:50-05:57/7	04:28	
	15:52		16:53	17:55		20:00		21:03		21:56	
7	08:46		08:01	06:53		06:31	07:16-07:49/33	05:17	05:48-05:56/8	04:28	
	15:53		16:55	17:57		20:02		21:05		21:57	
8	08:45		07:58	06:51		06:28	07:17-07:45/28	05:15	05:46-05:56/10	04:27	
	15:55		16:58	17:59		20:04		21:07		21:58	
9	08:44		07:56	06:48		06:26	07:18-07:40/22	05:13	05:45-05:56/11	04:26	
	15:56		17:00	18:02		20:06		21:09		21:59	
10	08:44		07:54	06:46		06:23	07:19-07:38/19	05:11	05:45-05:56/11	04:25	
	15:58		17:02	18:04		20:08		21:11		22:00	
11	08:43		07:52	06:43		06:20	07:20-07:36/16	05:08	05:45-05:57/12	04:25	
	16:00		17:04	18:06		20:11		21:13		22:01	
12	08:42		07:50	06:40		06:18	07:23-07:33/10	05:06	05:45-05:57/12	04:24	
	16:01		17:07	18:08		20:13		21:15		22:02	
13	08:41		07:48	06:38		06:15		05:04	05:44-05:57/13	04:24	
	16:03		17:09	18:10		20:15		21:17		22:03	
14	08:40		07:45	06:35		06:13		05:02	05:44-05:57/13	04:23	
	16:05		17:11	18:12		20:17		21:18		22:04	
15	08:39		07:43	06:32		06:10		05:00	05:44-05:57/13	04:23	
	16:07		17:13	18:14		20:19		21:20		22:05	
16	08:38		07:41	06:30	06:57-07:05/8	06:07		04:59	05:44-05:58/14	04:23	
	16:09		17:16	18:16		20:21		21:22		22:05	
17	08:36		07:38	06:27	06:55-07:09/14	06:05		04:57	05:44-05:59/15	04:23	
	16:11		17:18	18:18		20:23		21:24		22:06	
18	08:35		07:36	06:24	06:52-07:10/18	06:02		04:55	05:44-05:59/15	04:23	
	16:12		17:20	18:21		20:25		21:26		22:06	
19	08:34		07:34	06:22	06:49-07:11/22	06:00		04:53	05:45-06:00/15	04:23	
	16:14		17:22	18:23		20:27		21:28		22:07	
20	08:33		07:31	06:19	06:47-07:12/25	05:57		04:51	05:45-06:01/16	04:23	
	16:16		17:24	18:25		20:29		21:30		22:07	
21	08:31		07:29	06:16	06:45-07:12/27	05:55		04:50	05:46-06:03/17	04:23	
	16:18		17:27	18:27		20:31		21:32		22:07	
22	08:30		07:26	06:14	06:41-07:12/31	05:52		04:48	05:45-06:04/19	04:23	
	16:20		17:29	18:29		20:33		21:33		22:08	
23	08:28		07:24	06:11	06:39-07:13/34	05:50		04:46	05:46-06:06/20	04:23	
	16:23		17:31	18:31		20:36		21:35		22:08	
24	08:27		07:21	06:08	06:36-07:13/37	05:47		04:45	05:47-06:10/23	04:23	
	16:25		17:33	18:33		20:38		21:37		22:08	
25	08:25		07:19	06:06	06:34-07:12/38	05:45		04:43	05:47-06:12/25	04:24	
	16:27		17:35	18:35		20:40		21:39		22:08	
26	08:23		07:16	06:03	06:30-07:11/41	05:42		04:42	05:48-06:12/24	04:24	
	16:29		17:38	18:37		20:42		21:40		22:08	
27	08:22		07:14	06:00	06:28-07:11/43	05:40	06:14-06:16/2	04:40	05:49-06:11/22	04:25	
	16:31		17:40	18:39		20:44	06:10-06:11/1	21:42		22:08	
28	08:20		07:11	05:58	06:25-07:10/45	05:38		04:39	05:50-06:11/21	04:25	
	16:33		17:42	18:41		20:46		21:44		22:08	
29	08:18			05:55	06:22-07:08/46	05:35		04:37	05:50-06:09/19	04:26	
	16:35			18:44		20:48		21:45		22:07	
30	08:16			06:52	07:20-08:07/47	05:33		04:36	05:51-06:09/18	04:26	
	16:38			19:46		20:50		21:47		22:07	
31	08:15			06:50	07:17-08:05/48			04:35	05:52-06:08/16		
	16:40			19:48				21:48			
Potential sun hours	235		265	365		425		507		528	
Sum of minutes with flicker	34		0	524		372		420		38	

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:

2026-02-Ecosoul-MEŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 1 - 1-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	July	August	September	October	November	December
1	04:27 22:07	05:13 05:55-06:07/12 21:26	06:14 07:20-07:33/13 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	04:28 22:06	05:14 05:55-06:07/12 21:24	06:16 07:18-07:35/17 20:10	07:16 18:49	07:22 16:32	08:23 15:42
3	04:29 22:06	05:16 05:55-06:06/11 21:22	06:18 07:16-07:37/21 20:07	07:18 18:46	07:24 16:30	08:24 15:41
4	04:30 22:05	05:18 05:56-06:06/10 21:20	06:20 07:15-07:38/23 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	04:31 22:04	05:20 05:56-06:06/10 21:18	06:22 07:13-07:44/31 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	04:32 22:04	05:22 05:58-06:07/9 21:15	06:24 07:12-07:46/34 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	04:33 22:03	05:24 06:00-06:07/7 21:13	06:26 07:11-07:47/36 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	04:34 22:02	05:26 06:01-06:06/5 21:11	06:28 07:10-07:48/38 19:54	07:28 18:33	07:35 16:19	08:32 15:37
9	04:35 06:06-06:10/4 22:01	05:28 06:03-06:07/4 21:09	06:30 07:10-07:49/39 19:51	07:30 18:31	07:37 16:17	08:34 11:08-11:12/4 15:37
10	04:36 06:04-06:12/8 22:00	05:30 06:05-06:07/2 21:06	06:32 07:09-07:49/40 19:48	07:33 18:28	07:39 16:15	08:35 11:07-11:15/8 15:36
11	04:38 06:02-06:14/12 21:59	05:32 06:07-06:08/1 21:04	06:34 07:09-07:52/43 19:46	07:35 18:25	07:41 16:13	08:36 11:05-11:17/12 15:36
12	04:39 06:01-06:15/14 21:58	05:34 21:02	06:36 07:09-07:55/46 19:43	07:37 18:23	07:43 16:11	08:37 11:05-11:18/13 15:36
13	04:40 06:01-06:17/16 21:57	05:36 21:00	06:38 07:09-07:57/48 19:40	07:39 18:20	07:45 16:09	08:39 11:05-11:19/14 15:35
14	04:42 06:00-06:18/18 21:56	05:38 20:57	06:40 07:11-07:58/47 19:38	07:41 18:18	07:47 16:07	08:40 11:05-11:20/15 15:35
15	04:43 05:59-06:18/19 21:54	05:40 20:55	06:42 07:13-07:59/46 19:35	07:43 18:15	07:50 16:05	08:41 11:05-11:21/16 15:35
16	04:45 05:59-06:20/21 21:53	05:42 06:23-06:24/1 20:52	06:44 07:15-07:59/44 19:32	07:45 18:13	07:52 16:04	08:42 11:05-11:22/17 15:35
17	04:46 05:58-06:20/22 21:52	05:44 20:50	06:46 07:17-08:00/43 19:29	07:47 18:10	07:54 16:02	08:43 11:05-11:23/18 15:35
18	04:48 05:57-06:21/24 21:50	05:46 20:48	06:48 07:21-08:00/39 19:27	07:49 18:07	07:56 16:00	08:44 11:05-11:24/19 15:35
19	04:49 05:57-06:22/25 21:49	05:48 20:45	06:50 07:21-08:00/39 19:24	07:51 18:05	07:58 15:59	08:44 11:05-11:23/18 15:36
20	04:51 05:56-06:19/23 21:47	05:50 20:43	06:52 07:23-07:59/36 19:21	07:53 18:02	08:00 15:57	08:45 11:06-11:24/18 15:36
21	04:53 05:56-06:16/20 21:46	05:52 20:40	06:54 07:25-07:59/34 19:19	07:56 18:00	08:02 15:55	08:46 11:06-11:25/19 15:36
22	04:54 05:56-06:14/18 21:44	05:54 20:38	06:56 07:27-07:58/31 19:16	07:58 17:58	08:04 15:54	08:46 11:06-11:25/19 15:37
23	04:56 05:56-06:13/17 21:42	05:56 20:35	06:58 07:30-07:57/27 19:13	08:00 17:55	08:06 15:52	08:47 11:07-11:26/19 15:37
24	04:58 05:55-06:11/16 21:41	05:58 20:33	07:00 07:31-07:56/25 19:11	08:02 17:53	08:08 15:51	08:47 11:08-11:26/18 15:38
25	05:00 05:55-06:11/16 21:39	06:00 20:30	07:02 07:33-07:54/21 19:08	08:04 17:50	08:10 15:50	08:48 11:08-11:26/18 15:38
26	05:01 05:55-06:10/15 21:37	06:02 20:28	07:04 07:35-07:53/18 19:05	07:06 16:48	08:12 15:48	08:48 11:08-11:27/19 15:39
27	05:03 05:54-06:09/15 21:35	06:04 20:25	07:06 07:37-07:50/13 19:02	07:09 16:46	08:14 15:47	08:48 11:09-11:27/18 15:40
28	05:05 05:55-06:09/14 21:34	06:06 20:23	07:08 07:39-07:46/7 19:00	07:11 16:43	08:16 15:46	08:48 11:10-11:27/17 15:41
29	05:07 05:55-06:08/13 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:18 15:45	08:48 11:11-11:27/16 15:42
30	05:09 05:54-06:07/13 21:30	06:10 20:17	07:12 18:54	07:15 16:39	08:19 15:44	08:48 11:12-11:27/15 15:43
31	05:11 05:55-06:07/12 21:28	06:12 07:24-07:30/6 20:15		07:17 16:36		08:48 11:13-11:27/14 15:44
Potential sun hours	529	470	385	324	248	216
Sum of minutes with flicker	375	90	899	0	0	364

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 2 - 2-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	07:16-07:38/22 07:48-08:05/17	05:31 20:52
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	07:16-07:38/22 07:51-08:03/12	05:28 20:54
3	08:47 15:48	08:09 16:46	07:04 17:49	06:41 19:54	07:16-07:37/21	05:26 20:56
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	07:15-07:36/21	05:24 20:58
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	07:16-07:36/20	05:21 21:00
6	08:46 15:52	08:03 16:53	06:56 17:55	06:34 20:00	07:17-07:34/17	05:19 21:02
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	07:18-07:33/15	05:17 21:04
8	08:45 15:55	07:58 16:58	06:51 17:59	06:28 20:04	07:19-07:31/12	05:15 21:06
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	07:24-07:25/1	05:13 21:08
10	08:43 15:58	07:54 17:02	06:45 18:04	06:23 20:08		06:11-06:21/10
11	08:43 16:00	07:52 17:04	06:43 18:06	06:20 20:10		06:13-06:22/9
12	08:42 16:01	07:50 17:07	06:40 18:08	06:18 20:13		06:15-06:24/9
13	08:41 16:03	07:47 17:09	06:38 18:10	06:15 20:15		06:16-06:25/9
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17		06:17-06:26/9
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19		06:18-06:26/8
16	08:38 16:09	07:41 17:15	06:30 18:16	06:07 20:21		06:20-06:28/8
17	08:36 16:10	07:38 17:18	06:27 18:18	06:05 20:23		06:20-06:28/8
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25		06:20-06:28/8
19	08:34 16:14	07:33 17:22	06:22 18:23	06:00 20:27		06:21-06:29/8
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29		06:22-06:29/7
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31		06:23-06:30/7
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:33		06:22-06:30/8
23	08:28 16:23	07:24 17:31	06:11 18:31	05:50 20:35		06:23-06:31/8
24	08:27 16:25	07:21 17:33	06:08 18:33	05:47 20:38		06:23-06:31/8
25	08:25 16:27	07:19 17:35	06:06 18:35	05:45 20:40		06:24-06:31/7
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42		06:24-06:32/8
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44		06:25-06:32/7
28	08:20 16:33	07:11 17:42	05:58 18:41	05:38 20:46		06:24-06:32/8
29	08:18 16:35		05:55 18:43	05:35 20:48		06:24-06:32/8
30	08:16 16:38		06:52 19:46	05:33 20:50		06:25-06:32/7
31	08:14 16:40		06:49 19:48	05:30 20:47		06:25-06:32/7
Potential sun hours	235	265	365	425	507	528
Sum of minutes with flicker	0	0	466	180	219	220

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

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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 2 - 2-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27 06:31-06:38/7 22:06	05:13 06:26-06:35/9 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	04:28 06:31-06:39/8 22:06	05:14 06:24-06:34/10 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:23 15:42
3	04:29 06:32-06:39/7 22:05	05:16 06:22-06:32/10 21:22	06:18 20:07	07:18 18:46	07:24 16:30	08:24 15:41
4	04:30 06:32-06:39/7 22:05	05:18 06:19-06:30/11 21:20	06:20 07:19-07:26/7 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	04:31 06:32-06:40/8 22:04	05:20 06:14-06:28/14 21:17	06:22 07:16-07:29/13 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	04:32 06:33-06:40/7 22:03	05:22 06:11-06:25/14 21:15	06:24 07:14-07:30/16 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	04:33 06:33-06:40/7 22:03	05:24 06:17-06:18/1 21:13	06:26 07:12-07:31/19 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	04:34 06:33-06:40/7 22:02	05:26 21:11	06:28 07:11-07:31/20 19:54	07:28 18:33	07:34 16:19	08:32 15:37
9	04:35 06:33-06:41/8 22:01	05:28 21:09	06:30 07:09-07:31/22 19:51	07:30 18:31	07:37 16:17	08:33 15:37
10	04:36 06:33-06:41/8 22:00	05:30 21:06	06:32 07:09-07:31/22 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	04:38 06:33-06:41/8 21:59	05:32 21:04	06:34 07:08-07:31/23 19:46	07:35 18:25	07:41 16:13	08:36 15:36
12	04:39 06:33-06:41/8 21:58	05:34 21:02	06:36 07:08-07:30/22 19:43	07:37 18:23	07:43 16:11	08:37 15:36
13	04:40 06:33-06:40/7 21:57	05:36 20:59	06:38 07:09-07:30/21 19:40	07:39 18:20	07:45 16:09	08:38 15:35
14	04:42 06:34-06:41/7 21:55	05:38 20:57	06:40 07:11-07:29/18 19:37	07:41 18:18	07:47 16:07	08:40 15:35
15	04:43 06:33-06:41/8 21:54	05:40 20:55	06:42 07:13-07:27/14 19:35	07:43 18:15	07:49 16:05	08:41 15:35
16	04:45 06:33-06:41/8 21:53	05:42 20:52	06:44 07:15-07:26/11 19:32	07:45 18:12	07:52 16:04	08:42 15:35
17	04:46 06:34-06:41/7 21:52	05:44 20:50	06:46 07:17-07:24/7 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	04:48 06:33-06:41/8 21:50	05:46 20:48	06:48 07:33-08:02/29 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	04:49 06:34-06:41/7 21:49	05:48 20:45	06:50 07:33-08:02/29 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	04:51 06:33-06:41/8 21:47	05:50 20:43	06:52 07:32-08:01/29 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	04:53 06:33-06:41/8 21:46	05:52 20:40	06:54 07:32-08:01/29 19:19	07:56 18:00	08:02 15:55	08:46 15:36
22	04:54 06:33-06:40/7 21:44	05:54 20:38	06:56 07:32-08:00/28 19:16	07:58 17:57	08:04 15:54	08:46 15:37
23	04:56 06:33-06:41/8 21:42	05:56 20:35	06:58 07:33-07:59/26 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	04:58 06:32-06:40/8 21:41	05:58 20:33	07:00 07:33-07:58/25 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	05:00 06:32-06:40/8 21:39	06:00 20:30	07:02 07:34-07:57/23 19:08	08:04 17:50	08:10 15:50	08:47 15:38
26	05:01 06:32-06:40/8 21:37	06:02 20:28	07:04 07:35-07:55/20 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	05:03 06:30-06:38/8 21:35	06:04 20:25	07:06 07:37-07:53/16 19:02	07:08 16:45	08:14 15:47	08:48 15:40
28	05:05 06:30-06:38/8 21:34	06:06 20:22	07:08 07:39-07:50/11 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	05:07 06:29-06:38/9 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	05:09 06:28-06:36/8 21:30	06:10 20:17	07:12 18:54	07:15 16:39	08:19 15:44	08:48 15:43
31	05:11 06:27-06:36/9 21:28	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	529	470	385	324	248	216
Sum of minutes with flicker	239	70	666	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 3 - 10-A

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:49	22:06	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:32	04:28	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:31	04:29	05:16	06:18	07:18	07:24	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:05	21:22	20:07	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:48	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:29	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:03	06:56	06:33	05:19	04:28	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:03	21:15	19:59	18:38	16:23	15:38
7	08:46	08:00	06:53	06:31	05:17	04:27	04:33	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:19	15:37
9	08:44	07:56	06:48	06:26	05:13	04:26	04:35	05:28	06:30	07:30	07:37	08:33
	15:56	17:00	18:01	20:06	21:08	21:59	22:01	21:09	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:39	08:35
	15:58	17:02	18:04	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:08	04:25	04:38	05:32	06:34	07:34	07:41	08:36
	15:59	17:04	18:06	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:37
	16:01	17:06	18:08	20:13	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:35
13	08:41	07:47	06:38	06:15	05:04	04:24	04:40	05:36	06:38	07:39	07:45	08:38
	16:03	17:09	18:10	20:15	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:42	05:38	06:40	07:41	07:47	08:40
	16:05	17:11	18:12	20:17	21:18	22:04	21:56	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49	08:41
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:05	15:35
16	08:38	07:41	06:30	06:07	04:58	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:04	15:35
17	08:36	07:38	06:27	06:05	04:57	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:10	17:18	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:22	04:48	05:46	06:48	07:49	07:56	08:43
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19	08:34	07:33	06:22	06:00	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
20	08:32	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:36
21	08:31	07:29	06:16	05:55	04:49	04:22	04:53	05:52	06:54	07:56	08:02	08:46
	16:18	17:27	18:27	20:31	21:32	22:07	21:46	20:40	19:19	18:00	15:55	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:54	05:54	06:56	07:58	08:04	08:46
	16:20	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:57	15:54	15:36
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:35	21:35	22:08	21:42	20:35	19:13	17:55	15:52	15:37
24	08:27	07:21	06:08	05:47	04:44	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:10	17:53	15:51	15:38
25	08:25	07:19	06:05	05:45	04:43	04:24	04:59	06:00	07:02	08:04	08:10	08:47
	16:27	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:38
26	08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	08:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	08:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:40
28	08:20	07:11	05:57	05:37	04:38	04:25	05:05	06:06	07:08	08:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:34	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	08:13	08:17	08:48
	16:35		18:43	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:41
30	08:16		06:52	05:33	04:36	04:26	05:09	06:10	07:12	08:15	08:19	08:48
	16:37		19:45	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:44	15:42
31	08:14		06:49		04:35		05:11	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:44
Potential sun hours	235	265	365	425	507	529	529	470	385	324	248	216
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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 4 - 15-A

