

SHADOW - Main Result

Calculation: Vestas V162 - Worst & Real Case

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:

EMD-WRF Europe ERA5

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
512	408	421	308	369	814	801	858	1 132	977	984	664	8 248

Monthly aggregation of real case reduction

Idle start wind speed 3,0 m/s

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 - Terrain model

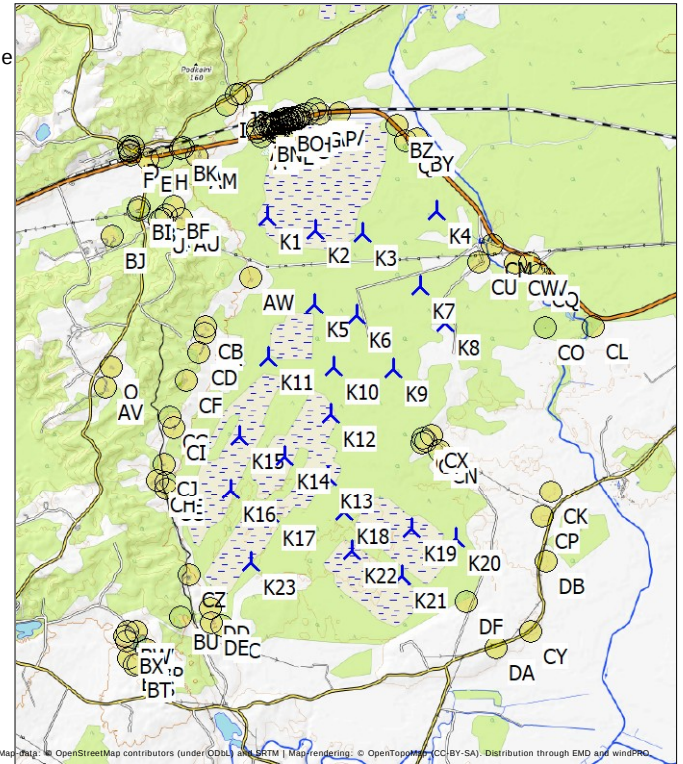
Receptor grid resolution: 1,0 m

Topographic shadow included in calculation

All coordinates are in

Geo [deg]-WGS84

WTGs



Map data: © OpenStreetMap contributors (under ODbL) and SRTM | Map rendering: © OpenTopoMap (CC-BY-SA). Distribution through EMD and windPRO

Scale 1:100 000

New WTG

Shadow receptor

	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
			[m]									[RPM]
1	26,133687° E	56,495255° N	92,4	K20	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
2	26,122079° E	56,490850° N	90,8	K21	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
3	26,124174° E	56,496394° N	91,0	K19	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
4	26,109636° E	56,498504° N	90,7	K18	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
5	26,111253° E	56,493739° N	90,3	K22	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
6	26,092987° E	56,533585° N	92,2	K1	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
7	26,131467° E	56,521036° N	92,6	K8	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
8	26,093765° E	56,498252° N	90,2	K17	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
9	26,103142° E	56,523214° N	92,5	K5	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
10	26,120254° E	56,515533° N	96,3	K9	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
11	26,093276° E	56,516918° N	93,0	K11	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
12	26,106853° E	56,510195° N	91,2	K12	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
13	26,089645° E	56,492430° N	90,5	K23	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
14	26,129593° E	56,534258° N	91,8	K4	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
15	26,113605° E	56,531660° N	92,4	K3	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
16	26,086963° E	56,507489° N	91,9	K15	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
17	26,106123° E	56,502711° N	90,6	K13	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
18	26,085094° E	56,501058° N	90,6	K16	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
19	26,096745° E	56,505013° N	90,7	K14	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
20	26,112453° E	56,521917° N	92,4	K6	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
21	26,103421° E	56,531927° N	91,9	K2	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
22	26,126045° E	56,525271° N	92,8	K7	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-
23	26,107497° E	56,515765° N	94,0	K10	Yes	VESTAS	V162-6.2-6 200	6 200	162,0	149,0	2 042	-