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:30	04:33	04:27	05:12	06:14	07:14	07:19	08:21
	15:45	16:42	17:44	19:50	20:52	21:50	22:06	21:26	20:12	18:52	16:34	15:42
2	08:48	08:11	07:06	06:44	05:28	04:32	04:28	05:14	06:16	07:16	07:21	08:23
	15:46	16:44	17:46	19:52	20:54	21:51	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:31	04:29	05:16	06:18	07:18	07:24	08:24
	15:47	16:46	17:48	19:54	20:56	21:52	22:05	21:22	20:07	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:23	04:30	04:30	05:18	06:20	07:20	07:26	08:26
	15:49	16:48	17:51	19:56	20:58	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:29	04:31	05:20	06:22	07:22	07:28	08:28
	15:50	16:51	17:53	19:58	21:00	21:55	22:04	21:17	20:01	18:41	16:25	15:39
6	08:46	08:03	06:56	06:33	05:19	04:28	04:32	05:22	06:24	07:24	07:30	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:04	21:15	19:59	18:38	16:23	15:38
7	08:46	08:00	06:53	06:31	05:17	04:27	04:33	05:24	06:26	07:26	07:32	08:31
	15:53	16:55	17:57	20:02	21:04	21:57	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:02	21:11	19:53	18:33	16:19	15:37
9	08:44	07:56	06:48	06:25	05:13	04:26	04:35	05:28	06:30	07:30	07:37	08:33
	15:56	17:00	18:01	20:06	21:08	21:59	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:10	04:25	04:36	05:30	06:32	07:32	07:39	08:35
	15:58	17:02	18:03	20:08	21:10	22:00	22:00	21:06	19:48	18:28	16:15	15:36
11	08:43	07:52	06:43	06:20	05:08	04:25	04:37	05:32	06:34	07:34	07:41	08:36
	15:59	17:04	18:06	20:10	21:12	22:01	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:06	04:24	04:39	05:34	06:36	07:37	07:43	08:37
	16:01	17:06	18:08	20:13	21:14	22:02	21:58	21:02	19:43	18:23	16:11	15:35
13	08:41	07:47	06:38	06:15	05:04	04:24	04:40	05:36	06:38	07:39	07:45	08:39
	16:03	17:09	18:10	20:15	21:16	22:03	21:57	20:59	19:40	18:20	16:09	15:35
14	08:40	07:45	06:35	06:12	05:02	04:23	04:42	05:38	06:40	07:41	07:47	08:40
	16:05	17:11	18:12	20:17	21:18	22:04	21:56	20:57	19:37	18:17	16:07	15:35
15	08:39	07:43	06:32	06:10	05:00	04:23	04:43	05:40	06:42	07:43	07:49	08:41
	16:07	17:13	18:14	20:19	21:20	22:04	21:54	20:55	19:35	18:15	16:05	15:35
16	08:38	07:41	06:30	06:07	04:58	04:23	04:45	05:42	06:44	07:45	07:52	08:42
	16:08	17:15	18:16	20:21	21:22	22:05	21:53	20:52	19:32	18:12	16:04	15:35
17	08:36	07:38	06:27	06:05	04:56	04:23	04:46	05:44	06:46	07:47	07:54	08:43
	16:10	17:18	18:18	20:23	21:24	22:06	21:52	20:50	19:29	18:10	16:02	15:35
18	08:35	07:36	06:24	06:02	04:55	04:22	04:48	05:46	06:48	07:49	07:56	08:43
	16:12	17:20	18:20	20:25	21:26	22:06	21:50	20:48	19:27	18:07	16:00	15:35
19	08:34	07:33	06:22	06:00	04:53	04:22	04:49	05:48	06:50	07:51	07:58	08:44
	16:14	17:22	18:23	20:27	21:28	22:07	21:49	20:45	19:24	18:05	15:58	15:35
20	08:32	07:31	06:19	05:57	04:51	04:22	04:51	05:50	06:52	07:53	08:00	08:45
	16:16	17:24	18:25	20:29	21:30	22:07	21:47	20:43	19:21	18:02	15:57	15:36
21	08:31	07:29	06:16	05:55	04:49	04:22	04:53	05:52	06:54	07:56	08:02	08:46
	16:18	17:26	18:27	20:31	21:32	22:07	21:46	20:40	19:19	18:00	15:55	15:36
22	08:30	07:26	06:14	05:52	04:48	04:23	04:54	05:54	06:56	07:58	08:04	08:46
	16:20	17:29	18:29	20:33	21:33	22:07	21:44	20:38	19:16	17:57	15:54	15:36
23	08:28	07:24	06:11	05:50	04:46	04:23	04:56	05:56	06:58	08:00	08:06	08:47
	16:22	17:31	18:31	20:35	21:35	22:08	21:42	20:35	19:13	17:55	15:52	15:37
24	08:27	07:21	06:08	05:47	04:44	04:23	04:58	05:58	07:00	08:02	08:08	08:47
	16:24	17:33	18:33	20:38	21:37	22:08	21:41	20:33	19:10	17:53	15:51	15:38
25	08:25	07:19	06:05	05:45	04:43	04:23	04:59	06:00	07:02	08:04	08:10	08:48
	16:27	17:35	18:35	20:40	21:39	22:08	21:39	20:30	19:08	17:50	15:49	15:38
26	08:23	07:16	06:03	05:42	04:41	04:24	05:01	06:02	07:04	08:06	08:12	08:48
	16:29	17:38	18:37	20:42	21:40	22:08	21:37	20:28	19:05	16:48	15:48	15:39
27	08:22	07:14	06:00	05:40	04:40	04:24	05:03	06:04	07:06	08:08	08:14	08:48
	16:31	17:40	18:39	20:44	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:40
28	08:20	07:11	05:57	05:37	04:38	04:25	05:05	06:06	07:08	08:11	08:16	08:48
	16:33	17:42	18:41	20:46	21:43	22:07	21:34	20:22	19:00	16:43	15:46	15:41
29	08:18		05:55	05:35	04:37	04:26	05:07	06:08	07:10	08:13	08:17	08:48
	16:35		18:43	20:48	21:45	22:07	21:32	20:20	18:57	16:41	15:45	15:41
30	08:16		06:52	05:33	04:36	04:26	05:09	06:10	07:12	08:15	08:19	08:48
	16:37		19:45	20:50	21:47	22:07	21:30	20:17	18:54	16:38	15:43	15:42
31	08:14		06:49		04:35		05:10	06:12		07:17		08:48
	16:40		19:48		21:48		21:28	20:15		16:36		15:43
Potential sun hours	235	265	365	425	507	529	530	470	385	324	248	216
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

2026-02-Ecosoul-MEŽARES-VIPE

Skepast & Puhkim OÜ

EE-12919 Tallinn

Mihkel Lindpere / mihkel.lindpere@skpk.ee

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

Calculation: Real Case Curtailment WTG: 5 - 12-A

Assumptions for shadow calculations

2025

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

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

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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 6 - 18-A

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 13:57-14:30/33 15:45 12:48-12:50/2	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50
2	08:48 13:58-14:31/33 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51
3	08:48 13:58-14:31/33 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52
4	08:47 14:00-14:32/32 15:49	08:07 16:48	07:01 17:51	06:39 19:56	05:23 20:58	04:30 21:54
5	08:47 14:00-14:32/32 15:50	08:05 08:37-08:39/2 16:51	06:58 17:53	06:36 19:58	05:21 21:00	04:29 21:55
6	08:46 14:01-14:31/30 15:51	08:03 08:35-08:42/7 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56
7	08:46 14:02-14:31/29 15:53	08:01 08:33-08:44/11 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:27 21:57
8	08:45 14:03-14:31/28 15:54	07:58 08:30-08:44/14 16:57	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58
9	08:44 14:05-14:31/26 15:56	07:56 08:28-08:45/17 17:00	06:48 18:01	06:25 20:06	05:12 21:09	04:26 21:59
10	08:44 14:07-14:31/24 15:58	07:54 08:26-08:46/20 17:02	06:45 18:03	06:23 20:08	05:10 21:11	04:25 22:00
11	08:43 14:14-14:31/17 15:59	07:52 08:24-08:46/22 17:04	06:43 18:06	06:20 20:10	05:08 21:13	04:25 22:01
12	08:42 14:16-14:31/15 16:01	07:50 08:24-08:47/23 17:06	06:40 18:08	06:18 20:13	05:06 21:14	04:24 22:02
13	08:41 14:17-14:30/13 16:03	07:47 08:24-08:46/22 17:09	06:37 18:10	06:15 20:15	05:04 21:16	04:24 22:03
14	08:40 14:19-14:28/9 16:05	07:45 08:24-08:47/23 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04
15	08:39 14:23-14:26/3 16:06	07:43 08:24-08:46/22 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05
16	08:38 16:08	07:41 08:25-08:46/21 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:23 22:05
17	08:36 16:10	07:38 08:26-08:46/20 17:18	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06
18	08:35 16:12	07:36 08:27-08:44/17 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:22 22:06
19	08:34 16:14	07:33 08:27-08:42/15 17:22	06:22 18:22	06:00 20:27	04:53 21:28	04:22 22:07
20	08:32 16:16	07:31 08:30-08:40/10 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07
21	08:31 16:18	07:29 17:26	06:16 18:27	05:55 20:31	04:49 21:32	04:22 22:07
22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:48 21:33	04:23 22:08
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:08
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08
26	08:23 16:29	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07
30	08:16 16:37		06:52 19:45	05:33 20:50	04:36 21:47	04:26 22:07
31	08:14 16:39		06:49 19:48	04:34 21:48		
Potential sun hours	235	265	365	425	507	529
Sum of minutes with flicker	359	266	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 6 - 18-A

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:42
2	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:23 15:41
3	04:29 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:24 15:41
4	04:29 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	04:34 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:19	08:32 15:37
9	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:34 15:36
10	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:36
12	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:35
13	04:40 21:57	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	04:42 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:40 15:35
15	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	04:52 21:46	05:52 20:40	06:54 19:18	07:56 18:00	08:02 15:55	08:46 15:36
22	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
23	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	04:58 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	07:55-08:15/20 15:48	08:48 15:39
27	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	07:54-08:16/22 15:47	08:48 15:40
28	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	07:54-08:17/23 15:46	08:48 15:40
29	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	07:54-08:16/22 15:45	08:48 15:41
30	05:09 21:30	06:10 20:17	07:12 18:54	07:15 16:38	07:53-08:16/23 15:43	08:48 15:42
31	05:10 21:28	06:12 20:15		07:17 16:36	07:54-08:16/22	08:48 15:43
Potential sun hours	530	470	385	324	248	216
Sum of minutes with flicker	0	0	0	188	114	1260

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

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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 7 - 14-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:13 09:22-09:37/15 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50
2	08:48 15:46	08:11 09:23-09:39/16 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51
3	08:48 15:47	08:09 09:25-09:41/16 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52
4	08:47 09:29-09:30/1 15:49	08:07 09:26-09:44/18 16:48	07:01 17:51	06:39 19:56	05:23 20:58	04:30 21:54
5	08:47 09:28-09:29/1 15:50	08:05 09:29-09:39/10 16:51	06:59 17:53	06:36 19:58	05:21 21:00	04:29 21:55
6	08:46 09:27-09:29/2 15:52	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56
7	08:46 09:26-09:29/3 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:57
8	08:45 09:25-09:28/3 15:55	07:58 16:57	06:51 17:59	06:28 20:04	05:15 21:07	04:27 21:58
9	08:44 09:24-09:28/4 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:12 21:09	04:26 21:59
10	08:44 09:23-09:28/5 15:58	07:54 17:02	06:45 18:04	06:23 20:08	05:10 21:11	04:25 22:00
11	08:43 09:22-09:28/6 15:59	07:52 17:04	06:43 18:06	06:20 20:10	05:08 21:13	04:25 22:01
12	08:42 09:21-09:29/8 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:02
13	08:41 09:20-09:29/9 16:03	07:47 17:09	06:38 18:10	06:15 20:15	05:04 21:16	04:24 22:03
14	08:40 09:18-09:28/10 16:05	07:45 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04
15	08:39 09:18-09:29/11 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05
16	08:38 09:18-09:29/11 16:08	07:41 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:23 22:05
17	08:36 09:17-09:29/12 16:10	07:38 17:18	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06
18	08:35 09:18-09:28/10 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:22 22:06
19	08:34 09:17-09:29/12 16:14	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:22 22:07
20	08:33 09:17-09:29/12 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07
21	08:31 09:18-09:30/12 16:18	07:29 17:26	06:16 18:27	05:55 20:31	04:49 21:32	04:22 22:07
22	08:30 09:18-09:30/12 16:20	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:08
23	08:28 09:18-09:30/12 16:22	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08
24	08:27 09:18-09:30/12 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08
25	08:25 09:18-09:31/13 16:27	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08
26	08:23 09:18-09:31/13 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:22 09:18-09:32/14 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08
28	08:20 09:19-09:32/13 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08
29	08:18 09:19-09:33/14 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07
30	08:16 09:20-09:34/14 16:37		06:52 19:46	05:33 20:50	04:36 21:47	04:26 22:07
31	08:14 09:21-09:35/14 16:40		06:49 19:48		04:35 21:48	
Potential sun hours	235	265	365	425	507	529
Sum of minutes with flicker	263	75	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 7 - 14-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 09:03-09:10/7 15:42
2	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:23 09:05-09:11/6 15:41
3	04:29 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:24 09:07-09:12/5 15:41
4	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 09:09-09:13/4 15:40
5	04:31 22:04	05:20 21:17	06:22 20:02	07:22 18:41	07:28 16:25	08:28 09:11-09:14/3 15:39
6	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 09:00-09:07/7 16:23	08:29 09:12-09:14/2 15:38
7	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 08:58-09:13/15 16:21	08:31 09:14-09:16/2 15:38
8	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 08:56-09:12/16 16:19	08:32 09:16-09:17/1 15:37
9	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 08:54-09:10/16 16:17	08:34 09:17-09:18/1 15:37
10	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 08:54-09:09/15 16:15	08:35 15:36
11	04:37 21:59	05:32 21:04	06:34 19:45	07:35 18:25	07:41 08:52-09:07/15 16:13	08:36 15:36
12	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 08:53-09:07/14 16:11	08:37 15:35
13	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 08:52-09:06/14 16:09	08:39 15:35
14	04:42 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 08:51-09:05/14 16:07	08:40 15:35
15	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 08:52-09:05/13 16:05	08:41 15:35
16	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 08:51-09:05/14 16:03	08:42 15:35
17	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 08:52-09:05/13 16:02	08:43 15:35
18	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 08:52-09:05/13 16:00	08:44 15:35
19	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 08:52-09:04/12 15:58	08:44 15:35
20	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 08:53-09:05/12 15:57	08:45 09:29-09:30/1 15:36
21	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 08:53-09:05/12 15:55	08:46 09:30-09:31/1 15:36
22	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 08:53-09:05/12 15:54	08:46 09:30-09:31/1 15:36
23	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 08:53-09:05/12 15:52	08:47 09:31-09:32/1 15:37
24	04:58 21:41	05:58 20:33	07:00 19:10	08:02 17:53	08:08 08:55-09:06/11 15:51	08:47 09:31-09:32/1 15:37
25	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 08:55-09:07/12 15:49	08:48 15:38
26	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 08:56-09:07/11 15:48	08:48 15:39
27	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 08:57-09:08/11 15:47	08:48 15:40
28	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 08:57-09:08/11 15:46	08:48 15:41
29	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:17 08:59-09:09/10 15:45	08:48 15:41
30	05:09 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 09:01-09:09/8 15:43	08:48 15:42
31	05:10 21:28	06:12 20:15		07:17 16:36		08:48 15:43
Potential sun hours	530	470	385	324	248	216
Sum of minutes with flicker	0	0	0	0	313	36

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

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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 8 - 17-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:13 15:07-15:08/1 16:42	07:09 07:39-08:18/39 17:44	06:47 19:50	05:30 20:52	04:33 21:50
2	08:48 15:46	08:11 15:08-15:09/1 16:44	07:06 07:38-08:15/37 17:46	06:44 19:52	05:28 20:54	04:32 21:51
3	08:48 15:47	08:09 15:09-15:10/1 16:46	07:04 07:37-08:13/36 17:48	06:41 19:54	05:26 20:56	04:31 21:52
4	08:47 15:49	08:07 16:48	07:01 07:37-08:13/36 17:51	06:39 19:56	05:23 20:58	04:30 21:54
5	08:47 15:50	08:05 15:11-15:12/1 16:51	06:58 07:36-08:11/35 17:53	06:36 19:58	05:21 21:00	04:29 21:55
6	08:46 15:51	08:03 16:53	06:56 07:36-08:09/33 17:55	06:33 20:00	05:19 21:02	04:28 21:56
7	08:46 15:53	08:01 16:55	06:53 07:37-08:07/30 17:57	06:31 20:02	05:17 21:04	04:27 21:57
8	08:45 15:54	07:58 16:57	06:51 07:37-08:05/28 17:59	06:28 20:04	05:15 21:07	04:27 21:58
9	08:44 15:10-15:17/7 15:56	07:56 17:00	06:48 07:37-08:04/27 18:01	06:25 20:06	05:12 21:09	04:26 21:59
10	08:44 15:09-15:14/5 15:58	07:54 17:02	06:45 07:39-08:03/24 18:03	06:23 20:08	05:10 21:11	04:25 22:00
11	08:43 15:08-15:12/4 15:59	07:52 17:04	06:43 07:39-08:02/23 18:06	06:20 20:10	05:08 21:13	04:25 22:01
12	08:42 15:07-15:11/4 16:01	07:50 17:06	06:40 07:40-08:00/20 18:08	06:18 20:13	05:06 21:15	04:24 22:02
13	08:41 15:07-15:10/3 16:03	07:47 17:09	06:38 07:42-07:57/15 18:10	06:15 20:15	05:04 21:16	04:24 22:03
14	08:40 15:06-15:09/3 16:05	07:45 17:11	06:35 07:45-07:54/9 18:12	06:12 20:17	05:02 21:18	04:23 22:04
15	08:39 15:06-15:08/2 16:06	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05
16	08:38 15:05-15:07/2 16:08	07:41 08:11-08:13/2 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:23 22:05
17	08:36 15:05-15:07/2 16:10	07:38 08:09-08:17/8 17:18	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06
18	08:35 15:04-15:07/3 16:12	07:36 08:06-08:18/12 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:22 22:06
19	08:34 15:05-15:07/2 16:14	07:33 08:04-08:20/16 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:22 22:07
20	08:33 15:04-15:06/2 16:16	07:31 08:01-08:20/19 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07
21	08:31 15:04-15:06/2 16:18	07:29 07:58-08:20/22 17:26	06:16 18:27	05:55 20:31	04:49 21:32	04:22 22:07
22	08:30 15:05-15:07/2 16:20	07:26 07:56-08:21/25 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:22 22:08
23	08:28 15:04-15:06/2 16:22	07:24 07:53-08:21/28 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08
24	08:27 15:04-15:06/2 16:24	07:21 07:51-08:22/31 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08
25	08:25 15:04-15:06/2 16:26	07:19 07:48-08:21/33 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08
26	08:23 15:04-15:06/2 16:29	07:16 07:45-08:20/35 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:22 15:05-15:06/1 16:31	07:14 07:43-08:20/37 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08
28	08:20 15:05-15:06/1 16:33	07:11 07:40-08:18/38 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08
29	08:18 15:05-15:07/2 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07
30	08:16 15:06-15:07/1 16:37		06:52 19:45	05:33 20:50	04:36 21:47	04:26 22:07
31	08:14 15:06-15:08/2 16:39		06:49 19:48		04:34 21:48	
Potential sun hours	235	265	365	425	507	529
Sum of minutes with flicker	58	310	392	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 8 - 17-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27	05:12	06:14	07:14 08:22-08:37/15	07:19	08:21 14:49-14:53/4
	22:07	21:26	20:12	18:52	16:34	15:42
2	04:28	05:14	06:16	07:16 08:19-08:39/20	07:21	08:23 14:51-14:55/4
	22:06	21:24	20:09	18:49	16:32	15:41
3	04:29	05:16	06:18	07:18 08:17-08:40/23	07:24	08:24 15:01-15:02/1
	22:06	21:22	20:07	18:46	16:29	15:41 14:53-14:59/6
4	04:29	05:18	06:20	07:20 08:16-08:40/24	07:26	08:26 14:55-15:01/6
	22:05	21:20	20:04	18:44	16:27	15:40
5	04:30	05:20	06:22	07:22 08:14-08:41/27	07:28	08:28
	22:04	21:17	20:01	18:41	16:25	15:39
6	04:31	05:22	06:24	07:24 08:13-08:41/28	07:30	08:29
	22:04	21:15	19:59	18:38	16:23	15:38
7	04:33	05:24	06:26	07:26 08:12-08:42/30	07:32 14:40-14:41/1	08:31
	22:03	21:13	19:56	18:36	16:21	15:38
8	04:34	05:26	06:28	07:28 08:12-08:45/33	07:35	08:32
	22:02	21:11	19:53	18:33	16:19	15:37
9	04:35	05:28	06:30	07:30 08:12-08:46/34	07:37 14:39-14:40/1	08:34
	22:01	21:09	19:51	18:30	16:17	15:36
10	04:36	05:30	06:32	07:32 08:11-08:47/36	07:39 14:39-14:40/1	08:35
	22:00	21:06	19:48	18:28	16:15	15:36
11	04:37	05:32	06:34	07:34 08:11-08:47/36	07:41 14:38-14:39/1	08:36
	21:59	21:04	19:45	18:25	16:13	15:36
12	04:39	05:34	06:36	07:37 08:11-08:49/38	07:43 14:37-14:38/1	08:37
	21:58	21:02	19:43	18:23	16:11	15:35
13	04:40	05:36	06:38	07:39 08:11-08:50/39	07:45 14:38-14:39/1	08:39
	21:57	21:00	19:40	18:20	16:09	15:35
14	04:42	05:38	06:40	07:41 08:13-08:52/39	07:47 14:37-14:39/2	08:40
	21:56	20:57	19:37	18:17	16:07	15:35
15	04:43	05:40	06:42	07:43 08:15-08:52/37	07:50 14:38-14:39/1	08:41
	21:54	20:55	19:35	18:15	16:05	15:35
16	04:44	05:42	06:44	07:45 08:17-08:52/35	07:52 14:38-14:39/1	08:42 11:52-11:54/2
	21:53	20:52	19:32	18:12	16:03	15:35
17	04:46	05:44	06:46	07:47 08:19-08:52/33	07:54 14:37-14:39/2	08:43 11:52-11:54/2
	21:52	20:50	19:29	18:10	16:02	15:35
18	04:48	05:46	06:48	07:49 08:22-08:53/31	07:56 14:38-14:40/2	08:44 11:53-11:55/2
	21:50	20:48	19:27	18:07	16:00	15:35
19	04:49	05:48	06:50	07:51 08:24-08:53/29	07:58 14:38-14:40/2	08:44 11:52-11:54/2
	21:49	20:45	19:24	18:05	15:58	15:35
20	04:51	05:50	06:52	07:53 08:26-08:52/26	08:00 14:39-14:41/2	08:45 11:53-11:55/2
	21:47	20:43	19:21	18:02	15:57	15:36
21	04:52	05:52	06:54	07:56 08:28-08:51/23	08:02 14:40-14:42/2	08:46 11:54-11:56/2
	21:46	20:40	19:19	18:00	15:55	15:36
22	04:54	05:54	06:56	07:58 08:31-08:51/20	08:04 14:40-14:42/2	08:46 11:53-11:56/3
	21:44	20:38	19:16	17:57	15:54	15:36
23	04:56	05:56	06:58	08:00 08:33-08:50/17	08:06 14:41-14:43/2	08:47 11:55-11:57/2
	21:42	20:35	19:13	17:55	15:52	15:37
24	04:58	05:58	07:00	08:02 08:35-08:48/13	08:08 14:41-14:43/2	08:47 11:55-11:57/2
	21:41	20:33	19:10	17:52	15:51	15:37
25	04:59	06:00	07:02	08:04 08:38-08:47/9	08:10 14:43-14:45/2	08:48 11:55-11:57/2
	21:39	20:30	19:08	17:50	15:49	15:38
26	05:01	06:02	07:04	07:06 07:40-07:44/4	08:12 14:44-14:46/2	08:48 11:56-11:58/2
	21:37	20:28	19:05	16:48	15:48	15:39
27	05:03	06:04	07:06	07:08	08:14 14:44-14:47/3	08:48 11:57-11:58/1
	21:35	20:25	19:02	16:45	15:47	15:40
28	05:05	06:06	07:08	07:11	08:16 14:45-14:48/3	08:48 11:57-11:59/2
	21:34	20:22	19:00	16:43	15:46	15:40
29	05:07	06:08	07:10	07:13	08:17 14:46-14:49/3	08:48
	21:32	20:20	18:57	16:41	15:45	15:41
30	05:09	06:10	07:12 08:25-08:34/9	07:15	08:19 14:48-14:51/3	08:48
	21:30	20:17	18:54	16:38	15:43	15:42
31	05:10	06:12		07:17		08:48
	21:28	20:15		16:36		15:43
Potential sun hours	530	470	385	324	248	216
Sum of minutes with flicker	0	0	9	699	42	47

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

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

2026-02-Ecosoul-MEŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 9 - 24-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June
1	08:48 14:01-14:09/8 15:45	08:13 15:17-15:24/7 16:42	07:09 17:44	06:47 18:34-18:54/20 19:50	05:30 20:52	04:33 21:49
2	08:48 14:02-14:10/8 15:46	08:11 15:18-15:25/7 16:44	07:06 17:46	06:44 18:35-18:51/16 19:52	05:28 20:21-20:24/3 20:54	04:32 21:51
3	08:48 14:02-14:10/8 15:47	08:09 15:19-15:25/6 16:46	07:04 17:48	06:41 18:39-18:49/10 19:54	05:26 20:19-20:26/7 20:56	04:31 21:52
4	08:47 14:03-14:11/8 15:49	08:07 15:20-15:26/6 16:48	07:01 17:51	06:39 19:56	05:23 20:17-20:28/11 20:58	04:30 21:54
5	08:47 14:03-14:11/8 15:50	08:05 15:23-15:28/5 16:51	06:58 17:53	06:36 19:58	05:21 20:16-20:30/14 21:00	04:29 21:55
6	08:46 14:04-14:11/7 15:51	08:03 15:28-15:30/2 16:53	06:56 17:55	06:33 20:00	05:19 20:30-20:32/2 21:02	04:28 21:56
7	08:46 14:04-14:12/8 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 20:32-20:34/2 21:04	04:27 21:57
8	08:45 14:05-14:12/7 15:54	07:58 16:57	06:51 17:59	06:28 20:04	05:15 20:34-20:36/2 21:06	04:26 21:58
9	08:44 14:06-14:13/7 15:56	07:56 17:00	06:48 18:01	06:25 20:06	05:12 20:36-20:37/1 21:08	04:26 21:59
10	08:44 14:07-14:13/6 15:58	07:54 17:02	06:45 18:03	06:23 20:08	05:10 20:37-20:39/2 21:10	04:25 22:00
11	08:43 15:17-15:21/4 15:59 14:08-14:14/6	07:52 17:04	06:43 18:06	06:20 20:10	05:08 20:37-20:41/4 21:12	04:25 22:01
12	08:42 15:16-15:23/7 16:01 14:09-14:15/6	07:50 17:06	06:40 18:08	06:18 20:12	05:06 20:38-20:41/3 21:14	04:24 22:02
13	08:41 15:16-15:25/9 16:03 14:10-14:16/6	07:47 17:09	06:37 18:10	06:15 20:15	05:04 20:38-20:41/3 21:16	04:24 22:03
14	08:40 15:14-15:26/12 16:05 14:11-14:16/5	07:45 17:11	06:35 18:12	06:12 20:17	05:02 20:40-20:42/2 21:18	04:23 22:04
15	08:39 15:14-15:25/11 16:06 14:13-14:17/4	07:43 17:13	06:32 18:14	06:10 20:19	05:00 20:40-20:41/1 21:20	04:23 22:04
16	08:38 15:13-15:23/10 16:08 14:14-14:17/3	07:40 17:15	06:29 18:16	06:07 20:21	04:58 20:40-20:41/1 21:22	04:23 22:05
17	08:36 15:13-15:23/10 16:10 14:17-14:19/2	07:38 17:17	06:27 17:44-17:52/8 18:18	06:05 20:23	04:56 21:24	04:22 22:06
18	08:35 15:13-15:22/9 16:12	07:36 17:20	06:24 17:41-17:55/14 18:20	06:02 20:25	04:54 21:26	04:22 22:06
19	08:34 15:13-15:22/9 16:14	07:33 17:22	06:21 17:38-17:57/19 18:22	06:00 20:27	04:53 21:28	04:22 22:07
20	08:32 15:13-15:22/9 16:16	07:31 17:24	06:19 17:36-17:58/22 18:25	05:57 20:29	04:51 21:30	04:22 22:07
21	08:31 15:12-15:21/9 16:18	07:29 17:26	06:16 17:36-18:00/24 18:27	05:55 20:31	04:49 21:32	04:22 22:07
22	08:30 15:13-15:22/9 16:20	07:26 17:29	06:13 17:34-18:00/26 18:29	05:52 20:33	04:47 21:33	04:22 22:07
23	08:28 15:13-15:21/8 16:22	07:24 17:31	06:11 17:33-18:00/27 18:31	05:50 20:35	04:46 21:35	04:23 22:08
24	08:26 15:13-15:21/8 16:24	07:21 17:33	06:08 17:32-18:00/28 18:33	05:47 20:38	04:44 21:37	04:23 22:08
25	08:25 15:13-15:21/8 16:26	07:19 17:35	06:05 17:32-18:01/29 18:35	05:45 20:40	04:43 21:39	04:23 22:08
26	08:23 15:13-15:21/8 16:29	07:16 17:37	06:03 17:32-18:00/28 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:22 15:13-15:21/8 16:31	07:14 17:40	06:00 17:31-17:59/28 18:39	05:40 20:44	04:40 21:42	04:24 22:08
28	08:20 15:14-15:21/7 16:33	07:11 17:42	05:57 17:32-17:59/27 18:41	05:37 20:46	04:38 21:43	04:25 22:07
29	08:18 15:14-15:22/8 16:35		05:55 17:32-17:58/26 18:43	05:35 20:48	04:37 21:45	04:25 22:07
30	08:16 15:15-15:22/7 16:37		06:52 18:32-18:57/25 19:45	05:33 20:50	04:36 21:47	04:26 22:07
31	08:14 15:16-15:23/7 16:39		06:49 18:33-18:56/23 19:48		04:34 21:48	
Potential sun hours	235	265	365	425	507	529
Sum of minutes with flicker	284	33	354	46	65	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 9 - 24-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27 22:06	05:12 20:48-20:51/3 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 14:58-15:04/6 15:42 13:50-13:56/6
2	04:28 22:06	05:14 20:48-20:51/3 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:23 15:00-15:03/3 15:41 13:50-13:56/6
3	04:29 22:05	05:16 20:47-20:50/3 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:24 13:50-13:57/7 15:40
4	04:29 22:05	05:18 20:46-20:48/2 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 13:50-13:57/7 15:40
5	04:30 22:04	05:20 20:44-20:45/1 21:17 20:23-20:24/1	06:22 20:01	07:22 18:41	07:28 16:25	08:28 13:50-13:57/7 15:39
6	04:31 22:04	05:22 20:42-20:44/2 21:15 20:23-20:25/2	06:24 19:59	07:24 18:38	07:30 14:54-14:59/5 16:23	08:29 13:50-13:57/7 15:38
7	04:33 22:03	05:24 20:40-20:42/2 21:13 20:24-20:28/4	06:26 19:56	07:26 18:36	07:32 14:51-14:57/6 16:21	08:31 13:50-13:58/8 15:37
8	04:34 22:02	05:26 20:25-20:40/15 21:11	06:28 19:53	07:28 18:33	07:34 14:50-14:56/6 16:19	08:32 13:50-13:58/8 15:37
9	04:35 22:01	05:28 20:26-20:38/12 21:09	06:30 18:37-18:38/1 19:51	07:30 18:30	07:37 14:49-14:55/6 16:17	08:33 13:51-13:58/7 15:36
10	04:36 22:00	05:30 20:28-20:36/8 21:06	06:32 18:31-18:43/12 19:48	07:32 18:28	07:39 14:48-14:55/7 16:15	08:35 13:50-13:58/8 15:36
11	04:37 21:59	05:32 20:29-20:33/4 21:04	06:34 18:28-18:45/17 19:45	07:34 18:25	07:41 14:47-14:54/7 16:13	08:36 13:51-13:59/8 15:36
12	04:39 21:58	05:34 21:02	06:36 18:26-18:47/21 19:43	07:36 18:23	07:43 14:46-14:54/8 16:11	08:37 13:51-14:00/9 15:35
13	04:40 21:57	05:36 20:59	06:38 18:24-18:48/24 19:40	07:39 18:20	07:45 14:47-14:54/7 16:09	08:38 13:51-14:00/9 15:35
14	04:41 21:56	05:38 20:57	06:40 18:23-18:48/25 19:37	07:41 18:17	07:47 14:46-14:54/8 16:07	08:40 13:53-14:01/8 15:35
15	04:43 21:54	05:40 20:55	06:42 18:22-18:49/27 19:35	07:43 18:15	07:49 14:47-14:54/7 16:05	08:41 13:53-14:01/8 15:35
16	04:44 21:53	05:42 20:52	06:44 18:21-18:49/28 19:32	07:45 18:12	07:52 14:46-14:54/8 16:03	08:42 13:53-14:02/9 15:35
17	04:46 21:52	05:44 20:50	06:46 18:21-18:49/28 19:29	07:47 18:10	07:54 14:46-14:54/8 16:02	08:43 13:54-14:02/8 15:35
18	04:48 21:50	05:46 20:47	06:48 18:20-18:48/28 19:27	07:49 18:07	07:56 14:47-14:55/8 16:00	08:43 13:54-14:03/9 15:35
19	04:49 21:49	05:48 20:45	06:50 18:20-18:48/28 19:24	07:51 18:05	07:58 14:47-14:55/8 15:58	08:44 13:54-14:03/9 15:35
20	04:51 21:47	05:50 20:43	06:52 18:20-18:48/28 19:21	07:53 18:02	08:00 14:47-14:56/9 15:57	08:45 13:55-14:04/9 15:36
21	04:52 21:46	05:52 20:40	06:54 18:19-18:46/27 19:18	07:55 18:00	08:02 14:48-14:57/9 15:55	08:46 13:56-14:04/8 15:36
22	04:54 21:44	05:54 20:38	06:56 18:19-18:45/26 19:16	07:58 17:57	08:04 14:49-14:57/8 15:54	08:46 13:56-14:04/8 15:36
23	04:56 21:42	05:56 20:35	06:58 18:19-18:44/25 19:13	08:00 17:55	08:06 14:49-14:58/9 15:52	08:47 13:56-14:04/8 15:37
24	04:58 21:41	05:58 20:33	07:00 18:20-18:42/22 19:10	08:02 17:52	08:08 14:50-14:59/9 15:51	08:47 13:57-14:06/9 15:37
25	04:59 21:39	06:00 20:30	07:02 18:21-18:39/18 19:08	08:04 17:50	08:10 14:51-15:01/10 15:49	08:48 13:57-14:06/9 15:38
26	05:01 21:37	06:02 20:27	07:04 18:23-18:36/13 19:05	08:06 16:48	08:12 14:52-15:02/10 15:48	08:48 13:57-14:06/9 15:39
27	05:03 20:51-20:52/1 21:35	06:04 20:25	07:06 18:26-18:34/8 19:02	08:08 16:45	08:14 14:53-15:03/10 15:47	08:48 13:58-14:06/8 15:40
28	05:05 20:51-20:52/1 21:34	06:06 20:22	07:08 19:00	08:11 16:43	08:16 14:54-15:05/11 15:46	08:48 13:58-14:07/9 15:40
29	05:07 20:50-20:52/2 21:32	06:08 20:20	07:10 18:57	08:13 16:41	08:17 14:55-15:07/12 15:44	08:48 13:59-14:08/9 15:41
30	05:08 20:50-20:52/2 21:30	06:10 20:17	07:12 18:54	08:15 16:38	08:19 14:56-15:05/9 15:43	08:48 14:00-14:08/8 15:42
31	05:10 20:50-20:52/2 21:28	06:12 20:15		08:17 16:36	15:43 13:50-13:56/6	08:48 14:00-14:09/9 15:43
Potential sun hours	530	470	385	324	248	216
Sum of minutes with flicker	8	62	406	0	226	260

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 10 - 21-B

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:13 08:46-09:14/28 16:42	07:09 16:23-16:28/5 17:44	06:47 19:50	05:30 20:52	04:33 21:50
2	08:48 15:46	08:11 08:55-09:14/19 16:44 08:44-08:50/6	07:06 16:22-16:27/5 17:46	06:44 19:52	05:28 20:54	04:32 21:51
3	08:48 15:47	08:09 09:00-09:15/15 16:46 08:42-08:46/4	07:04 16:20-16:25/5 17:48	06:41 19:54	05:26 20:56	04:31 21:52
4	08:47 15:49	08:07 09:01-09:14/13 16:48 08:40-08:43/3	07:01 16:18-16:22/4 17:51	06:39 19:56	05:23 20:58	04:30 21:54
5	08:47 15:50	08:05 08:39-08:42/3 16:51 09:04-09:14/10	06:58 16:16-16:19/3 17:53	06:36 19:58	05:21 21:00	04:29 21:55
6	08:46 15:51	08:03 08:40-08:41/1 16:53 09:05-09:14/9	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56
7	08:46 15:53	08:00 09:07-09:13/6 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:27 21:57
8	08:45 15:54	07:58 16:18-16:20/2 16:57 09:07-09:12/5	06:51 17:59	06:28 20:04	05:14 21:06	04:26 21:58
9	08:44 15:56	07:56 16:20-16:24/4 16:59 09:08-09:11/3	06:48 18:01	06:25 20:06	05:12 21:08	04:26 21:59
10	08:44 15:58	07:54 16:21-16:25/4 17:02	06:45 18:03	06:23 20:08	05:10 21:10	04:25 22:00
11	08:43 15:59	07:52 16:23-16:27/4 17:04	06:43 18:06	06:20 20:10	05:08 21:12	04:24 22:01
12	08:42 16:01	07:50 16:24-16:29/5 17:06	06:40 18:08	06:18 20:12	05:06 21:14	04:24 22:02
13	08:41 16:03	07:47 16:25-16:30/5 17:08	06:37 18:10	06:15 20:15	05:04 21:16	04:23 22:03
14	08:40 16:05	07:45 16:26-16:31/5 17:11	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04
15	08:39 16:06	07:43 16:26-16:32/6 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:04
16	08:38 16:08	07:40 16:27-16:33/6 17:15	06:29 18:16	06:07 20:21	04:58 21:22	04:22 22:05
17	08:36 16:10	07:38 16:27-16:33/6 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06
18	08:35 16:12	07:36 16:28-16:34/6 17:20	06:24 18:20	06:02 20:25	04:54 21:26	04:22 22:06
19	08:34 16:14	07:33 16:28-16:33/5 17:22	06:21 18:22	06:00 20:27	04:53 21:28	04:22 22:07
20	08:32 16:16	07:31 16:28-16:34/6 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07
21	08:31 16:18	07:29 16:28-16:34/6 17:26	06:16 18:27	05:54 20:31	04:49 21:32	04:22 22:07
22	08:30 16:20	07:26 16:28-16:34/6 17:29	06:13 18:29	05:52 20:33	04:47 21:33	04:22 22:08
23	08:28 16:22	07:24 16:28-16:33/5 17:31	06:11 18:31	05:49 20:35	04:46 21:35	04:23 22:08
24	08:27 09:02-09:07/5 16:24	07:21 16:27-16:33/6 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08
25	08:25 09:00-09:08/8 16:26	07:19 16:27-16:33/6 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08
26	08:23 08:58-09:09/11 16:29	07:16 16:26-16:32/6 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:22 08:56-09:11/15 16:31	07:14 16:26-16:31/5 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08
28	08:20 08:54-09:11/17 16:33	07:11 16:24-16:30/6 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07
29	08:18 08:52-09:12/20 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07
30	08:16 08:50-09:13/23 16:37		06:52 19:45	05:33 20:50	04:36 21:47	04:26 22:07
31	08:14 08:48-09:13/25 16:39		06:49 19:47		04:34 21:48	
Potential sun hours	235	265	365	425	507	529
Sum of minutes with flicker	124	235	22	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 10 - 21-B