SHADOW - Main Result

Calculation: Vestas V162 - Worst & Real Case

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	Mizuki	26,063286° E	56,541498° N	115,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
B	Lejas Sunas	26,063506° E	56,541370° N	114,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
C	Me ž sunas	26,063185° E	56,541958° N	117,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
D	Veca skola	26,064137° E	56,542003° N	115,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
E	Lejas Suni	26,067220° E	56,540460° N	107,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
F	Papeles	26,063771° E	56,540924° N	112,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
G	Vigriezes	26,087530° E	56,548261° N	102,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
H	Sunu Medilas	26,070454° E	56,540671° N	107,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
I	Kuku Pasile	26,084459° E	56,546804° N	104,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
J	Kuku Pasile 2	26,086284° E	56,548103° N	105,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
K	Bambari	26,071285° E	56,533849° N	106,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
L	Kukas Nr. 32	26,097933° E	56,545025° N	100,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
M	Zeltinkukas	26,097923° E	56,542609° N	100,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
N	Kukas Nr. 29	26,099665° E	56,545262° N	99,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
O	Lukapicku Bajari	26,059655° E	56,515709° N	136,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
P	Driksnas	26,097309° E	56,544914° N	100,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Q	Lei š u Sils	26,122977° E	56,542609° N	92,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
R	Silmalas	26,070518° E	56,533356° N	109,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
S	Purmalrasas 2	26,096086° E	56,544720° N	99,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
T	Rozes	26,096916° E	56,544879° N	100,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
U	Gobinas	26,069881° E	56,533175° N	109,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
V	Kukas Nr. 5A	26,108687° E	56,545953° N	93,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
W	Kukas Nr. 1	26,094393° E	56,544291° N	98,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
X	Kaplica	26,101901° E	56,545728° N	97,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Y	Kukas Nr. 8	26,096829° E	56,543964° N	97,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Z	Kukas Nr. 22	26,097396° E	56,545205° N	100,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AA	Vasjkova nams	26,096559° E	56,544498° N	99,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AB	Kukas Nr. 7	26,097318° E	56,544069° N	97,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AC	Kukas Nr. 28	26,100077° E	56,545512° N	98,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AD	Kukas Nr. 2	26,093910° E	56,544204° N	97,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AE	Kukas Nr. 33	26,095190° E	56,544610° N	99,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AF	Kukas Nr. 24	26,098771° E	56,545347° N	99,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AG	Kukas Nr. 27	26,099229° E	56,545399° N	99,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AH	Kukas Nr. 10	26,096024° E	56,543781° N	97,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AI	Kukas Nr. 9	26,096452° E	56,543877° N	97,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AJ	Kukas Nr. 3	26,093305° E	56,544298° N	97,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AK	1	26,090963° E	56,543704° N	97,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AL	1	26,091047° E	56,544021° N	97,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AM	Kuku Drava	26,077988° E	56,540746° N	102,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AN	Kukas Nr. 17	26,095025° E	56,544828° N	99,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AO	Maja 145,3. km	26,103352° E	56,546415° N	94,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AP	Kukas Nr. 6	26,104578° E	56,545778° N	96,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AQ	Kukas Nr. 23	26,098304° E	56,545304° N	99,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AR	Kukas Nr. 15	26,093682° E	56,544507° N	97,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AS	Kukas Nr. 16	26,094237° E	56,544642° N	98,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AT	Kukas Nr. 31	26,097683° E	56,544128° N	97,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AU	Dukernieki	26,074658° E	56,533321° N	109,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AV	Lukapickas	26,058230° E	56,513249° N	135,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AW	Purmalrasas	26,089573° E	56,526337° N	100,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AX	Kukas 11	26,095602° E	56,543691° N	97,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AY	Kukas Nr. 4	26,092904° E	56,544767° N	97,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
AZ	Kukas Nr. 34	26,091860° E	56,543045° N	95,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BA	Kuku Medilas	26,075079° E	56,541753° N	104,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BB	Kraukli	26,065152° E	56,534400° N	110,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BC	Kuku Balo ž i	26,098273° E	56,544306° N	97,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BD	Kukas Nr. 13	26,094800° E	56,543545° N	96,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BE	Kukas Nr. 12	26,095264° E	56,543601° N	96,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BF	Kartupnieki	26,073040° E	56,534828° N	105,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BG	Kukas Nr. 30	26,100708° E	56,545660° N	97,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BH	Zeltinkukas 1	26,098768° E	56,545101° N	99,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BI	Mednieki	26,065620° E	56,534715° N	109,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BJ	O š lejas	26,059760° E	56,531276° N	111,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BK	Kraces	26,074410° E	56,541680° N	105,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0

To be continued on next page...