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	July	August	September	October	November	December
1	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:42
2	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:31	08:23 15:41
3	04:28 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:24 15:40
4	04:29 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	04:31 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	04:32 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:37
8	04:34 22:02	05:26 21:11	06:28 19:53	07:28 18:33	07:34 16:19	08:32 15:37
9	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:33 15:36
10	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	07:41 16:13	08:36 15:36
12	04:39 21:58	05:34 21:02	06:36 19:43	07:36 18:23	07:43 16:11	08:37 15:35
13	04:40 21:57	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	04:41 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:40 15:35
15	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:49 16:05	08:41 15:35
16	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03	08:42 15:35
17	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	04:47 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:35
21	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:46 15:36
22	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
23	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	04:58 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:48 15:38
26	05:01 21:37	06:02 20:27	07:04 19:05	08:06 17:48	08:12 15:48	08:48 15:39
27	05:03 21:35	06:04 20:25	07:06 19:02	08:08 17:45	08:14 15:47	08:48 15:39
28	05:05 21:34	06:06 20:22	07:08 19:00	08:11 17:43	08:16 15:46	08:48 15:40
29	05:07 21:32	06:08 20:20	07:10 18:57	08:13 17:41	08:17 15:44	08:48 15:41
30	05:08 21:30	06:10 20:17	07:12 18:54	08:15 17:38	08:19 15:43	08:48 15:42
31	05:10 21:28	06:12 20:15	07:14 18:52	08:17 17:36	08:21 15:41	08:48 15:43
Potential sun hours	530	470	385	324	248	216
Sum of minutes with flicker	0	0	0	126	265	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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 11 - 22-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January			February			March			April			May			June		
1	08:48	14:29-14:42/13		08:12	14:31-14:48/17		07:09			06:47	18:49-19:14/25		05:30	19:44-20:13/29		04:33		
	15:45	12:20-12:21/1		16:42	08:46-09:09/23		17:44			19:50			20:52			21:49		
2	08:48	14:30-14:43/13		08:11	14:29-14:46/17		07:06			06:44	18:49-19:13/24		05:28	19:44-20:13/29		04:32		
	15:46			16:44	08:46-09:10/24		17:46			19:52			20:54			21:51		
3	08:48	14:30-14:43/13		08:09	14:28-14:43/15		07:04			06:41	18:50-19:13/23		05:26	19:44-20:13/29		04:31		
	15:47			16:46	08:46-09:11/25		17:48			19:54			20:56			21:52		
4	08:47	14:31-14:45/14		08:07	14:33-14:39/6		07:01			06:39	18:50-19:11/21		05:23	19:44-20:13/29		04:30		
	15:49			16:48	08:45-09:10/25		17:50			19:56			20:58			21:54		
5	08:47	14:32-14:45/13		08:05	08:46-09:11/25		06:58			06:36	18:50-19:10/20		05:21	19:45-20:12/27		04:29		
	15:50			16:51			17:53			19:58			21:00			21:55		
6	08:46	14:32-14:45/13		08:03	08:46-09:11/25		06:56			06:33	18:52-19:08/16		05:19	19:45-20:12/27		04:28		
	15:51			16:53			17:55			20:00			21:02			21:56		
7	08:46	14:32-14:46/14		08:00	08:47-09:12/25		06:53			06:31	18:54-19:05/11		05:17	19:46-20:11/25		04:27		
	15:53			16:55			17:57			20:02			21:04			21:57		
8	08:45	14:33-14:46/13		07:58	08:46-09:11/25		06:51			06:28			05:14	19:46-20:11/25		04:26		
	15:54			16:57			17:59			20:04			21:06			21:58		
9	08:44	14:33-14:47/14		07:56	08:47-09:11/24		06:48			06:25			05:12	19:47-20:10/23		04:26		
	15:56			16:59			18:01			20:06			21:08			21:59		
10	08:43	14:34-14:48/14		07:54	08:48-09:10/22		06:45			06:23			05:10	19:48-20:09/21		04:25		
	15:58			17:02			18:03			20:08			21:10			22:00		
11	08:43	14:35-14:48/13		07:52	08:48-09:09/21		06:43			06:20			05:08	19:49-20:07/18		04:24		
	15:59			17:04			18:06			20:10			21:12			22:01		
12	08:42	14:35-14:49/14		07:50	08:50-09:08/18		06:40			06:18			05:06	19:50-20:06/16		04:24		
	16:01			17:06			18:08			20:12			21:14			22:02		
13	08:41	14:36-14:50/14		07:47	08:51-09:06/15		06:37			06:15			05:04	19:52-20:04/12		04:23		
	16:03			17:08			18:10			20:15			21:16			22:03		
14	08:40	14:36-14:50/14		07:45	08:53-09:05/12		06:35			06:12			05:02	19:55-20:02/7		04:23		
	16:05			17:11			18:12			20:17			21:18			22:04		
15	08:39	14:36-14:51/15		07:43			06:32			06:10			05:00			04:23		
	16:06			17:13			18:14			20:19			21:20			22:04		
16	08:38	14:36-14:50/14		07:40			06:29			06:07			04:58			04:22		
	16:08			17:15			18:16			20:21			21:22			22:05		
17	08:36	14:37-14:51/14		07:38			06:27			06:05			04:56			04:22		
	16:10			17:17			18:18			20:23			21:24			22:06		
18	08:35	14:37-14:51/14		07:36			06:24			06:02			04:54			04:22		
	16:12			17:20			18:20			20:25			21:26			22:06		
19	08:34	14:38-14:52/14		07:33			06:21			06:00			04:53			04:22		
	16:14			17:22			18:22			20:27			21:28			22:07		
20	08:32	14:37-14:52/15		07:31			06:19			05:57			04:51			04:22		
	16:16			17:24			18:24			20:29			21:30			22:07		
21	08:31	14:37-14:52/15		07:29			06:16			05:54	19:58-20:03/5		04:49			04:22		
	16:18			17:26			18:27			20:31			21:31			22:07		
22	08:30	14:38-14:53/15		07:26			06:13			05:52	19:54-20:05/11		04:47			04:22		
	16:20			17:29			18:29			20:33			21:33			22:07		
23	08:28	14:38-14:52/14		07:24			06:11	18:01-18:05/4		05:49	19:51-20:07/16		04:46			04:23		
	16:22			17:31			18:31			20:35			21:35			22:08		
24	08:26	14:37-14:52/15		07:21			06:08	17:57-18:07/10		05:47	19:50-20:09/19		04:44			04:23		
	16:24			17:33			18:33			20:37			21:37			22:08		
25	08:25	14:37-14:52/15		07:19			06:05	17:55-18:09/14		05:45	19:49-20:11/22		04:43			04:23		
	16:26			17:35			18:35			20:40			21:38			22:08		
26	08:23	14:36-14:52/16		07:16			06:03	17:53-18:11/18		05:42	19:47-20:12/25		04:41			04:24		
	16:28	08:58-08:59/1		17:37			18:37			20:42			21:40			22:08		
27	08:22	14:36-14:51/15		07:14			06:00	17:52-18:13/21		05:40	19:46-20:12/26		04:40			04:24		
	16:31	08:56-09:02/6		17:40			18:39			20:44			21:42			22:08		
28	08:20	14:35-14:51/16		07:11			05:57	17:51-18:15/24		05:37	19:46-20:13/27		04:38			04:25		
	16:33	08:54-09:04/10		17:42			18:41			20:46			21:43			22:07		
29	08:18	14:35-14:50/15					05:55	17:50-18:15/25		05:35	19:45-20:13/28		04:37			04:25		
	16:35	08:52-09:06/14					18:43			20:48			21:45			22:07		
30	08:16	14:34-14:50/16					06:52	18:49-19:15/26		05:33	19:44-20:13/29		04:36			04:26		
	16:37	08:50-09:07/17					19:45			20:50			21:47			22:07		
31	08:14	14:33-14:49/16					06:49	18:50-19:15/25					04:34					
	16:39	08:48-09:08/20					19:47						21:48					
Potential sun hours	235			265			365			425			507			529		
Sum of minutes with flicker		512		364			167			348			317			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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 11 - 22-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	July	August	September	October	November	December
1	04:27 22:06	05:12 20:00-20:16/16 21:26	06:14 20:12	07:14 18:51	07:19 08:17-08:39/22 16:34	08:21 14:17-14:30/13 15:42
2	04:28 22:06	05:14 19:59-20:18/19 21:24	06:16 20:09	07:16 18:49	07:21 08:16-08:39/23 16:31	08:23 14:17-14:31/14 15:41
3	04:28 22:05	05:16 19:58-20:19/21 21:22	06:18 20:07	07:18 18:46	07:24 08:16-08:41/25 16:29	08:24 14:17-14:31/14 15:40
4	04:29 22:05	05:18 19:57-20:20/23 21:19	06:20 20:04	07:20 18:43	07:26 08:16-08:40/24 16:27	08:26 14:18-14:31/13 15:40
5	04:30 22:04	05:20 19:56-20:20/24 21:17	06:22 18:53-19:00/7 20:01	07:22 18:41	07:28 08:16-08:41/25 16:25	08:28 14:17-14:31/14 15:39
6	04:31 22:03	05:22 19:55-20:21/26 21:15	06:24 18:49-19:03/14 19:59	07:24 18:38	07:30 08:16-08:41/25 16:23	08:29 14:18-14:31/13 15:38
7	04:32 22:03	05:24 19:55-20:21/26 21:13	06:26 18:47-19:04/17 19:56	07:26 18:36	07:32 08:15-08:41/26 16:21	08:31 14:19-14:32/13 15:37
8	04:34 22:02	05:26 19:54-20:22/28 21:11	06:28 18:45-19:05/20 19:53	07:28 18:33	07:34 14:01-14:12/11 16:19 08:16-08:41/25	08:32 14:18-14:32/14 15:37
9	04:35 22:01	05:28 19:54-20:22/28 21:09	06:30 18:44-19:06/22 19:51	07:30 18:30	07:37 13:58-14:15/17 16:17 08:16-08:40/24	08:33 14:19-14:32/13 15:36
10	04:36 22:00	05:30 19:53-20:21/28 21:06	06:32 18:43-19:06/23 19:48	07:32 18:28	07:39 14:01-14:18/17 16:15 08:17-08:41/24	08:35 14:19-14:32/13 15:36
11	04:37 21:59	05:32 19:53-20:22/29 21:04	06:34 18:42-19:07/25 19:45	07:34 18:25	07:41 14:03-14:19/16 16:13 08:18-08:40/22	08:36 14:20-14:33/13 15:36
12	04:39 21:58	05:34 19:53-20:22/29 21:02	06:36 18:41-19:07/26 19:43	07:36 18:22	07:43 14:04-14:20/16 16:11 08:21-08:40/19	08:37 14:20-14:33/13 15:35
13	04:40 21:57	05:36 19:53-20:21/28 20:59	06:38 18:41-19:06/25 19:40	07:39 18:20	07:45 14:06-14:22/16 16:09 08:23-08:39/16	08:38 14:20-14:33/13 15:35
14	04:41 21:56	05:38 19:53-20:21/28 20:57	06:40 18:41-19:06/25 19:37	07:41 18:17	07:47 14:07-14:23/16 16:07 08:25-08:37/12	08:40 14:21-14:34/13 15:35
15	04:43 21:54	05:40 19:53-20:21/28 20:55	06:42 18:41-19:05/24 19:35	07:43 18:15	07:49 14:09-14:24/15 16:05 08:28-08:37/9	08:41 14:21-14:34/13 15:35
16	04:44 21:53	05:42 19:54-20:20/26 20:52	06:44 18:41-19:04/23 19:32	07:45 18:12	07:52 14:09-14:24/15 16:03 08:30-08:34/4	08:42 14:21-14:34/13 15:35
17	04:46 21:52	05:44 19:53-20:19/26 20:50	06:46 18:41-19:02/21 19:29	07:47 18:10	07:54 14:10-14:25/15 16:02	08:43 14:22-14:35/13 15:35
18	04:47 21:50	05:46 19:54-20:18/24 20:47	06:48 18:42-18:59/17 19:27	07:49 18:07	07:56 14:11-14:26/15 16:00	08:43 14:21-14:34/13 15:35
19	04:49 21:49	05:48 19:55-20:15/20 20:45	06:50 18:42-18:55/13 19:24	07:51 18:05	07:58 14:11-14:26/15 15:58	08:44 14:22-14:35/13 15:35
20	04:51 21:47	05:50 19:56-20:13/17 20:43	06:52 18:44-18:53/9 19:21	07:53 18:02	08:00 14:12-14:27/15 15:57	08:45 14:23-14:35/12 15:35
21	04:52 21:46	05:52 19:58-20:11/13 20:40	06:54 18:47-18:50/3 19:18	07:55 18:00	08:02 14:13-14:28/15 15:55	08:46 14:24-14:36/12 15:36
22	04:54 21:44	05:54 20:01-20:09/8 20:38	06:56 19:16	07:58 17:57	08:04 14:13-14:28/15 15:54	08:46 14:24-14:36/12 15:36
23	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 14:14-14:28/14 15:52	08:47 14:24-14:36/12 15:37
24	04:58 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 14:14-14:28/14 15:51	08:47 14:25-14:37/12 15:37
25	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 14:15-14:29/14 15:49	08:47 14:25-14:38/13 15:38
26	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:48	08:12 14:15-14:30/15 15:48	08:48 14:25-14:38/13 15:39
27	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 14:16-14:30/14 15:47	08:48 14:26-14:39/13 15:39
28	05:05 21:33	06:06 20:22	07:08 19:00	07:10 08:24-08:33/9 16:43	08:16 14:16-14:30/14 15:46	08:48 14:27-14:39/12 15:40
29	05:07 21:32	06:08 20:20	07:10 18:57	07:13 08:21-08:36/15 16:41	08:17 14:16-14:30/14 15:44	08:48 14:27-14:40/13 15:41
30	05:08 20:06-20:11/5 21:30	06:10 20:17	07:12 18:54	07:15 08:19-08:37/18 16:38	08:19 14:16-14:30/14 15:43	08:48 14:28-14:41/13 15:42
31	05:10 20:03-20:15/12 21:28	06:12 20:15		07:17 08:19-08:39/20 16:36		08:48 14:29-14:42/13 15:43
Potential sun hours	530	470	385	324	248	216
Sum of minutes with flicker	17	515	314	62	667	423

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:

2026-02-Ecosoul-MEŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 12 - 20-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:12 16:42	07:09 17:44	06:47 19:50	18:47-19:01/14 20:52	05:30 21:49
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	18:46-18:59/13 20:54	04:32 21:51
3	08:47 15:47	08:09 16:46	07:04 17:48	06:41 19:54	18:46-18:58/12 20:56	04:31 21:52
4	08:47 15:49	08:07 16:48	07:01 17:51	06:39 19:56	18:45-18:57/12 20:58	05:23 21:54
5	08:47 15:50	08:05 16:51	06:58 17:53	06:36 19:58	18:44-18:55/11 21:00	05:21 21:55
6	08:46 15:51	08:03 16:53	06:56 17:55	06:33 20:00	18:44-18:55/11 21:02	05:19 21:56
7	08:46 15:53	08:00 16:55	06:53 17:57	06:31 20:02	18:44-18:54/10 21:04	05:17 21:57
8	08:45 15:54	07:58 16:57	06:51 17:59	06:28 20:04	18:45-18:54/9 21:06	05:15 21:58
9	08:44 15:56	07:56 17:00	06:48 18:01	06:25 20:06	18:44-18:53/9 21:08	05:12 21:59
10	08:43 15:58	07:54 17:02	06:45 18:03	06:23 20:08	18:45-18:54/9 21:10	05:10 22:00
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:10	18:45-18:53/8 21:12	05:08 22:01
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:12	18:46-18:53/7 21:14	05:06 22:02
13	08:41 16:03	07:47 17:09	06:37 18:10	06:15 20:15	18:47-18:54/7 21:16	05:04 22:03
14	08:40 16:05	07:45 17:11	06:35 18:12	06:12 20:17	18:48-18:54/6 21:18	05:02 22:04
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	18:51-18:55/4 21:20	05:00 22:04
16	08:37 16:08	07:40 17:15	06:29 18:16	06:07 20:21	18:54-18:55/1 21:22	04:58 22:05
17	08:36 16:10	07:38 17:17	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:22 22:06
19	08:34 16:14	07:33 17:22	06:21 18:22	06:00 20:27	04:53 21:28	04:22 22:07
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07
21	08:31 16:18	07:29 17:26	06:16 18:27	05:55 20:31	04:49 21:31	04:22 22:07
22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:48 21:33	04:22 22:07
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:08
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:37	04:44 21:37	04:23 22:08
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:38	04:23 22:08
26	08:23 16:29	07:16 17:37	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07
30	08:16 16:37		06:52 19:45	05:33 20:50	04:36 21:46	04:26 22:07
31	08:14 16:39		06:49 19:47		04:34 21:48	
Potential sun hours	235	265	365	425	507	529
Sum of minutes with flicker	0	0	98	143	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 12 - 20-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27 22:06	05:12 21:26	06:14 20:12	18:45-18:53/8 18:52	07:14 16:34	08:21 15:42
2	04:28 22:06	05:14 21:24	06:16 20:09	18:44-18:52/8 18:49	07:16 16:32	08:23 15:41
3	04:29 22:05	05:16 21:22	06:18 20:07	18:43-18:52/9 18:46	07:18 16:29	08:24 15:40
4	04:29 22:05	05:18 21:19	06:20 20:04	18:42-18:51/9 18:44	07:20 16:27	08:26 15:40
5	04:30 22:04	05:20 21:17	06:22 20:01	18:40-18:50/10 18:41	07:22 16:25	08:28 15:39
6	04:31 22:03	05:22 21:15	06:24 19:59	18:40-18:50/10 18:38	07:24 16:23	08:29 15:38
7	04:33 22:03	05:24 21:13	06:26 19:56	18:40-18:50/10 18:36	07:26 16:21	08:31 15:38
8	04:34 22:02	05:26 21:11	06:28 19:53	18:39-18:51/12 18:33	07:28 16:19	08:32 15:37
9	04:35 22:01	05:28 21:09	06:30 19:51	18:39-18:51/12 18:30	07:30 16:17	08:33 15:36
10	04:36 22:00	05:30 21:06	06:32 19:48	18:39-18:52/13 18:28	07:32 16:15	08:35 15:36
11	04:37 21:59	05:32 21:04	06:34 19:45	18:39-18:53/14 18:25	07:34 16:13	08:36 15:36
12	04:39 21:58	05:34 21:02	06:36 19:43	18:40-18:54/14 18:23	07:36 16:11	08:37 15:35
13	04:40 21:57	05:36 20:59	06:38 19:40	18:40-18:56/16 18:20	07:39 16:09	08:38 15:35
14	04:41 21:55	05:38 20:57	06:40 19:37	18:41-19:00/19 18:17	07:41 16:07	08:40 15:35
15	04:43 21:54	05:40 20:55	06:42 19:35	18:42-19:05/23 18:15	07:43 16:05	08:41 15:35
16	04:44 21:53	05:42 20:52	06:44 19:32	18:44-19:03/19 18:12	07:45 16:03	08:42 15:35
17	04:46 21:52	05:44 20:50	06:46 19:29	18:46-19:00/14 18:10	07:47 16:02	08:43 15:35
18	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	08:02 15:55	08:46 15:36
22	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:36
23	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	04:58 21:41	05:58 20:33	07:00 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49	08:47 15:38
26	05:01 21:37	06:02 20:27	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:40
28	05:05 21:33	06:06 20:22	07:08 19:00	07:10 16:43	08:16 15:46	08:48 15:40
29	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:44	08:48 15:41
30	05:08 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	05:10 21:28	06:12 20:15	07:14 18:52	07:17 16:36	08:21 15:41	08:48 15:43
Potential sun hours	530	470	385	324	248	216
Sum of minutes with flicker	0	20	220	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 13 - 19-B

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:12 16:42	07:09 17:44	16:43-17:06/23 19:50	05:30 20:52	04:33 21:49
2	08:48 15:46	08:11 16:44	07:06 17:46	16:44-17:06/22 19:52	05:28 20:54	04:32 21:51
3	08:48 15:47	08:09 16:46	07:04 17:48	16:44-17:05/21 19:54	05:26 20:56	04:31 21:52
4	08:47 15:49	08:07 16:48	07:01 17:51	16:44-17:03/19 19:56	05:23 20:58	04:30 21:54
5	08:47 15:50	08:05 16:51	06:58 17:53	16:46-17:02/16 19:58	05:21 21:00	04:29 21:55
6	08:46 15:51	08:03 16:53	06:56 17:55	16:48-17:00/12 20:00	05:19 21:02	04:28 21:56
7	08:46 15:53	08:00 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:27 21:57
8	08:45 15:54	07:58 16:57	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58
9	08:44 15:56	07:56 17:00	06:48 18:01	06:25 20:06	19:38-19:39/1 21:08	04:26 21:59
10	08:43 15:58	07:54 17:02	06:45 18:03	06:23 20:08	19:39-19:42/3 21:10	04:25 22:00
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:10	19:38-19:43/5 21:12	04:25 22:01
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:12	19:37-19:43/6 21:14	04:24 22:02
13	08:41 16:03	07:47 17:09	06:37 18:10	06:15 20:15	19:37-19:44/7 21:16	04:24 22:03
14	08:40 16:05	07:45 17:11	06:35 18:12	06:12 20:17	19:36-19:43/7 21:18	04:23 22:04
15	08:39 16:06	07:43 17:13	06:32 18:14	06:10 20:19	19:35-19:43/8 21:20	04:23 22:04
16	08:38 16:08	07:40 17:15	06:29 18:16	06:07 20:21	19:33-19:42/9 21:22	04:23 22:05
17	08:36 16:10	07:38 17:17	06:27 18:18	06:05 20:23	19:32-19:41/9 21:24	04:22 22:06
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	19:29-19:39/10 21:26	04:22 22:06
19	08:34 16:14	07:33 17:22	06:21 18:22	06:00 20:27	19:22-19:38/16 21:28	04:22 22:07
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	19:24-19:37/13 21:30	04:22 22:07
21	08:31 16:18	07:29 17:26	06:16 18:27	05:55 20:31	19:27-19:33/6 21:31	04:22 22:07
22	08:30 16:20	07:26 17:29	06:13 18:29	05:52 20:33	04:48 21:33	04:22 22:07
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:35	16:45-17:03/18 21:35	04:23 22:08
24	08:26 16:24	07:21 17:33	06:08 18:33	05:47 20:38	16:44-17:05/21 21:37	04:23 22:08
25	08:25 16:26	07:19 17:35	06:05 18:35	05:45 20:40	16:44-17:07/23 21:38	04:23 22:08
26	08:23 16:29	07:16 17:37	06:03 18:37	05:42 20:42	16:43-17:07/24 21:40	04:24 22:08
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	16:43-17:07/24 21:42	04:24 22:08
28	08:20 16:33	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:43	04:25 22:07
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07
30	08:16 16:37		06:52 19:45	05:33 20:50	04:36 21:47	04:26 22:07
31	08:14 16:39		06:49 19:48		04:34 21:48	
Potential sun hours	235	265	365	425	507	529
Sum of minutes with flicker	0	163	113	100	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 13 - 19-B