SHADOW - Main Result

Calculation: Vestas V162 - Worst & Real Case

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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]
BL	Kukas Nr. 5	26,092328° E	56,544483° N	97,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BM	Jani š i	26,096074° E	56,545089° N	99,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BN	Kukas Nr. 36	26,092574° E	56,544009° N	96,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BO	Kukas Nr. 20	26,096859° E	56,545176° N	100,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BP	Speldzinu Ozolini	26,067071° E	56,482035° N	105,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BQ	Bisenieki 2	26,063230° E	56,480993° N	104,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BR	Dujas	26,062426° E	56,483614° N	104,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BS	Malini	26,065318° E	56,480229° N	109,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BT	Speldzinu	26,064354° E	56,480104° N	109,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BU	Virzinas	26,074364° E	56,485874° N	104,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BV	Lici š i	26,064859° E	56,484163° N	103,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BW	Priednieku Bisenieki	26,063061° E	56,484142° N	106,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BX	Bisenieki	26,062834° E	56,483109° N	103,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BY	Lei š u Sils	26,125444° E	56,542875° N	92,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
BZ	Lei š usils	26,121034° E	56,544456° N	94,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CA	Strazdi	26,079632° E	56,519765° N	106,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CB	Radini	26,079889° E	56,520588° N	108,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CC	Kreslini	26,071224° E	56,501171° N	107,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CD	Sili	26,078392° E	56,517462° N	105,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CE	Skujenieki	26,071168° E	56,502014° N	107,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CF	Salmini	26,075652° E	56,514176° N	109,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CG	Senci	26,072043° E	56,509743° N	111,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CH	Pakalni	26,069473° E	56,502185° N	111,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CI	Skalbes	26,072883° E	56,508558° N	110,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CJ	Kastani	26,070978° E	56,504189° N	108,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CK	Kvie š i	26,154401° E	56,500923° N	90,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CL	Pukulejas	26,163466° E	56,520586° N	91,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CM	Celinieki	26,141552° E	56,530263° N	91,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CN	Purvini	26,130133° E	56,505780° N	94,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CO	Salenieki	26,152954° E	56,520418° N	93,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CP	Ogu Purvs	26,152484° E	56,497834° N	90,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CQ	Me ž a Papuli	26,151833° E	56,526776° N	90,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CR	Noras	26,126508° E	56,506629° N	96,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CS	Me ž mali	26,126691° E	56,507313° N	97,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CT	Kurani	26,127398° E	56,506989° N	97,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CU	Berzkalni	26,138739° E	56,528258° N	92,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CV	Saulcerini	26,149626° E	56,528094° N	93,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CW	Airites	26,146614° E	56,528054° N	93,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CX	Lejnieki	26,128573° E	56,507638° N	96,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CY	Vipmali	26,149895° E	56,484226° N	91,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
CZ	Celmalas	26,076176° E	56,490952° N	108,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DA	Kalna Galvani	26,142426° E	56,482217° N	98,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DB	Su š i	26,153079° E	56,492558° N	90,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DC	Strautlejas	26,083178° E	56,484852° N	97,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DD	Irgeni	26,080875° E	56,486825° N	98,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DE	Alejas	26,081081° E	56,485255° N	101,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
DF	Galvani	26,135915° E	56,487671° N	95,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

Calculation Results

Shadow receptor

No.	Name	Shadow, worst case			Shadow, expected values	
		Shadow hours	Shadow days	Max shadow	Shadow hours	
		per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]	
A	Mizuki	3:59	21	0:18	0:37	
B	Lejas Sunas	4:09	22	0:18	0:38	
C	Me ž sunas	0:00	0	0:00	0:00	
D	Veca skola	4:11	22	0:18	0:38	
E	Lejas Suni	6:32	27	0:22	1:01	
F	Papeles	4:23	23	0:18	0:41	
G	Vigriezes	0:00	0	0:00	0:00	
H	Sunu Medilas	8:52	32	0:24	1:22	