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27 22:06	05:12 21:26	06:14 20:12	19:37-19:43/6 18:52	07:14 16:34	08:21 15:42
2	04:28 22:06	05:14 21:24	06:16 20:09	19:37-19:41/4 18:49	07:16 16:32	08:23 15:41
3	04:29 22:05	05:16 21:22	06:18 20:07	19:37-19:39/2 18:46	07:18 16:29	08:24 15:41
4	04:29 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	04:30 22:04	05:20 21:17	06:22 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	04:31 22:03	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	04:34 22:02	05:26 21:11	06:28 19:53	07:28 18:33	17:23-17:35/12 16:19	07:34 15:37
9	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	17:21-17:36/15 16:17	07:37 15:36
10	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	17:20-17:38/18 16:15	07:39 15:36
11	04:37 21:59	05:32 21:04	06:34 19:45	07:34 18:25	17:18-17:39/21 16:13	07:41 15:36
12	04:39 21:58	05:34 21:02	06:36 19:43	07:36 18:23	17:17-17:39/22 16:11	07:43 15:35
13	04:40 21:57	05:36 20:59	06:38 19:40	07:39 18:20	17:16-17:39/23 16:09	07:45 15:35
14	04:42 21:56	05:38 20:57	06:40 19:37	07:41 18:17	17:15-17:39/24 16:07	07:47 15:35
15	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	17:16-17:40/24 16:05	07:49 15:35
16	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	17:15-17:39/24 16:03	07:52 15:35
17	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	17:15-17:39/24 16:02	07:54 15:35
18	04:48 21:50	05:46 20:47	06:48 19:27	07:49 18:07	17:15-17:37/22 16:00	07:56 15:35
19	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	17:17-17:35/18 15:58	07:58 15:35
20	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	17:17-17:32/15 15:57	08:00 15:36
21	04:52 21:46	05:52 20:40	06:54 19:18	07:55 18:00	17:18-17:30/12 15:55	08:02 15:36
22	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	17:20-17:27/7 15:54	08:04 15:36
23	04:56 21:42	05:56 20:35	19:29-19:40/11 19:13	08:00 17:55	17:24-17:25/1 15:52	08:06 15:37
24	04:58 21:41	05:58 20:33	19:27-19:42/15 19:10	08:02 17:52	08:08 15:51	08:47 15:37
25	04:59 21:39	06:00 20:30	19:32-19:43/11 19:08	08:04 17:50	08:10 15:49	08:47 15:38
26	05:01 21:37	06:02 20:27	19:33-19:43/10 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	05:03 21:35	06:04 20:25	19:35-19:43/8 19:02	07:08 16:45	08:14 15:47	08:48 15:40
28	05:05 21:33	06:06 20:22	19:36-19:44/8 19:00	07:11 16:43	08:16 15:46	08:48 15:40
29	05:07 21:32	06:08 20:20	19:37-19:44/7 18:57	07:13 16:41	08:17 15:45	08:48 15:41
30	05:09 21:30	06:10 20:17	19:37-19:44/7 18:54	07:15 16:38	08:19 15:43	08:48 15:42
31	05:10 21:28	06:12 20:15	19:37-19:44/7 18:54	07:17 16:36	08:21 15:43	08:48 15:43
Potential sun hours	530	470	385	324	248	216
Sum of minutes with flicker	0	84	12	282	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

2026-02-Ecosoul-MEŽARES-VIPE

Skepast & Puhkim OÜ

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 15 - 13-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 13:26-13:35/9 15:45	08:13 08:48-09:10/22 16:42 15:50-16:09/19	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50
2	08:48 13:27-13:36/9 15:46	08:11 08:47-09:11/24 16:44 15:50-16:12/22	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51
3	08:48 13:29-13:37/8 15:47	08:09 08:46-09:13/27 16:46 15:50-16:15/25	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52
4	08:47 13:32-13:36/4 15:49	08:07 08:44-09:13/29 16:48 15:50-16:16/26	07:01 17:51	06:39 19:56	05:23 20:58	04:30 21:54
5	08:47 15:50	08:05 08:59-09:14/15 15:50-16:19/29 16:51 08:43-08:46/3	06:59 17:53	06:36 19:58	05:21 21:00	04:29 21:55
6	08:46 15:51	08:03 09:02-09:14/12 15:50-16:22/32 16:53 08:40-08:43/3	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56
7	08:46 15:53	08:01 09:04-09:15/11 16:55 15:51-16:23/32	06:53 17:57	06:31 20:02	05:17 21:05	04:27 21:57
8	08:45 15:54	07:58 09:05-09:15/10 16:57 15:51-16:23/32	06:51 17:59	06:28 20:04	05:15 21:07	04:27 21:58
9	08:44 15:56	07:56 09:07-09:15/8 17:00 15:52-16:24/32	06:48 18:01	06:26 20:06	05:12 21:09	04:26 22:00
10	08:44 15:58	07:54 09:09-09:16/7 17:02 15:52-16:23/31	06:45 18:04	06:23 20:08	05:10 21:11	04:25 22:00
11	08:43 15:59	07:52 09:09-09:15/6 17:04 15:53-16:23/30	06:43 18:06	06:20 20:10	05:08 21:13	04:25 22:01
12	08:42 16:01	07:50 09:10-09:15/5 17:06 15:55-16:23/28	06:40 18:08	06:18 20:13	05:06 21:15	04:24 22:02
13	08:41 16:03	07:47 09:10-09:14/4 17:09 15:57-16:22/25	06:38 18:10	06:15 20:15	05:04 21:17	04:24 22:03
14	08:40 16:05	07:45 09:11-09:14/3 17:11 16:00-16:21/21	06:35 18:12	06:12 20:17	05:02 21:18	04:23 22:04
15	08:39 16:06	07:43 09:11-09:14/3 17:13 16:04-16:20/16	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:05
16	08:38 16:08	07:41 09:12-09:13/1 17:15 16:06-16:18/12	06:30 18:16	06:07 20:21	04:58 21:22	04:23 22:05
17	08:36 16:10	07:38 16:10-16:14/4 17:18	06:27 18:18	06:05 20:23	04:56 21:24	04:22 22:06
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:22 22:06
19	08:34 16:14	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:22 22:07
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07
21	08:31 16:18	07:29 17:26	06:16 18:27	05:55 20:31	04:49 21:32	04:22 22:07
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:08
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:36	04:46 21:35	04:23 22:08
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08
25	08:25 16:27	07:19 17:35	06:05 18:35	05:45 20:40	04:43 21:39	04:23 22:08
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:22 15:55-15:57/2 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08
28	08:20 08:55-09:01/6 16:33 15:53-15:59/6	07:11 17:42	05:57 18:41	05:37 20:46	04:38 21:44	04:25 22:08
29	08:18 08:52-09:04/12 16:35 15:52-16:02/10		05:55 18:43	05:35 20:48	04:37 21:45	04:25 22:07
30	08:16 08:50-09:07/17 16:37 15:51-16:04/13		06:52 19:46	05:33 20:50	04:36 21:47	04:26 22:07
31	08:15 08:49-09:09/20 16:40 15:51-16:07/16		06:49 19:48		04:34 21:48	
Potential sun hours	235	265	365	425	507	529
Sum of minutes with flicker	132	609	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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 15 - 13-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December	
1	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:38-08:44/6 15:22-15:53/31	08:21 15:42
2	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:38-08:45/7 15:21-15:53/32	08:23 15:41
3	04:29 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:36-08:45/9 15:21-15:53/32	08:24 15:41
4	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:34-08:44/10 15:20-15:53/33	08:26 15:40
5	04:30 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:33-08:45/12 08:09-08:12/3	08:28 15:39
6	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:30-08:44/14 08:12-08:14/2	08:29 15:38
7	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:27-08:44/17 08:14-08:19/5	08:31 15:38
8	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 16:19	08:15-08:43/28 15:20-15:46/26	08:32 15:37
9	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:16-08:42/26 15:20-15:43/23	08:34 15:36
10	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:18-08:42/24 15:21-15:42/21	08:35 15:36
11	04:37 21:59	05:32 21:04	06:34 19:45	07:35 18:25	07:41 16:13	08:19-08:40/21 15:22-15:39/17	08:36 15:36
12	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:21-08:40/19 15:22-15:37/15	08:37 15:35
13	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:23-08:38/15 15:24-15:35/11	08:39 15:35
14	04:42 21:56	05:38 20:57	06:40 19:37	07:41 18:17	07:47 16:07	08:25-08:35/10 15:24-15:33/9	08:40 15:35
15	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	15:27-15:31/4	08:41 15:35
16	04:44 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:03		08:42 15:35
17	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02		08:43 15:35
18	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00		08:44 15:35
19	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58		08:44 15:35
20	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57		08:45 15:36
21	04:52 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:55		08:46 15:36
22	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54		08:46 15:36
23	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52		08:47 15:37
24	04:58 21:41	05:58 20:33	07:00 19:10	08:02 17:53	08:08 15:51		08:47 15:37
25	04:59 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:49		08:48 15:38
26	05:01 21:37	06:02 20:28	07:04 19:05	08:06 16:48	08:12 15:48	08:42-08:43/1 15:37-15:47/10	08:48 15:39
27	05:03 21:35	06:04 20:25	07:06 19:02	08:08 16:45	08:14 15:47	08:41-08:43/2 15:34-15:49/15	08:48 15:40
28	05:05 21:34	06:06 20:22	07:08 19:00	08:10 16:43	08:16 15:46	08:43-08:44/5 15:30-15:50/20	08:48 15:40
29	05:07 21:32	06:08 20:20	07:10 18:57	08:12 16:41	08:18 15:45	08:41-08:44/3 15:27-15:52/25	08:48 15:41
30	05:09 21:30	06:10 20:17	07:12 18:54	08:14 16:38	08:19 15:43	08:39-08:44/5 15:25-15:52/27	08:48 15:42
31	05:10 21:28	06:12 20:15		08:16 16:36		08:39-08:45/6 15:24-15:53/29	08:48 15:43
Potential sun hours	530	470	385	324	248		216
Sum of minutes with flicker	0	0	0	145	573		249

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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 16 - 11-A

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:49	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:23 15:42
3	08:48 15:48	08:09 16:46	07:04 17:49	06:41 19:54	05:26 20:56	04:31 21:52	04:29 22:05	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:24 15:41
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:54	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:31 22:04	05:20 21:17	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:28 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	08:45 15:55	07:58 16:57	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:08	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:33 15:37
10	08:44 15:58	07:54 17:02	06:45 18:04	06:23 20:08	05:10 21:10	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	08:43 16:00	07:52 17:04	06:43 18:06	06:20 20:10	05:08 21:12	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:45	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:14	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:36
13	08:41 16:03	07:47 17:09	06:38 18:10	06:15 20:15	05:04 21:16	04:24 22:03	04:40 21:57	05:36 20:59	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:02 21:18	04:23 22:04	04:42 21:56	05:38 20:57	06:40 19:37	07:41 18:18	07:47 16:07	08:40 15:35
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16	08:38 16:08	07:41 17:15	06:30 18:16	06:07 20:21	04:58 21:22	04:23 22:05	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:04	08:42 15:35
17	08:36 16:10	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:23 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31	04:49 21:32	04:23 22:07	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:07	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:37
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:08	04:56 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	08:27 16:25	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:06 18:35	05:45 20:40	04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:38
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:25 22:08	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	04:39 21:43	04:25 22:07	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	08:16 16:37		06:52 19:46	05:33 20:50	04:36 21:47	04:26 22:07	05:09 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:44	08:48 15:43
31	08:14 16:40		06:49 19:48		04:35 21:48		05:11 21:28	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	235	265	365	425	507	528	529	470	385	324	248	216
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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 17 - 09-A

Assumptions for shadow calculations

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	05:30 20:52	04:33 21:50	04:27 22:06	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	05:28 20:54	04:32 21:51	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:23 15:42
3	08:48 15:47	08:09 16:46	07:04 17:48	06:41 19:54	05:26 20:56	04:31 21:52	04:29 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:29	08:24 15:41
4	08:47 15:49	08:07 16:48	07:01 17:51	06:39 19:56	05:24 20:58	04:30 21:54	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	05:21 21:00	04:29 21:55	04:31 22:04	05:20 21:17	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	08:46 15:52	08:03 16:53	06:56 17:55	06:33 20:00	05:19 21:02	04:28 21:56	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	05:17 21:04	04:27 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	08:45 15:55	07:58 16:57	06:51 17:59	06:28 20:04	05:15 21:06	04:27 21:58	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:34 16:19	08:32 15:37
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	05:13 21:09	04:26 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:30	07:37 16:17	08:33 15:37
10	08:44 15:58	07:54 17:02	06:45 18:04	06:23 20:08	05:10 21:11	04:25 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:10	05:08 21:13	04:25 22:01	04:38 21:59	05:32 21:04	06:34 19:45	07:35 18:25	07:41 16:13	08:36 15:36
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	05:06 21:14	04:24 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:35
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14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	05:02 21:18	04:23 22:04	04:42 21:56	05:38 20:57	06:40 19:37	07:41 18:18	07:47 16:07	08:40 15:35
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	05:00 21:20	04:23 22:04	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
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17	08:36 16:10	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:22 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:43 15:35
19	08:34 16:14	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:22 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:58	08:44 15:35
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:22 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31	04:49 21:32	04:23 22:07	04:53 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:55	08:46 15:36
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:37
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24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	04:44 21:37	04:23 22:08	04:58 21:41	05:58 20:33	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	08:25 16:27	07:19 17:35	06:06 18:35	05:45 20:40	04:43 21:39	04:24 22:08	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:38
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:06 16:48	08:12 15:48	08:48 15:39
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:24 22:08	05:03 21:35	06:04 20:25	07:06 19:02	07:08 16:45	08:14 15:47	08:48 15:40
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	04:39 21:43	04:25 22:07	05:05 21:34	06:06 20:22	07:08 19:00	07:11 16:43	08:16 15:46	08:48 15:41
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:13 16:41	08:17 15:45	08:48 15:42
30	08:16 16:37		06:52 19:46	05:33 20:50	04:36 21:47	04:26 22:07	05:09 21:30	06:10 20:17	07:12 18:54	07:15 16:38	08:19 15:44	08:48 15:43
31	08:14 16:40		06:49 19:48		04:35 21:48		05:11 21:28	06:12 20:15		07:17 16:36		08:48 15:44
Potential sun hours	235	265	365	425	507	529	529	470	385	324	248	216
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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 18 - 08-B

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	07:23-07:50/27 20:52	05:30 21:50	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43	
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	07:23-07:51/28 20:54	05:28 21:51	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:21 16:32	08:23 15:42	
3	08:48 15:47	08:09 16:46	07:04 17:49	06:41 19:54	07:23-07:50/27 20:56	05:26 21:52	04:29 22:06	05:16 21:22	06:18 20:07	07:29-07:36/7 18:46	07:18 16:29	08:24 15:41	
4	08:47 15:49	08:07 16:48	07:01 17:51	06:39 19:56	07:23-07:48/25 20:58	05:24 21:54	04:30 22:05	05:18 21:20	06:20 20:04	07:25-07:39/14 18:44	07:20 16:27	08:26 15:40	
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	07:24-07:48/24 21:00	05:21 21:55	04:31 22:04	05:20 21:18	06:22 20:02	07:23-07:41/18 18:41	07:22 16:25	08:28 15:39	
6	08:46 15:52	08:03 16:53	06:56 17:55	06:33 20:00	07:24-07:46/22 21:02	05:19 21:56	04:32 22:04	05:22 21:15	06:24 19:59	07:21-07:42/21 18:38	07:24 16:23	08:29 15:38	
7	08:46 15:53	08:01 16:55	06:53 17:57	06:31 20:02	07:25-07:45/20 21:05	05:17 21:57	04:33 22:03	05:24 21:13	06:26 19:56	07:20-07:43/23 18:36	07:26 16:21	08:31 15:38	
8	08:45 15:55	07:58 16:57	06:51 17:59	06:28 20:04	07:26-07:43/17 21:07	05:15 21:58	04:34 22:02	05:26 21:11	06:28 19:54	07:19-07:44/25 18:33	07:28 16:19	08:32 15:37	
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	07:28-07:40/12 21:09	05:13 21:59	04:35 22:01	05:28 21:09	06:30 19:51	07:17-07:43/26 18:30	07:30 16:17	08:34 15:37	
10	08:44 15:58	07:54 17:02	06:45 18:04	06:23 20:08	07:28-07:40/12 21:11	05:10 22:00	04:36 22:00	05:30 21:06	06:32 19:48	07:16-07:43/27 18:28	07:32 16:15	08:35 15:36	
11	08:43 15:59	07:52 17:04	06:43 18:06	06:20 20:11	07:28-07:40/12 21:13	05:08 22:01	04:38 21:59	05:32 21:04	06:34 19:46	07:15-07:43/28 18:25	07:35 16:13	08:36 15:36	
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	07:28-07:40/12 21:15	05:06 22:02	04:39 21:58	05:34 21:02	06:36 19:43	07:15-07:43/28 18:23	07:43 16:11	08:37 15:35	
13	08:41 16:03	07:47 17:09	06:38 18:10	06:15 20:15	07:28-07:40/12 21:17	05:04 22:03	04:40 21:57	05:36 21:00	06:38 19:40	07:15-07:42/27 18:20	07:39 16:09	08:39 15:35	
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	07:28-07:40/12 21:18	05:02 22:04	04:42 21:56	05:38 20:57	06:40 19:37	07:15-07:41/26 18:18	07:41 16:07	08:40 15:35	
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	07:28-07:40/12 21:20	05:00 22:05	04:43 21:54	05:40 20:55	06:42 19:35	07:15-07:41/26 18:15	07:50 16:05	08:41 15:35	
16	08:38 16:08	07:41 17:15	06:30 18:16	06:07 20:21	07:28-07:40/12 21:22	04:58 22:05	04:45 21:53	05:42 20:52	06:44 19:32	07:16-07:40/24 18:12	07:52 16:04	08:42 15:35	
17	08:36 16:10	07:38 17:18	06:27 18:18	06:05 20:23	07:28-07:40/12 21:24	04:57 22:06	04:46 21:52	05:44 20:50	06:46 19:29	07:17-07:39/22 18:10	07:54 16:02	08:43 15:35	
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	07:28-07:40/12 21:26	04:55 22:06	04:48 21:50	05:46 20:48	06:48 19:27	07:19-07:37/18 18:07	07:56 16:00	08:44 15:35	
19	08:34 16:14	07:34 17:22	06:22 18:23	06:00 20:27	07:28-07:40/12 21:28	04:53 22:07	04:49 21:49	05:48 20:45	06:50 19:24	07:21-07:35/14 18:05	07:58 15:58	08:44 15:35	
20	08:33 16:16	07:31 17:24	06:19 18:25	05:57 20:29	07:28-07:40/12 21:30	04:51 22:07	04:51 21:47	05:50 20:43	06:52 19:21	07:23-07:32/9 18:02	07:53 15:57	08:45 15:36	
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31	07:28-07:40/12 21:32	04:49 22:07	04:53 21:46	05:52 20:40	06:54 19:19	07:23-07:32/9 18:05	07:56 15:55	08:46 15:36	
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:33	07:28-07:40/12 21:33	04:48 22:08	04:54 21:44	05:54 20:38	06:56 19:16	07:23-07:32/9 18:05	07:58 15:54	08:46 15:36	
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:36	07:28-07:40/12 21:35	04:46 22:08	04:56 21:42	05:56 20:35	06:58 19:13	07:23-07:32/9 18:05	07:58 15:52	08:47 15:37	
24	08:27 16:24	07:21 17:33	06:08 18:33	05:47 20:38	07:28-07:40/12 21:37	04:44 22:08	04:58 21:41	05:58 20:33	07:00 19:10	07:23-07:32/9 18:05	08:02 15:51	08:47 15:38	
25	08:25 16:27	07:19 17:35	06:06 18:35	05:45 20:40	07:28-07:40/12 21:39	04:43 22:08	04:50 21:39	06:00 20:30	07:02 19:08	07:23-07:32/9 18:05	08:04 15:50	08:48 15:38	
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	07:28-07:40/12 21:41	04:41 22:08	05:01 21:37	06:02 20:28	07:04 19:05	07:23-07:32/9 18:05	08:06 15:48	08:48 15:39	
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	07:28-07:40/12 21:42	04:40 22:08	05:03 21:35	06:04 20:25	07:06 19:02	07:23-07:32/9 18:05	08:08 15:47	08:48 15:40	
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	07:28-07:40/12 21:44	04:39 22:08	05:05 21:34	06:06 20:22	07:08 19:00	07:23-07:32/9 18:05	08:11 15:46	08:48 15:41	
29	08:18 16:35	07:09 18:43	05:55 18:43	05:35 20:48	07:28-07:40/12 21:46	04:37 22:07	05:07 21:32	06:08 20:20	07:10 18:57	07:23-07:32/9 18:05	08:13 15:45	08:48 15:42	
30	08:16 16:37	07:06 19:46	05:52 19:46	05:33 20:50	07:28-07:40/12 21:47	04:36 22:07	05:09 21:30	06:10 20:17	07:12 18:54	07:23-07:32/9 18:05	08:15 15:44	08:48 15:43	
31	08:15 16:40	06:49 19:48	07:24-07:51/27 19:48	05:31 21:48	07:28-07:40/12 21:48	04:35 21:28	05:11 21:28	06:12 20:15	07:13 16:36	07:23-07:32/9 18:05	08:17 15:43	08:48 15:44	
Potential sun hours	235	265	365	425	507	529	530	470	385	384	324	248	216
Sum of minutes with flicker	0	0	170	202	0	0	0	0	0	0	0	0	0