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SHADOW - Main Result

Calculation: Vestas V162 - Worst & Real Case

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No.	Name	Shadow, worst case		Max shadow hours per day	Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]		Shadow hours per year [h/year]	Shadow hours per year [h/year]
I	Kuku Pasile	14:42	51	0:20	0:56	
J	Kuku Pasile 2	0:00	0	0:00	0:00	
K	Bambari	16:18	50	0:28	4:14	
L	Kukas Nr. 32	22:59	53	0:40	1:24	
M	Zeltinkukas	22:16	53	0:39	1:22	
N	Kukas Nr. 29	21:28	43	0:43	1:16	
O	Lukapicku Bajari	3:49	22	0:17	0:35	
P	Driksnas	24:02	57	0:39	1:29	
Q	Lei š u Sils	80:20	94	1:09	5:28	
R	Silmalas	15:22	51	0:28	4:04	
S	Purmalrasas 2	23:42	64	0:34	1:31	
T	Rozes	23:46	59	0:36	1:29	
U	Gobinas	10:42	34	0:27	2:54	
V	Kukas Nr. 5A	32:45	88	0:31	2:15	
W	Kukas Nr. 1	28:40	74	0:41	1:49	
X	Kaplica	16:11	36	0:38	0:56	
Y	Kukas Nr. 8	39:23	69	0:55	2:29	
Z	Kukas Nr. 22	20:11	54	0:34	1:15	
AA	Vasjkova nams	28:13	64	0:42	1:47	
AB	Kukas Nr. 7	38:29	66	0:55	2:25	
AC	Kukas Nr. 28	18:17	39	0:40	1:04	
AD	Kukas Nr. 2	30:38	76	0:44	1:57	
AE	Kukas Nr. 33	24:09	68	0:34	1:32	
AF	Kukas Nr. 24	19:17	47	0:38	1:09	
AG	Kukas Nr. 27	19:02	44	0:39	1:07	
AH	Kukas Nr. 10	40:03	73	0:50	2:33	
AI	Kukas Nr. 9	39:47	71	0:53	2:31	
AJ	Kukas Nr. 3	29:25	77	0:43	1:52	
AK	1	43:38	89	0:54	2:51	
AL	1	38:00	86	0:50	2:27	
AM	Kuku Drava	26:43	55	0:48	3:06	
AN	Kukas Nr. 17	20:47	67	0:27	1:21	
AO	Maja 145,3. km	10:28	36	0:22	0:37	
AP	Kukas Nr. 6	24:21	78	0:26	1:43	
AQ	Kukas Nr. 23	19:27	49	0:37	1:11	
AR	Kukas Nr. 15	25:14	74	0:36	1:36	
AS	Kukas Nr. 16	22:38	71	0:32	1:27	
AT	Kukas Nr. 31	38:01	64	0:56	2:23	
AU	Dukernieki	24:18	63	0:33	6:34	
AV	Lukapickas	3:44	21	0:18	0:41	
AW	Purmalrasas	106:17	233	0:52	20:26	
AX	Kukas 11	40:56	76	0:52	2:37	
AY	Kukas Nr. 4	22:05	75	0:31	1:25	
AZ	Kukas Nr. 34	56:04	92	1:02	3:44	
BA	Kuku Medilas	13:55	42	0:27	1:27	
BB	Kraukli	6:21	26	0:22	1:35	
BC	Kuku Balo ž i	35:09	60	0:50	2:12	
BD	Kukas Nr. 13	43:17	80	0:55	2:46	
BE	Kukas Nr. 12	42:19	78	0:54	2:43	
BF	Kartupnieki	17:11	48	0:31	4:15	
BG	Kukas Nr. 30	17:04	34	0:39	0:59	
BH	Zeltinkukas 1	22:51	49	0:42	1:23	
BI	Mednieki	6:41	27	0:22	1:39	
BJ	O š lejas	0:00	0	0:00	0:00	
BK	Kraces	12:51	40	0:27	1:26	
BL	Kukas Nr. 5	27:33	79	0:40	1:45	
BM	Jani š i	19:20	60	0:22	1:16	
BN	Kukas Nr. 36	35:50	82	0:49	2:17	
BO	Kukas Nr. 20	19:56	57	0:30	1:16	
BP	Speldzinu Ozolini	5:40	36	0:14	1:47	
BQ	Bisenieki 2	0:00	0	0:00	0:00	
BR	Dujas	9:29	42	0:20	2:58	
BS	Malini	0:00	0	0:00	0:00	

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SHADOW - Main Result

Calculation: Vestas V162 - Worst & Real Case

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No.	Name	Shadow, worst case		Max shadow hours per day	Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]		Shadow hours per year [h/year]	Shadow hours per year [h/year]
BT	Speldzinas	0:00	0	0:00	0:00	0:00
BU	Virzinas	17:37	48	0:30	5:34	5:34
BV	Lici š i	14:15	57	0:23	4:28	4:28
BW	Priednieku Bisenieki	9:43	42	0:21	3:03	3:03
BX	Bisenieki	11:34	52	0:20	3:38	3:38
BY	Lei š u Sils	72:35	98	1:09	4:54	4:54
BZ	Lei š usils	48:45	70	0:52	3:13	3:13
CA	Strazdi	68:59	180	1:01	13:17	13:17
CB	Radini	63:12	190	1:00	12:19	12:19
CC	Kreslini	90:01	207	0:44	23:18	23:18
CD	Sili	86:44	197	0:48	14:50	14:50
CE	Skujenieki	100:36	231	0:43	25:52	25:52
CF	Salmini	83:56	215	1:01	15:49	15:49
CG	Senci	89:34	217	0:51	17:07	17:07
CH	Pakalni	87:35	232	0:39	22:51	22:51
CI	Skalbes	95:26	205	0:57	18:30	18:30
CJ	Kastani	83:20	212	0:40	19:11	19:11
CK	Kvie š i	17:12	54	0:26	3:03	3:03
CL	Pukulejas	5:02	24	0:19	1:21	1:21
CM	Celinieki	111:16	221	0:46	21:54	21:54
CN	Purvini	99:06	228	1:03	14:18	14:18
CO	Salenieki	22:38	72	0:28	6:33	6:33
CP	Ogu Purvs	27:38	71	0:45	6:10	6:10
CQ	Me ž a Papuli	47:05	144	0:27	12:24	12:24
CR	Noras	100:21	234	1:14	14:49	14:49
CS	Me ž mali	90:04	245	0:58	15:25	15:25
CT	Kurani	93:53	246	1:05	15:23	15:23
CU	Berzkalni	117:42	197	1:04	15:26	15:26
CV	Saulcerini	55:41	159	0:28	14:08	14:08
CW	Airites	64:11	150	0:33	15:06	15:06
CX	Lejnieki	87:50	252	0:40	16:53	16:53
CY	Vipmali	8:28	34	0:21	2:39	2:39
CZ	Celmalas	60:56	127	0:45	18:46	18:46
DA	Kalna Galvani	15:12	50	0:25	4:46	4:46
DB	Su š i	25:09	75	0:31	7:14	7:14
DC	Strautlejas	9:12	42	0:20	2:53	2:53
DD	Irgeni	6:02	28	0:19	1:52	1:52
DE	Alejas	0:00	0	0:00	0:00	0:00
DF	Galvani	78:09	106	0:52	24:37	24:37

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

No.	Name	Worst case [h/year]	Expected [h/year]
1	K20	76:31	13:09
2	K21	88:22	26:47
3	K19	69:58	7:54
4	K18	46:55	8:07
5	K22	66:31	11:07
6	K1	204:21	22:26
7	K8	124:24	14:47
8	K17	57:41	12:21
9	K5	66:13	17:24
10	K9	15:04	1:05
11	K11	164:07	38:29
12	K12	53:01	13:30
13	K23	108:19	26:33
14	K4	160:08	25:49
15	K3	151:19	16:55
16	K15	216:49	48:43
17	K13	27:59	5:41
18	K16	120:48	23:11
19	K14	84:32	14:48