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 19 - 03-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 10:18-10:41/23 15:45	08:13 16:42 17:44	07:09 17:44	06:47 19:50 20:52	05:30 20:52 21:50	04:33 21:50 21:50
2	08:48 10:20-10:41/21 15:46	08:11 16:44 17:46	07:06 17:46	06:44 19:52 20:54	05:28 20:54 21:51	04:32 21:51 21:51
3	08:48 10:20-10:41/21 15:48	08:09 16:46 17:49	07:04 17:49	06:41 19:54 20:56	05:26 20:56 21:52	04:31 21:52 21:52
4	08:47 10:21-10:42/21 15:49	08:07 16:49 17:51	07:01 17:51	06:39 19:56 20:58	05:24 20:58 21:54	04:30 21:54 21:54
5	08:47 10:22-10:41/19 15:50	08:05 16:51 17:53	06:59 17:53	06:36 19:58 21:00	05:21 21:00 21:55	04:29 21:55 21:55
6	08:46 10:23-10:41/18 15:52	08:03 16:53 17:55	06:56 17:55	06:34 20:00 21:03	05:19 21:03 21:56	04:28 21:56 21:56
7	08:46 10:24-10:41/17 15:53	08:01 16:55 17:57	06:53 17:57	06:31 20:02 21:05	05:17 21:05 21:57	04:27 21:57 21:57
8	08:45 10:25-10:40/15 15:55	07:59 16:57 17:59	06:51 17:59	06:28 20:04 21:07	05:15 21:07 21:58	04:27 21:58 21:58
9	08:44 10:26-10:40/14 15:56	07:56 17:00 18:01	06:48 18:01	06:26 20:06 21:09	05:13 21:09 22:00	04:26 22:00 22:00
10	08:44 10:28-10:39/11 15:58	07:54 17:02 18:04	06:46 18:04	06:23 20:08 21:11	05:10 21:11 22:01	04:25 22:01 22:01
11	08:43 10:30-10:38/8 16:00	07:52 17:04 18:06	06:43 18:06	06:20 20:11 21:13	05:08 21:13 22:01	04:25 22:01 22:01
12	08:42 16:01 16:01	07:50 17:06 18:08	06:40 18:08	06:18 20:13 21:15	05:06 21:15 22:02	04:24 22:02 22:02
13	08:41 16:03 16:03	07:48 17:09 18:10	06:38 18:10	06:15 20:15 21:17	05:04 21:17 22:03	04:24 22:03 22:03
14	08:40 16:05 16:05	07:45 17:11 18:12	06:35 18:12	06:13 20:17 21:18	05:02 21:18 22:04	04:23 22:04 22:04
15	08:39 16:07 16:07	07:43 17:13 18:14	06:32 18:14	06:10 20:19 21:20	05:00 21:20 22:05	04:23 22:05 22:05
16	08:38 16:08 16:08	07:41 17:15 18:16	06:30 18:16	06:07 20:21 21:22	04:58 21:22 22:05	04:23 22:05 22:05
17	08:36 16:10 16:10	07:38 17:18 18:18	06:27 18:18	06:05 20:23 21:24	04:57 21:24 22:06	04:23 22:06 22:06
18	08:35 16:12 16:12	07:36 17:20 18:21	06:24 18:21	06:02 20:25 21:26	04:55 21:26 22:06	04:22 22:06 22:06
19	08:34 16:14 16:14	07:34 17:22 18:23	06:22 18:23	06:00 20:27 21:28	04:53 21:28 22:07	04:22 22:07 22:07
20	08:33 16:16 16:16	07:31 17:24 18:25	06:19 18:25	05:57 20:29 21:30	04:51 21:30 22:07	04:22 22:07 22:07
21	08:31 16:18 16:18	07:29 17:27 18:27	06:16 18:27	05:55 20:31 21:32	04:49 21:32 22:07	04:23 22:07 22:07
22	08:30 16:20 16:20	07:26 17:29 18:29	06:14 18:29	05:52 20:33 21:33	04:48 21:33 22:08	04:23 22:08 22:08
23	08:28 16:22 16:22	07:24 17:31 18:31	06:11 18:31	05:50 20:36 21:35	04:46 21:35 22:08	04:23 22:08 22:08
24	08:27 16:25 16:25	07:21 17:33 18:33	06:08 18:33	05:47 20:38 21:37	04:44 21:37 22:08	04:23 22:08 22:08
25	08:25 16:27 16:27	07:19 17:35 18:35	06:06 18:35	05:45 20:40 21:39	04:43 21:39 22:08	04:24 22:08 22:08
26	08:23 16:29 16:29	07:16 17:38 18:37	06:03 18:37	05:42 20:42 21:40	04:41 21:40 22:08	04:24 22:08 22:08
27	08:22 16:31 16:31	07:14 17:40 18:39	06:00 18:39	05:40 20:44 21:42	04:40 21:42 22:08	04:24 22:08 22:08
28	08:20 16:33 16:33	07:11 17:42 18:41	05:58 18:41	05:38 20:46 21:44	04:39 21:44 22:08	04:25 22:08 22:08
29	08:18 16:35 16:35	07:09 18:44 18:44	05:55 18:44	05:35 20:48 21:45	04:37 21:45 22:07	04:26 22:07 22:07
30	08:16 16:37 16:37	07:07 19:46 19:46	05:52 19:46	05:33 20:50 21:47	04:36 21:47 22:07	04:26 22:07 22:07
31	08:15 16:40 16:40	07:05 19:48 19:48	05:50 19:48	05:31 21:48 21:48	04:35 21:48 21:48	04:26 21:48 21:48
Potential sun hours	235	265	365	425	507	529
Sum of minutes with flicker	188	0	244	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:

2026-02-Ecosoul-ME ŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 19 - 03-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	July	August	September	October	November	December
1	04:27 22:07	05:12 21:26	06:14 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	04:28 22:06	05:14 21:24	06:16 20:09	07:16 18:49	07:22 16:32	08:23 15:42
3	04:29 22:06	05:16 21:22	06:18 20:07	07:18 18:46	07:24 16:30	08:24 15:41
4	04:30 22:05	05:18 21:20	06:20 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	04:31 22:04	05:20 21:18	06:22 20:02	07:22 18:41	07:28 16:25	08:28 15:39
6	04:32 22:04	05:22 21:15	06:24 19:59	07:24 18:38	07:30 16:23	08:29 15:38
7	04:33 22:03	05:24 21:13	06:26 19:56	07:26 18:36	07:32 16:21	08:31 15:38
8	04:34 22:02	05:26 21:11	06:28 19:54	07:28 18:33	07:35 16:19	08:32 15:37
9	04:35 22:01	05:28 21:09	06:30 19:51	07:30 18:31	07:37 16:17	08:34 15:37
10	04:36 22:00	05:30 21:07	06:32 19:48	07:33 18:28	07:39 16:15	08:35 15:36
11	04:38 21:59	05:32 21:04	06:34 19:46	07:35 18:25	07:41 16:13	08:36 15:36
12	04:39 21:58	05:34 21:02	06:36 19:43	07:37 18:23	07:43 16:11	08:37 15:36
13	04:40 21:57	05:36 21:00	06:38 19:40	07:39 18:20	07:45 16:09	08:39 15:35
14	04:42 21:56	05:38 20:57	06:40 19:38	07:41 18:18	07:47 16:07	08:40 15:35
15	04:43 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:50 16:05	08:41 15:35
16	04:45 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:04	08:42 15:35
17	04:46 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
18	04:48 21:50	05:46 20:48	06:48 19:27	07:49 18:07	07:56 16:00	08:44 15:35
19	04:49 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:35
20	04:51 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	04:53 21:46	05:52 20:40	06:54 19:19	07:55 18:00	08:02 15:55	08:46 15:36
22	04:54 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:37
23	04:56 21:43	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	04:58 21:41	05:58 20:33	07:00 19:11	08:02 17:53	08:08 15:51	08:47 15:38
25	05:00 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:48 15:38
26	05:01 21:37	06:02 20:28	07:04 19:05	08:06 16:48	08:12 15:48	08:48 15:39
27	05:03 21:36	06:04 20:25	07:06 19:02	08:09 16:45	08:14 15:47	08:48 15:40
28	05:05 21:34	06:06 20:23	07:08 19:00	08:11 16:43	08:16 15:46	08:48 15:41
29	05:07 21:32	06:08 20:20	07:10 18:57	08:13 16:41	08:18 15:45	08:48 15:42
30	05:09 21:30	06:10 20:17	07:12 18:54	08:15 16:38	08:19 15:44	08:48 15:43
31	05:11 21:28	06:12 20:15		08:17 16:36		08:48 15:44
Potential sun hours	530	470	385	324	248	216
Sum of minutes with flicker	0	0	184	66	0	650

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:

2026-02-Ecosoul-MEŽARES-UIPE

Licensed user:

Skepast & Puhkim OÜ

Laki põik 2

EE-12919 Tallinn

+37253462494

Mihkel Lindpere / mihkel.lindpere@skpk.ee

Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 20 - 04-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed3,0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 09:41-10:05/24 15:45	08:13 07:09 16:42	06:47 05:30 17:44	04:33 03:20 19:50	04:27 03:14 20:52	04:27 03:14 21:50	04:27 03:14 22:07	05:12 04:00 21:26	06:14 05:02 20:12	07:14 06:02 18:52	07:19 06:07 16:34	08:21 09:29-09:51/22 15:43
2	08:48 09:42-10:06/24 15:46	08:11 07:06 16:44	06:44 05:28 17:46	04:32 03:19 19:52	04:32 03:19 20:54	04:32 03:19 21:51	04:32 03:19 22:06	05:14 04:02 21:24	06:16 05:04 20:09	07:16 06:04 18:49	07:21 06:09 16:32	08:23 09:29-09:51/22 15:42
3	08:48 09:42-10:06/24 15:48	08:09 07:04 16:46	06:41 05:26 17:49	04:31 03:18 19:54	04:31 03:18 20:56	04:31 03:18 21:52	04:31 03:18 22:06	05:16 04:04 21:22	06:18 05:06 20:07	07:18 06:06 18:46	07:24 06:11 16:29	08:24 09:29-09:52/23 15:41
4	08:47 09:43-10:07/24 15:49	08:07 07:01 16:49	06:39 05:24 17:51	04:30 03:17 19:56	04:30 03:17 20:58	04:30 03:17 21:54	04:30 03:17 22:05	05:18 04:06 21:20	06:20 05:08 20:04	07:20 06:08 18:44	07:26 06:13 16:27	08:26 09:29-09:53/24 15:40
5	08:47 09:43-10:07/24 15:50	08:05 06:59 16:51	06:36 05:21 17:53	04:29 03:16 19:58	04:29 03:16 21:00	04:29 03:16 21:55	04:29 03:16 22:04	05:20 04:08 21:17	06:22 05:10 20:02	07:22 06:09 18:41	07:28 06:15 16:25	08:28 09:30-09:54/24 15:39
6	08:46 09:43-10:08/25 15:52	08:03 06:56 16:53	06:34 05:19 17:55	04:28 03:15 20:00	04:28 03:15 21:02	04:28 03:15 21:56	04:28 03:15 22:04	05:22 04:10 21:15	06:24 05:12 20:04	07:24 06:11 18:38	07:30 06:17 16:23	08:29 09:29-09:53/24 15:38
7	08:46 09:44-10:08/24 15:53	08:01 06:53 16:55	06:31 05:17 17:57	04:28 03:14 20:02	04:28 03:14 21:05	04:28 03:14 21:57	04:28 03:14 22:03	05:24 04:12 21:13	06:26 05:14 20:06	07:26 06:13 18:36	07:32 06:19 16:21	08:31 09:30-09:54/24 15:38
8	08:45 09:44-10:08/24 15:55	07:58 06:51 16:57	06:28 05:15 17:59	04:27 03:13 20:04	04:27 03:13 21:07	04:27 03:13 21:58	04:27 03:13 22:02	05:26 04:14 21:11	06:28 05:16 20:04	07:28 06:15 18:33	07:35 06:21 16:19	08:32 09:31-09:55/24 15:37
9	08:44 09:45-10:08/23 15:56	07:56 06:48 17:00	06:26 05:13 18:01	04:26 03:12 20:06	04:26 03:12 21:09	04:26 03:12 21:59	04:26 03:12 22:01	05:28 04:16 21:09	06:30 05:18 20:01	07:30 06:17 18:31	07:37 06:24 16:17	08:34 09:31-09:55/24 15:37
10	08:44 09:46-10:09/23 15:58	07:54 06:46 17:02	06:23 05:10 18:04	04:25 03:11 20:08	04:25 03:11 21:11	04:25 03:11 22:00	04:25 03:11 22:02	05:30 04:18 21:06	06:32 05:20 20:03	07:32 06:19 18:28	07:39 06:26 16:15	08:35 09:32-09:56/24 15:36
11	08:43 09:46-10:09/23 16:00	07:52 06:43 17:04	06:20 05:08 18:06	04:24 03:10 20:11	04:24 03:10 21:13	04:24 03:10 22:01	04:24 03:10 21:59	05:32 04:20 21:04	06:34 05:22 20:05	07:35 06:21 18:25	07:41 06:28 16:13	08:36 09:32-09:56/24 15:36
12	08:42 09:47-10:09/22 16:01	07:50 06:40 17:06	06:18 05:06 18:08	04:23 03:09 20:13	04:23 03:09 21:15	04:23 03:09 22:02	04:23 03:09 21:58	05:34 04:22 21:02	06:36 05:24 20:06	07:37 06:22 18:23	07:43 06:29 16:11	08:37 09:32-09:56/24 15:36
13	08:41 09:48-10:09/21 16:03	07:47 06:38 17:09	06:15 05:04 18:10	04:24 03:10 20:15	04:24 03:10 21:16	04:24 03:10 22:03	04:24 03:10 21:57	05:36 04:24 21:00	06:38 05:26 20:04	07:39 06:23 18:20	07:45 06:30 16:09	08:39 09:33-09:57/24 15:35
14	08:40 09:48-10:09/21 16:05	07:45 06:35 17:11	06:13 05:02 18:12	04:23 03:09 20:17	04:23 03:09 21:18	04:23 03:09 22:04	04:23 03:09 21:56	05:38 04:26 21:02	06:40 05:28 20:06	07:41 06:24 18:18	07:47 06:31 16:07	08:40 09:33-09:58/25 15:35
15	08:39 09:50-10:09/19 16:07	07:43 06:32 17:13	06:10 05:00 18:14	04:23 03:09 20:19	04:23 03:09 21:20	04:23 03:09 22:05	04:23 03:09 21:54	05:40 04:28 21:04	06:42 05:30 20:08	07:43 06:25 18:15	07:50 06:32 16:05	08:41 09:34-09:58/24 15:35
16	08:38 09:51-10:09/18 16:09	07:41 06:30 17:15	06:07 04:58 18:16	04:23 03:09 20:21	04:23 03:09 21:22	04:23 03:09 22:05	04:23 03:09 21:53	05:42 04:30 21:06	06:44 05:32 20:10	07:45 06:27 18:12	07:52 06:34 16:04	08:42 09:34-09:58/24 15:35
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18	08:35 09:54-10:08/14 16:12	07:36 06:24 17:20	06:02 04:55 18:21	04:23 03:09 20:25	04:23 03:09 21:26	04:23 03:09 22:06	04:23 03:09 21:50	05:46 04:34 21:08	06:48 05:36 20:12	07:49 06:31 18:07	07:56 06:38 16:00	08:44 09:35-09:59/24 15:35
19	08:34 09:55-10:06/11 16:14	07:34 06:22 17:22	06:00 04:53 18:23	04:22 03:09 20:27	04:22 03:09 21:28	04:22 03:09 22:07	04:22 03:09 21:49	05:48 04:36 21:08	06:50 05:38 20:12	07:51 06:33 18:05	07:58 06:40 15:59	08:44 09:35-09:59/24 15:35
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22	08:30 16:20 16:22	07:29 17:29 07:24	06:14 18:29 06:11	05:52 20:33 05:50	04:48 21:33 04:46	04:23 22:08 04:23	04:23 22:08 04:56	05:56 20:38 05:56	06:58 19:16 06:58	08:00 17:57 08:06	08:06 15:54 09:33-09:41/8	08:47 09:38-10:02/24 15:37
23	08:28 16:22 16:27	07:24 17:31 07:21	06:11 18:31 06:08	05:50 20:36 05:47	04:46 21:35 04:44	04:23 22:08 04:23	04:23 22:08 04:58	05:56 20:35 05:58	06:58 19:13 07:00	08:00 17:55 08:08	08:06 15:52 09:32-09:44/12	08:47 09:38-10:02/24 15:38
24	08:27 16:25 16:27	07:21 17:33 07:19	06:08 18:33 06:06	05:47 20:38 05:45	04:44 21:37 04:43	04:23 22:08 04:24	04:23 22:08 04:58	05:58 20:33 06:00	07:00 19:10 07:02	08:02 17:53 08:04	08:08 15:51 09:31-09:46/15	08:48 09:38-10:02/24 15:38
25	08:25 16:27 16:29	07:19 17:35 07:16	06:06 18:35 06:03	05:45 20:40 05:42	04:43 21:39 04:41	04:24 22:08 04:24	04:24 22:08 05:01	06:00 20:30 06:02	07:02 19:08 07:04	08:04 17:50 08:06	08:10 15:50 09:30-09:47/17	08:48 09:38-10:02/24 15:39
26	08:23 16:29 16:31	07:18 17:38 07:14	06:03 18:37 06:00	05:42 20:42 05:40	04:41 21:40 04:40	04:24 22:08 04:25	04:24 22:08 05:03	06:02 20:28 06:04	07:04 19:05 07:06	08:06 16:48 08:08	08:12 15:48 09:29-09:48/19	08:48 09:39-10:03/24 15:40
27	08:22 16:31 16:33	07:14 17:40 07:11	06:00 18:39 05:58	05:40 20:44 05:38	04:40 21:42 04:39	04:25 22:08 04:25	04:25 22:08 05:05	06:04 20:25 06:06	07:06 19:02 07:08	08:08 16:45 08:10	08:14 15:47 09:29-09:48/19	08:48 09:39-10:03/24 15:41
28	08:20 16:33 16:35	07:12 17:42 07:09	05:58 18:41 05:55	05:38 20:46 05:35	04:39 21:44 04:37	04:25 22:08 04:26	04:25 22:07 04:58	06:06 20:22 06:08	07:08 19:00 07:10	08:10 16:43 08:12	08:16 15:46 09:29-09:49/20	08:48 09:40-10:04/24 15:42
29	08:18 16:35 16:37	07:11 17:41 07:08	05:55 18:40 05:52	05:35 20:50 05:33	04:37 21:47 04:36	04:26 22:07 04:26	04:26 22:07 05:09	06:08 20:20 06:10	07:10 18:57 07:12	08:12 16:41 08:14	08:18 15:45 09:28-09:50/22	08:48 09:40-10:05/25 15:43
30	08:16 16:37 16:40	07:09 17:39 07:06	05:53 18:38 05:50	05:33 20:50 05:31	04:36 21:47 04:35	04:26 22:07 04:27	04:26 22:07 05:11	06:10 20:17 06:12	07:12 18:54 07:14	08:14 16:38 08:16	08:20 15:44 09:29-09:49/20	08:48 09:41-10:05/24 15:44
31	08:14 16:40	07:07 17:36 07:04	05:50 18:35 05:48	05:30 20:48 05:28	04:35 21:46 04:34	04:27 22:07 04:28	04:27 22:07 05:12	06:12 20:15 06:14	07:14 18:56 07:16	08:16 16:40 08:18	08:22 15:45 09:29-09:49/20	08:48 09:41-10:05/24 15:44
Potential sun hours	235	265	365	425	507	529	529	470	385	324	248	216
Sum of minutes with flicker	411	0	0	0	0	0	0	0	0	132	741	

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

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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 21 - 06-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