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SHADOW - Main Result

Calculation: Vestas V162 - Worst & Real Case

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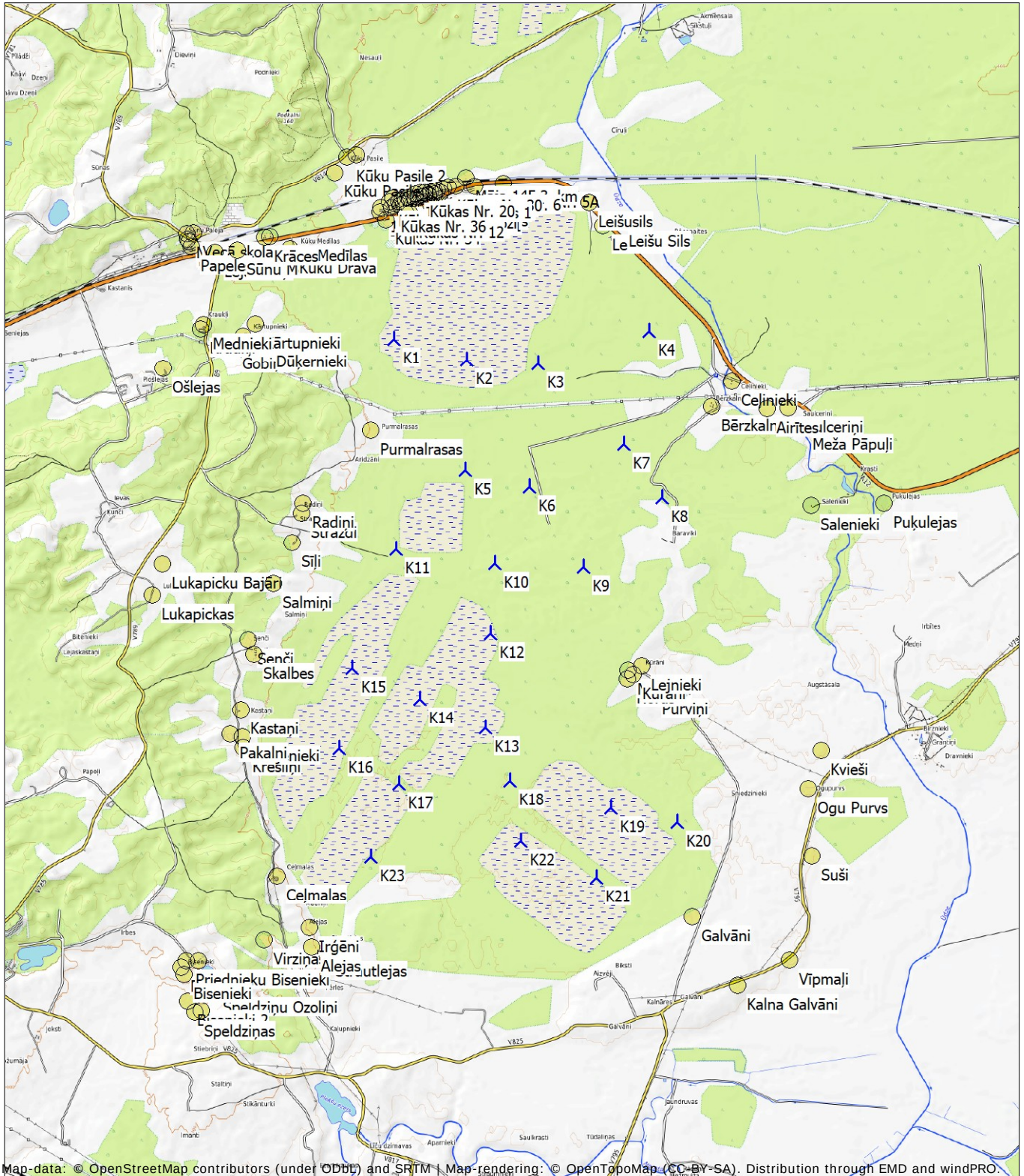
No.	Name	Worst case [h/year]	Expected [h/year]
20	K6	27:59	5:40
21	K2	147:55	18:45
22	K7	81:41	17:48
23	K10	61:22	14:18

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.

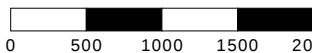
The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given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

SHADOW - Map

Calculation: Vestas V162 - Worst & Real Case



Map-data: © OpenStreetMap contributors (under ODbL) and SRTM | Map-rendering: © OpenTopoMap (CC-BY-SA). Distribution through EMD and windPRO.



New WTG

Map: OpenTopoMap, Print scale 1:50 000, Map center Geo WGS84 East: 26,110848° E North: 56,514183° N

Shadow receptor

Flicker map level: DTM - Terrain model