	January	February	March	April	May	June
1	08:48 15:45	08:13 16:42	07:09 17:44	06:47 19:50	07:14-07:20/6 20:52	04:34 21:49
2	08:48 15:46	08:11 16:44	07:06 17:46	06:44 19:52	07:12-07:23/11 20:54	04:32 21:51
3	08:47 15:48	08:09 16:46	07:04 17:49	06:41 19:54	07:09-07:24/15 20:56	04:31 21:52
4	08:47 15:49	08:07 16:49	07:01 17:51	06:39 19:56	07:06-07:24/18 20:58	04:30 21:54
5	08:47 15:50	08:05 16:51	06:59 17:53	06:36 19:58	07:04-07:25/21 21:00	04:29 21:55
6	08:46 15:52	08:03 16:53	06:56 17:55	06:33 20:00	07:01-07:25/24 21:02	04:28 21:56
7	08:46 15:53	08:00 16:55	06:53 17:57	06:31 20:02	07:01-07:25/24 21:04	04:28 21:57
8	08:45 15:55	07:58 16:58	06:51 17:59	06:28 20:04	07:00-07:25/25 21:06	04:27 21:58
9	08:44 15:56	07:56 17:00	06:48 18:01	06:26 20:06	07:00-07:24/24 21:08	04:26 21:59
10	08:43 15:58	07:54 17:02	06:45 18:04	06:23 20:08	07:00-07:24/24 21:10	04:25 22:00
11	08:43 16:00	07:52 17:04	06:43 18:06	06:20 20:10	07:00-07:22/22 21:12	04:25 22:01
12	08:42 16:01	07:50 17:06	06:40 18:08	06:18 20:13	07:01-07:22/21 21:14	04:24 22:02
13	08:41 16:03	07:47 17:09	06:38 18:10	06:15 20:15	07:01-07:20/19 21:16	04:24 22:03
14	08:40 16:05	07:45 17:11	06:35 18:12	06:13 20:17	07:03-07:19/16 21:18	04:23 22:04
15	08:39 16:07	07:43 17:13	06:32 18:14	06:10 20:19	07:04-07:16/12 21:20	04:23 22:04
16	08:38 16:09	07:41 17:15	06:30 18:16	06:07 20:21	07:08-07:12/4 21:22	04:23 22:05
17	08:36 16:10	07:38 17:18	06:27 18:18	06:05 20:23	04:57 21:24	04:23 22:06
18	08:35 16:12	07:36 17:20	06:24 18:20	06:02 20:25	04:55 21:26	04:23 22:06
19	08:34 16:14	07:33 17:22	06:22 18:23	06:00 20:27	04:53 21:28	04:23 22:07
20	08:32 16:16	07:31 17:24	06:19 18:25	05:57 20:29	04:51 21:30	04:23 22:07
21	08:31 16:18	07:29 17:27	06:16 18:27	05:55 20:31	04:49 21:31	04:23 22:07
22	08:30 16:20	07:26 17:29	06:14 18:29	05:52 20:33	04:48 21:33	04:23 22:07
23	08:28 16:22	07:24 17:31	06:11 18:31	05:50 20:35	04:46 21:35	04:23 22:08
24	08:26 16:25	07:21 17:33	06:08 18:33	05:47 20:38	04:45 21:37	04:23 22:08
25	08:25 16:27	07:19 17:35	06:06 18:35	05:45 20:40	04:43 21:38	04:24 22:08
26	08:23 16:29	07:16 17:38	06:03 18:37	05:42 20:42	04:41 21:40	04:24 22:08
27	08:22 16:31	07:14 17:40	06:00 18:39	05:40 20:44	04:40 21:42	04:25 22:08
28	08:20 16:33	07:11 17:42	05:57 18:41	05:38 20:46	04:39 21:43	04:25 22:07
29	08:18 16:35		05:55 18:43	05:35 20:48	04:37 21:45	04:26 22:07
30	08:16 16:37		06:52 19:46	05:33 20:50	04:36 21:47	04:26 22:07
31	08:14 16:40		06:49 19:48		04:35 21:48	
Potential sun hours	235	265	365	425	507	528
Sum of minutes with flicker	0	0	0	286	69	105

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

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

SHADOW - Calendar per WTG

Calculation: Real Case Curtailment WTG: 21 - 06-A

Assumptions for shadow calculations

Flicker curtailment applied to this turbine

Reference year for calendar

2025

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,17	2,29	4,58	6,82	8,69	9,44	8,63	7,75	5,49	2,82	0,76	0,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
373	431	565	449	510	745	768	916	1 192	1 023	777	489	8 238

Idle start wind speed 3,0m/s

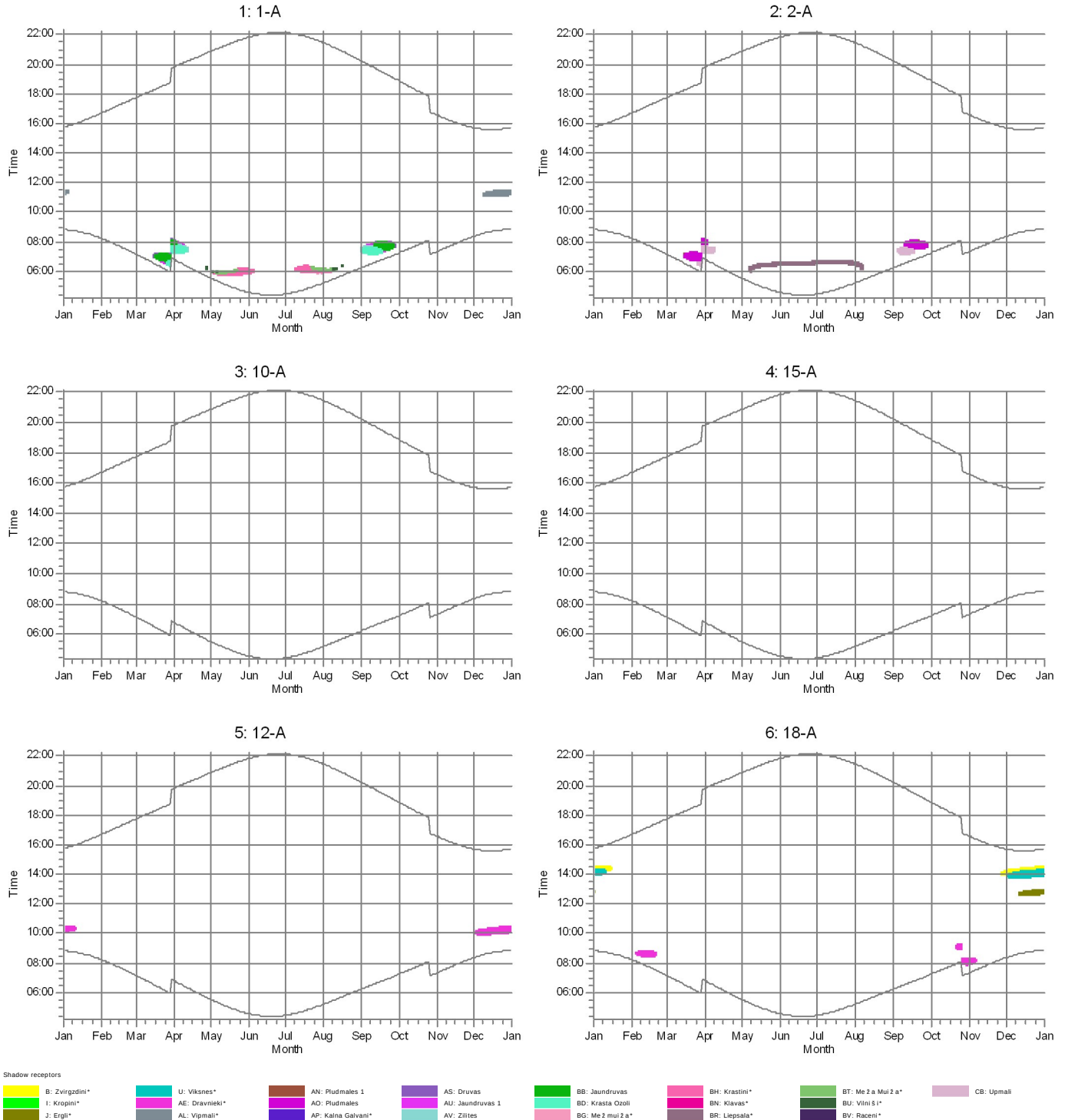
	July	August	September	October	November	December
1	04:27 05:56-06:00/4 22:06	05:13 21:26	06:14 07:00-07:21/21 20:12	07:14 18:52	07:19 16:34	08:21 15:43
2	04:28 05:57-06:00/3 22:06	05:14 21:24	06:16 06:59-07:22/23 20:09	07:16 18:49	07:21 16:32	08:23 15:42
3	04:29 05:57-06:01/4 22:05	05:16 21:22	06:18 06:58-07:22/24 20:07	07:18 18:46	07:24 16:30	08:24 15:41
4	04:30 05:58-06:01/3 22:05	05:18 21:20	06:20 06:58-07:22/24 20:04	07:20 18:44	07:26 16:27	08:26 15:40
5	04:31 05:58-06:01/3 22:04	05:20 21:17	06:22 06:58-07:22/24 20:01	07:22 18:41	07:28 16:25	08:28 15:39
6	04:32 05:58-06:02/4 22:03	05:22 21:15	06:24 06:58-07:21/23 19:59	07:24 18:38	07:30 16:23	08:29 15:38
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8	04:34 05:58-06:02/4 22:02	05:26 21:11	06:28 07:00-07:20/20 19:54	07:28 18:33	07:34 16:19	08:32 15:37
9	04:35 05:58-06:02/4 22:01	05:28 21:09	06:30 07:01-07:18/17 19:51	07:30 18:31	07:37 16:17	08:33 15:37
10	04:36 05:58-06:02/4 22:00	05:30 21:06	06:32 07:03-07:16/13 19:48	07:32 18:28	07:39 16:15	08:35 15:36
11	04:38 05:58-06:02/4 21:59	05:32 21:04	06:34 07:05-07:15/10 19:45	07:35 18:25	07:41 16:13	08:36 15:36
12	04:39 05:58-06:02/4 21:58	05:34 21:02	06:36 07:07-07:12/5 19:43	07:37 18:23	07:43 16:11	08:37 15:36
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14	04:42 05:59-06:02/3 21:55	05:38 20:57	06:40 19:37	07:41 18:18	07:47 16:07	08:40 15:35
15	04:43 05:58-06:02/4 21:54	05:40 20:55	06:42 19:35	07:43 18:15	07:49 16:05	08:41 15:35
16	04:45 05:58-06:01/3 21:53	05:42 20:52	06:44 19:32	07:45 18:12	07:52 16:04	08:42 15:35
17	04:46 05:58-06:02/4 21:52	05:44 20:50	06:46 19:29	07:47 18:10	07:54 16:02	08:43 15:35
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19	04:49 05:58-06:02/4 21:49	05:48 20:45	06:50 19:24	07:51 18:05	07:58 15:59	08:44 15:36
20	04:51 05:57-06:01/4 21:47	05:50 20:43	06:52 19:21	07:53 18:02	08:00 15:57	08:45 15:36
21	04:53 05:57-06:01/4 21:46	05:52 20:40	06:54 19:19	07:56 18:00	08:02 15:55	08:46 15:36
22	04:54 05:56-06:00/4 21:44	05:54 20:38	06:56 19:16	07:58 17:57	08:04 15:54	08:46 15:37
23	04:56 05:56-06:00/4 21:42	05:56 20:35	06:58 19:13	08:00 17:55	08:06 15:52	08:47 15:37
24	04:58 05:54-05:58/4 21:41	05:58 20:33	07:00 19:10	08:02 17:53	08:08 15:51	08:47 15:38
25	05:00 05:53-05:58/5 21:39	06:00 20:30	07:02 19:08	08:04 17:50	08:10 15:50	08:47 15:38
26	05:01 05:52-05:57/5 21:37	06:02 20:28	07:04 19:05	08:06 17:48	08:12 15:48	08:48 15:39
27	05:03 05:50-05:55/5 21:35	06:04 20:25	07:06 19:02	08:08 17:45	08:14 15:47	08:48 15:40
28	05:05 05:46-05:53/7 21:33	06:06 07:08-07:16/8 20:22	07:08 19:00	08:11 17:43	08:16 15:46	08:48 15:41
29	05:07 05:46-05:49/3 21:32	06:08 07:05-07:19/14 20:20	07:10 18:57	08:13 17:41	08:17 15:45	08:48 15:42
30	05:09 21:30	06:10 07:02-07:19/17 20:17	07:12 18:54	08:15 17:38	08:19 15:44	08:48 15:43
31	05:11 21:28	06:12 07:01-07:20/19 20:15		08:17 17:36		08:48 15:44
Potential sun hours	529	470	385	324	248	216
Sum of minutes with flicker	116	58	227	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

SHADOW - Calendar per WTG, graphical

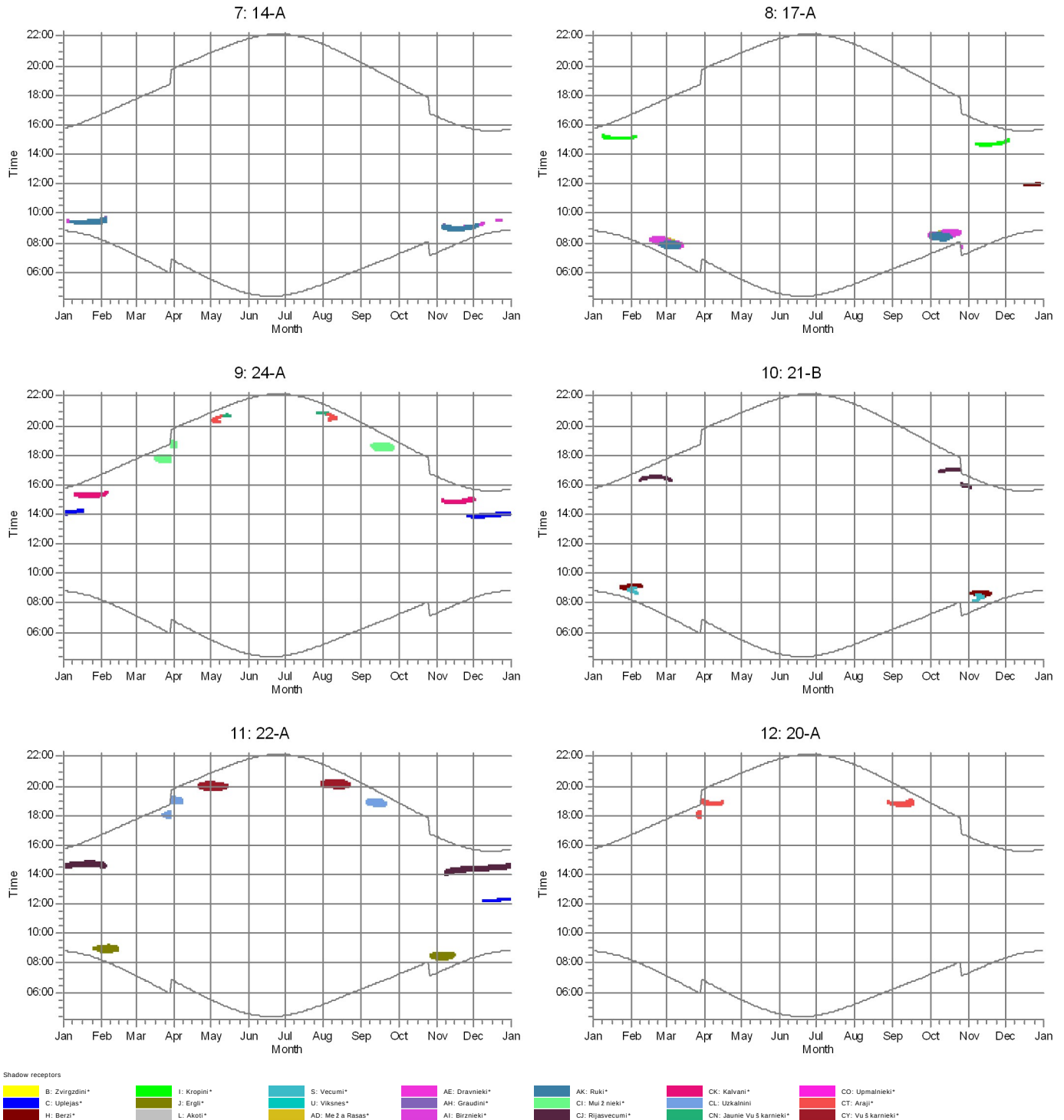
Calculation: Real Case Curtailment



* Results reduced by flicker curtailment

SHADOW - Calendar per WTG, graphical

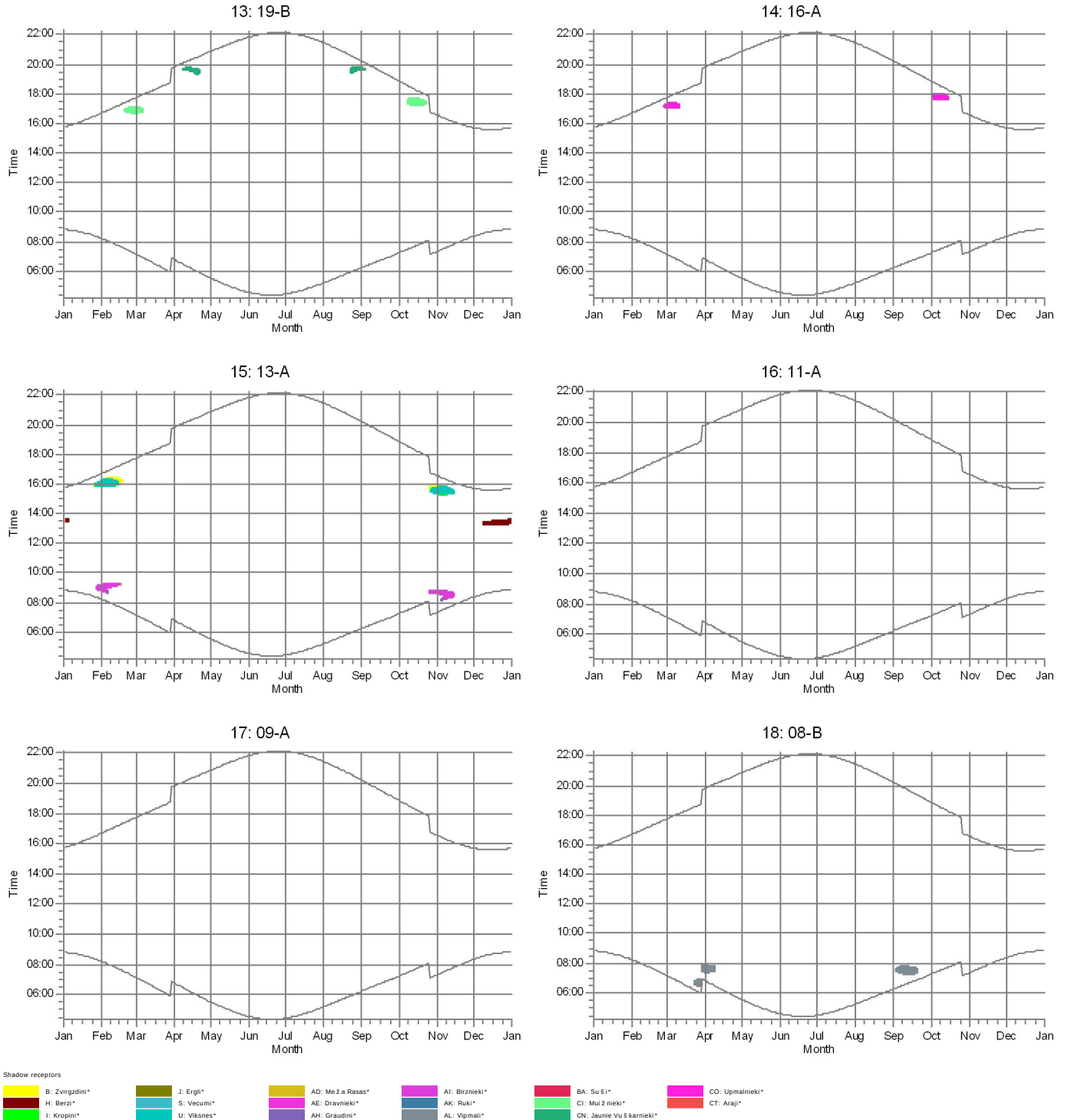
Calculation: Real Case Curtailment



* Results reduced by flicker curtailment

SHADOW - Calendar per WTG, graphical

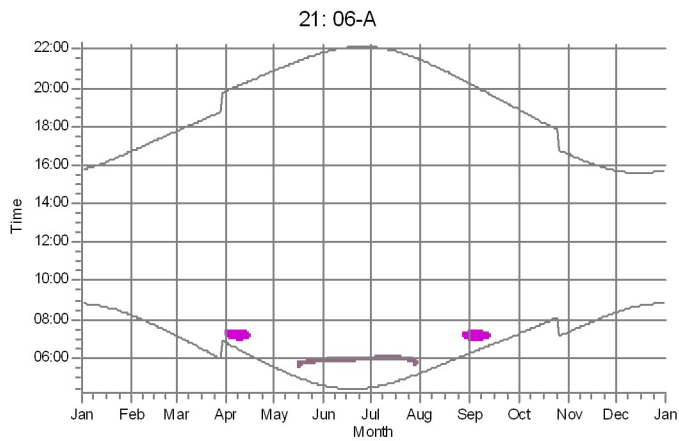
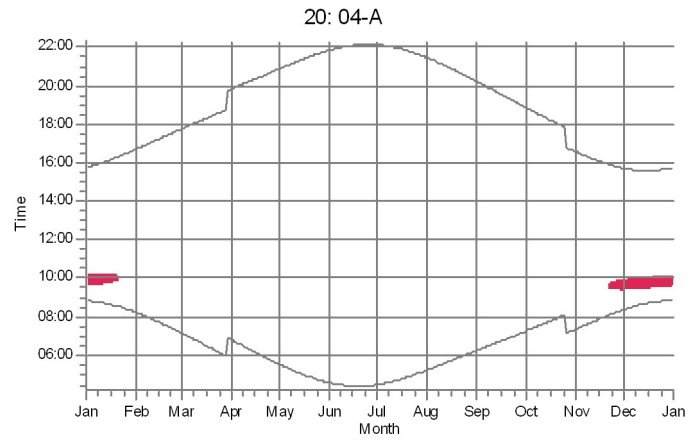
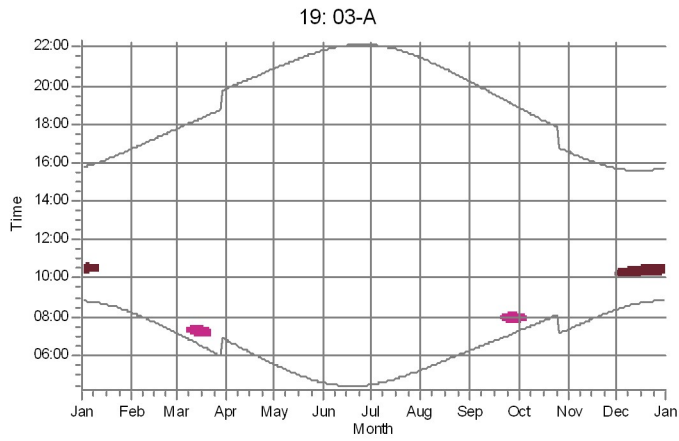
Calculation: Real Case Curtailment



* Results reduced by flicker curtailment

SHADOW - Calendar per WTG, graphical

Calculation: Real Case Curtailment



Shadow receptors

AF: Ogu Purvs	AN: Pludmales 1	AP: Kalna Galvani*	BE: Galvani	BR: Liepsala*
AL: Vipmali*	AO: Pludmales	BA: Suš 1*	BN: Klavas*	

* Results reduced by flicker curtailment

Project:

2026-02-Ecosoul-ME ŽARES-UIPE

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Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 1 - 1-A

Flicker curtailment by stopping specific turbines

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

Project:

2026-02-Ecosoul-MEŽARES-UIPE

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Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 2 - 2-A

Flicker curtailment by stopping specific turbines

	January	February	March	April	May	June	July	August	September	October	November	December
1						05:40-06:25	05:46-06:31	05:59-06:26				
2						05:40-06:25	05:47-06:31	06:01-06:24				
3						05:40-06:25	05:47-06:32	06:02-06:22				
4						05:41-06:26	05:47-06:32	06:04-06:19				
5						05:41-06:26	05:48-06:32	06:09-06:14				
6						05:41-06:26	05:48-06:33					
7						05:42-06:27	05:48-06:33					
8						05:42-06:26	05:48-06:33					
9					05:55-06:08	05:41-06:26	05:48-06:33					
10					05:52-06:11	05:42-06:27	05:48-06:33					
11					05:50-06:13	05:43-06:27	05:48-06:33					
12					05:49-06:15	05:42-06:27	05:48-06:33					
13					05:47-06:16	05:43-06:27	05:48-06:33					
14					05:46-06:17	05:43-06:28	05:49-06:34					
15					05:44-06:18	05:43-06:27	05:49-06:33					
16					05:44-06:20	05:43-06:27	05:49-06:33					
17					05:43-06:20	05:43-06:28	05:50-06:34					
18					05:42-06:20	05:44-06:28	05:49-06:33					
19					05:42-06:21	05:44-06:28	05:50-06:34					
20					05:41-06:22	05:44-06:28	05:50-06:33					
21					05:42-06:23	05:45-06:29	05:51-06:33					
22					05:41-06:22	05:45-06:29	05:51-06:33					
23					05:41-06:23	05:45-06:29	05:52-06:33					
24					05:40-06:23	05:45-06:29	05:51-06:32					
25					05:40-06:24	05:46-06:30	05:52-06:32					
26					05:40-06:24	05:45-06:30	05:53-06:32					
27					05:40-06:25	05:46-06:30	05:53-06:30					
28					05:40-06:24	05:46-06:30	05:54-06:30					
29					05:40-06:24	05:46-06:31	05:56-06:29					
30					05:40-06:25	05:47-06:31	05:56-06:28					
31					05:40-06:25		05:57-06:27					

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 3 - 10-A

Flicker curtailment by stopping specific turbines

	January	February	March	April	May	June	July	August	September	October	November	December
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 4 - 15-A

Flicker curtailment by stopping specific turbines

January February March April May June July August September October November December

1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 5 - 12-A

Flicker curtailment by stopping specific turbines

January February March April May June July August September October November December

1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 6 - 18-A

Flicker curtailment by stopping specific turbines

January February March April May June July August September October November December

1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 7 - 14-A

Flicker curtailment by stopping specific turbines

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

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 8 - 17-A

Flicker curtailment by stopping specific turbines

January	February	March	April	May	June
1 13:33-14:16 12:02-12:31	15:08-15:51 13:50-14:21				
2 13:33-14:17 12:03-12:31	15:09-15:51 13:52-14:19				
3 13:33-14:17 12:03-12:31	15:10-15:51 13:54-14:18				
4 13:34-14:19 12:05-12:32	15:10-15:50 13:56-14:15				
5 13:34-14:19 12:05-12:31	15:12-15:50 14:01-14:11				
6 13:34-14:19 12:06-12:31	15:13-15:50				
7 13:34-14:20 12:07-12:30	15:15-15:49				
8 13:35-14:20 12:08-12:30	15:16-15:48				
9 13:35-14:21 12:10-12:29	15:20-15:48				
10 15:14-15:19 13:35-14:21 12:11-12:29	15:26-15:46				
11 15:12-15:21 13:36-14:22 12:13-12:28	15:28-15:45				
12 15:11-15:23 13:36-14:23 12:16-12:26	15:31-15:43				
13 15:10-15:25 13:37-14:23					
14 15:09-15:27 13:37-14:23					
15 15:08-15:29 13:37-14:24					
16 15:07-15:30 13:37-14:24					
17 15:07-15:34 13:38-14:24					
18 15:07-15:35 13:38-14:24					
19 15:07-15:38 13:39-14:25					
20 15:06-15:40 13:39-14:25					
21 15:06-15:42 13:40-14:25					
22 15:07-15:44 13:41-14:25					
23 15:06-15:45 13:41-14:25					
24 15:06-15:46 13:42-14:25					
25 15:06-15:47 13:42-14:25					
26 15:06-15:48 13:43-14:24					
27 15:06-15:48 13:44-14:24					
28 15:06-15:49 13:45-14:23					
29 15:07-15:49 13:46-14:23					
30 15:07-15:50 13:47-14:22					
31 15:08-15:50 13:49-14:22					

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 8 - 17-A

Flicker curtailment by stopping specific turbines

	July	August	September	October	November	December
1					14:56-15:15	14:53-15:04 13:18-14:04 11:57-12:09
2					14:52-15:16	14:55-15:03 13:18-14:04 11:55-12:11
3					14:48-15:18	14:59-15:01 13:19-14:05 11:54-12:13
4					14:45-15:19	13:20-14:05 11:54-12:14
5					14:44-15:20	13:20-14:06 11:54-12:16
6					14:42-15:20	13:20-14:05 11:53-12:16
7					14:41-15:20 13:28-13:43	13:21-14:06 11:53-12:18
8					14:40-15:21 13:26-13:47	13:22-14:07 11:53-12:19
9					14:40-15:21 13:23-13:49	13:22-14:06 11:52-12:19
10					14:40-15:22 13:22-13:51	13:23-14:07 11:53-12:21
11					14:39-15:22 13:20-13:52	13:23-14:07 11:53-12:21
12					14:38-15:21 13:20-13:54	13:23-14:07 11:52-12:22
13					14:39-15:22 13:19-13:55	13:25-14:08 11:53-12:23
14					14:39-15:21 13:17-13:55	13:25-14:08 11:53-12:24
15					14:39-15:22 13:17-13:57	13:26-14:08 11:53-12:24
16					14:39-15:21 13:17-13:57	13:26-14:09 11:54-12:25
17					14:39-15:20 13:16-13:58	13:27-14:09 11:54-12:25
18					14:40-15:21 13:16-13:59	13:27-14:10 11:55-12:26
19					14:40-15:20 13:16-13:59	13:27-14:09 11:54-12:26
20					14:41-15:19 13:15-13:59	13:28-14:10 11:55-12:27
21					14:42-15:19 13:16-14:01	13:29-14:11 11:56-12:28
22					14:42-15:18 13:16-14:01	13:29-14:11 11:56-12:28
23					14:43-15:16 13:15-14:01	13:30-14:12 11:57-12:29
24					14:43-15:14 13:16-14:02	13:30-14:12 11:57-12:29
25					14:45-15:13 13:16-14:02	13:30-14:12 11:57-12:29
26					14:46-15:09 13:16-14:03	13:30-14:13 11:58-12:29
27					14:47-15:09 13:16-14:03	13:31-14:13 11:58-12:29
28					14:48-15:08 13:17-14:03	13:31-14:14 11:59-12:30
29					14:49-15:07 13:17-14:03	13:32-14:14 11:59-12:30
30				15:01-15:10	14:51-15:05 13:17-14:04 12:00-12:05	13:32-14:15 12:00-12:31
31				14:59-15:14		13:33-14:16 12:01-12:31

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 9 - 24-A

Flicker curtailment by stopping specific turbines

January	February	March	April	May	June
1 14:09-14:39 10:04-10:34	15:24-15:47				20:11-20:41
2 14:10-14:40 10:05-10:35	15:25-15:47				20:11-20:40
3 14:10-14:40 10:06-10:35	15:25-15:45				20:11-20:40
4 14:11-14:41 10:07-10:36	15:26-15:44				20:12-20:40
5 14:11-14:41 10:07-10:36	15:28-15:43				20:12-20:39
6 14:11-14:41 10:07-10:36	15:31-15:41			20:19-20:30	20:13-20:40
7 14:12-14:42 10:08-10:36				20:16-20:32	20:13-20:39
8 14:12-14:42 10:08-10:36				20:15-20:34	20:15-20:40
9 14:13-14:42 10:09-10:36				20:13-20:36	20:15-20:39
10 14:13-14:42 10:10-10:36				20:12-20:37	20:16-20:40
11 14:14-14:43 10:11-10:37				20:11-20:37	20:16-20:39
12 14:15-14:43 10:12-10:37				20:10-20:38	20:17-20:39
13 14:16-14:44 10:13-10:37				20:09-20:38	20:16-20:38
14 15:26-15:27 14:16-14:43 10:13-10:36				20:09-20:40	20:17-20:39
15 15:25-15:29 14:17-14:43 10:15-10:36				20:08-20:40	20:18-20:39
16 15:23-15:31 14:17-14:43 10:15-10:35				20:08-20:40	20:18-20:39
17 15:23-15:34 14:19-14:43 10:17-10:35				20:08-20:41	20:19-20:39
18 15:22-15:35 14:19-14:42 10:18-10:33				20:08-20:41	20:19-20:39
19 15:22-15:38 14:21-14:42 10:21-10:32				20:07-20:41	20:20-20:39
20 15:22-15:40 14:22-14:41 10:24-10:29				20:08-20:41	20:20-20:39
21 15:21-15:42 14:23-14:40				20:07-20:41	20:20-20:39
22 15:22-15:45 14:26-14:39				20:08-20:41	20:20-20:39
23 15:21-15:45 14:29-14:37				20:07-20:41	20:21-20:40
24 15:21-15:46				20:08-20:41	20:21-20:40
25 15:21-15:46				20:08-20:41	20:20-20:40
26 15:21-15:46				20:08-20:41	20:21-20:41
27 15:21-15:47				20:08-20:41	20:20-20:41
28 15:21-15:47				20:09-20:41	20:21-20:42
29 15:22-15:47				20:09-20:41	20:20-20:41
30 15:22-15:47				20:10-20:41	20:20-20:42
31 15:23-15:47				20:10-20:41	

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 9 - 24-A

Flicker curtailment by stopping specific turbines

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

Project:

2026-02-Ecosoul-MEŽARES-UIPE

Licensed user:

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Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 10 - 21-B

Flicker curtailment by stopping specific turbines

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

Project:

2026-02-Ecosoul-MEŽARES-UIPE

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Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 10 - 21-B

Flicker curtailment by stopping specific turbines

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

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 11 - 22-A

Flicker curtailment by stopping specific turbines

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

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 11 - 22-A

Flicker curtailment by stopping specific turbines

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

Project:

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02.07.2026 17:34/4.1.287

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SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 12 - 20-A

Flicker curtailment by stopping specific turbines

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

Project:

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SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 13 - 19-B

Flicker curtailment by stopping specific turbines

	January	February	March	April	May	June	July	August	September	October	November	December
1				18:54-19:20					18:49-19:37			
2				18:52-19:20					18:48-19:37			
3				19:26-19:28 18:52-19:22					18:48-19:37			
4				19:22-19:29 18:51-19:21					18:47-19:36			
5				18:50-19:31					18:45-19:33			
6				18:50-19:34					18:45-19:30			
7				18:49-19:35					18:45-19:28			
8				18:50-19:38					18:45-19:25			
9				18:49-19:38					19:17-19:23 18:45-19:15			
10				18:50-19:39					18:45-19:15			
11				18:50-19:38					18:46-19:13			
12				18:50-19:37					18:46-19:12			
13				18:51-19:37					18:47-19:11			
14				18:52-19:36					18:49-19:09			
15				19:15-19:35 18:54-19:13					18:50-19:06			
16				19:15-19:33 18:55-19:10					18:54-19:02			
17				19:17-19:32 18:59-19:07								
18				19:18-19:29								
19												
20												
21												
22												
23												
24								19:24-19:32				
25								19:20-19:33				
26								19:18-19:35 18:58-19:11				
27								19:17-19:36 18:56-19:13				
28			18:03-18:14					18:53-19:37				
29			17:59-18:16					18:52-19:37				
30			18:57-19:18					18:50-19:37				
31			18:56-19:20									

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 14 - 16-A

Flicker curtailment by stopping specific turbines

	January	February	March	April	May	June	July	August	September	October	November	December
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												

Project:

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SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 15 - 13-A

Flicker curtailment by stopping specific turbines

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

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 16 - 11-A

Flicker curtailment by stopping specific turbines

	January	February	March	April	May	June	July	August	September	October	November	December
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 17 - 09-A

Flicker curtailment by stopping specific turbines

January February March April May June July August September October November December

1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 18 - 08-B

Flicker curtailment by stopping specific turbines

	January	February	March	April	May	June	July	August	September	October	November	December
1		08:46-08:55									08:05-08:32	
2		08:44-08:57									08:06-08:32	
3		08:42-08:59									08:06-08:32	
4		08:39-08:59									08:06-08:31	
5		08:37-09:00									08:07-08:31	
6		08:37-09:01									08:07-08:30	
7		08:37-09:02									08:09-08:30	
8		08:36-09:02									08:11-08:29	
9		08:36-09:02									08:13-08:28	
10		08:36-09:03									08:16-08:27	
11		08:36-09:02									08:18-08:25	
12		08:37-09:02									08:21-08:22	
13		08:37-09:01										
14		08:38-09:01										
15		08:39-09:01										
16		08:39-08:59										
17		08:41-08:58										
18		08:43-08:55										
19		08:48-08:51										
20												
21												
22												
23												
24										09:13-09:24		
25										09:12-09:27		
26										08:10-08:28		
27										08:08-08:29		
28										08:08-08:31		
29										08:07-08:31		
30										08:06-08:31		
31	08:48-08:52									08:06-08:32		

Project:

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SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 19 - 03-A

Flicker curtailment by stopping specific turbines

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

Project:

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SKEPAST & PUHKIM

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 20 - 04-A

Flicker curtailment by stopping specific turbines

	January	February	March	April	May	June	July	August	September	October	November	December
1			07:56-08:27							07:45-08:08		
2			07:56-08:26							07:47-08:07		
3			07:56-08:25							07:49-08:06		
4			07:57-08:25							07:51-08:05		
5			07:57-08:23							08:41-08:51 07:53-08:03		
6			07:58-08:21							08:37-08:54 07:55-08:00		
7			07:59-08:20							08:36-08:56		
8			08:01-08:18 07:19-07:24							08:34-08:57		
9			08:03-08:14 07:16-07:26							08:32-08:58		
10			07:14-07:28							08:31-08:59		
11			07:11-07:28							08:30-08:59		
12			07:08-07:28							08:29-08:59		
13			07:06-07:29							08:28-08:59		
14			07:05-07:29							08:29-09:00		
15			07:04-07:28							08:28-08:59		
16			07:04-07:27							08:28-08:59		
17			07:05-07:27							08:28-08:58		
18		08:06-08:18	07:05-07:26							08:29-08:58		
19		08:04-08:21	07:05-07:25							08:29-08:57		
20		08:01-08:23	07:07-07:24							08:29-08:56		
21		08:00-08:23	07:08-07:21							08:30-08:54		
22		07:59-08:25	07:11-07:17						07:55-08:04	08:32-08:54		
23		07:58-08:25							07:52-08:06	08:33-08:52		
24		07:57-08:26							07:50-08:08	08:35-08:49		
25		07:56-08:26							07:48-08:09	08:40-08:45		
26		07:57-08:27							07:47-08:09			
27		07:56-08:27							07:46-08:09			
28		07:55-08:26							07:45-08:09			
29									07:45-08:09			
30									07:45-08:09			
31									07:45-08:09			

SHADOW - Flicker curtailment calendar

Calculation: Real Case Curtailment WTG: 21 - 06-A

Flicker curtailment by stopping specific turbines

	January	February	March	April	May	June	July	August	September	October	November	December
1						05:20-05:50	05:26-05:56					
2						05:20-05:50	05:26-05:57					
3						05:20-05:50	05:26-05:57					
4						05:21-05:51	05:27-05:58					
5						05:20-05:51	05:27-05:58					
6						05:20-05:51	05:27-05:58					
7						05:21-05:52	05:27-05:58					
8						05:21-05:52	05:27-05:58					
9						05:21-05:52	05:28-05:58					
10						05:21-05:52	05:28-05:58					
11						05:22-05:53	05:28-05:58					
12						05:22-05:52	05:28-05:58					
13						05:22-05:53	05:28-05:58					
14						05:23-05:53	05:29-05:59					
15						05:22-05:53	05:29-05:58					
16						05:22-05:53	05:29-05:58					
17					05:30-05:39	05:23-05:53	05:30-05:58					
18					05:28-05:41	05:23-05:53	05:30-05:58					
19					05:27-05:43	05:23-05:54	05:31-05:58					
20					05:25-05:44	05:23-05:54	05:31-05:57					
21					05:24-05:45	05:24-05:55	05:32-05:57					
22					05:22-05:46	05:24-05:55	05:32-05:56					
23					05:22-05:47	05:24-05:55	05:34-05:56					
24					05:21-05:47	05:24-05:55	05:35-05:54					
25					05:21-05:48	05:25-05:55	05:37-05:53					
26					05:21-05:48	05:25-05:55	05:39-05:52					
27					05:21-05:49	05:25-05:56	05:40-05:50					
28					05:20-05:49	05:25-05:56	05:43-05:46					
29					05:20-05:49	05:26-05:56						
30					05:20-05:50	05:26-05:57						
31					05:20-05:50							

SHADOW - Flicker curtailment protection

Calculation: Real Case Curtailment

[illegible]

	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS
1		X																													
2																									X						
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															
13																															
14																															
15																															
16																															
17																															
18													X																		
19		X											X																		
20		X																													
21																									X						

[illegible]

Project:

2026-02-Ecosoul-MEŽARES-VIPE

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Calculated:

02.07.2026 17:34/4.1.287

SKEPAST & PUHKIM

SHADOW - Flicker curtailment protection

Calculation: Real Case Curtailment

	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10	X																							
11																								
12	X																							
13																								
14																								
15																								
16																								
17																								
18																								
19																								
20																								
21																								

SHADOW - Map

Calculation: Real Case Curtailment

