

SHADOW - Main Result

Calculation: Vestas V162 - Real Case Curtailment CUMULATIVE

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 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
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 - Terrain model

Receptor grid resolution: 1,0 m

Topographic shadow included in calculation

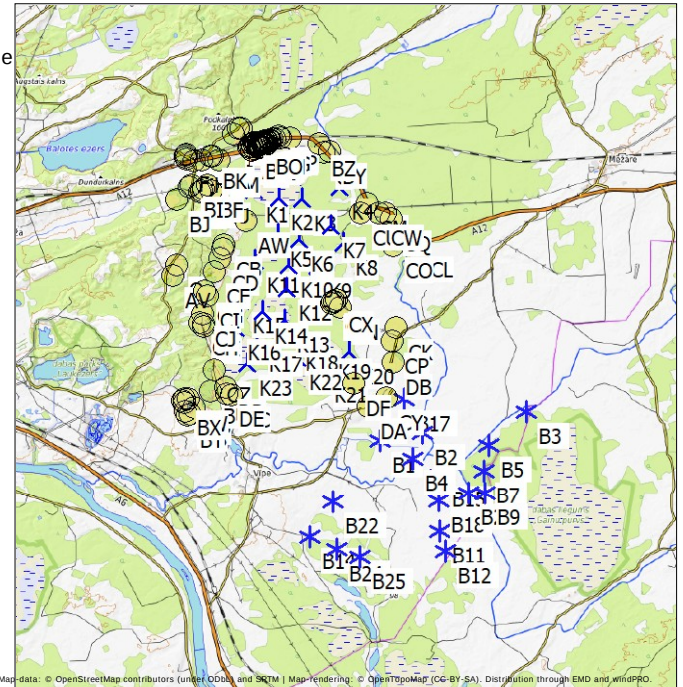
All coordinates are in

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]
			[m]									
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	-
24	26,147263° E	56,474202° N	86,6	B1	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
25	26,172826° E	56,452404° N	88,6	B11	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
26	26,175218° E	56,447698° N	88,8	B12	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
27	26,116912° E	56,451106° N	89,5	B14	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
28	26,172704° E	56,465904° N	87,5	B15	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
29	26,157352° E	56,484029° N	88,3	B17	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
30	26,172078° E	56,459777° N	87,4	B18	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
31	26,165173° E	56,476191° N	86,9	B2	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
32	26,126903° E	56,459445° N	88,5	B22	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
33	26,185332° E	56,461630° N	86,1	B23	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
34	26,128682° E	56,448011° N	89,6	B24	Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8

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Calculation: Vestas V162 - Real Case Curtailment CUMULATIVE

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	Longitude	Latitude	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.					Calculation distance [m]	RPM
35	26,138586° E	56,446097° N	88,9 B25		Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
36	26,209970° E	56,481126° N	87,8 B3		Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
37	26,161081° E	56,469909° N	86,3 B4		Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
38	26,193913° E	56,473053° N	87,1 B5		Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
39	26,191707° E	56,466900° N	88,4 B7		Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	10,8
40	26,192580° E	56,461771° N	87,0 B9		Yes	NORDEX	N175/6.X-6 800	6 800	175,0	179,0	1 893	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	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	56,545071° 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	56,544498° 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

To be continued on next page...

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Calculation: Vestas V162 - Real Case Curtailment CUMULATIVE

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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]
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
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	Speldzinas	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

SHADOW - Main Result

Calculation: Vestas V162 - Real Case Curtailment CUMULATIVE

Calculation Results

Shadow receptor

No.	Name	Shadow, worst case			Avoided hours per year	Shadow, expected values		
		Shadow hours per year	Shadow days per year	Max shadow hours per day		Avoided days per year	Shadow hours per year	Avoided hours per year
		[h/year]	[days/year]	[h/day]		[h/year]	[days/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	
	I Kuku Pasile	14:42	51	0:20			0:56	
	J Kuku Pasile 2	0:00	0	0:00			0:00	
	K* Bambari	6:00	41	0:21	10:18	9	1:30	2:43
	L* Kukas Nr. 32	17:46	53	0:23	5:13		1:08	0:16
	M* Zeltinkukas	17:36	53	0:23	4:40		1:07	0:14
	N* Kukas Nr. 29	13:22	43	0:22	8:06		0:49	0:27
	O Lukapicku Bajari	3:49	22	0:17			0:35	
	P* Driksnas	19:17	57	0:23	4:45		1:15	0:14
	Q* Lei š u Sils	11:36	42	0:23	68:44	52	0:55	4:33
	R* Silmalas	4:05	22	0:19	11:17	29	1:00	3:03
	S* Purmalrasas 2	19:00	64	0:23	4:42		1:16	0:14
	T* Rozes	19:36	59	0:23	4:10		1:16	0:12
	U* Gobinas	0:12	9	0:02	10:30	25	0:03	2:51
	V* Kukas Nr. 5A	10:01	39	0:22	22:44	49	0:44	1:30
	W* Kukas Nr. 1	16:27	74	0:22	12:13		1:08	0:40
	X* Kaplica	10:48	36	0:22	5:23		0:38	0:17
	Y* Kukas Nr. 8	24:14	69	0:25	15:09		1:36	0:52
	Z* Kukas Nr. 22	17:52	54	0:23	2:19		1:08	0:07
	AA* Vasjkova nams	20:44	64	0:23	7:29		1:22	0:24
	AB* Kukas Nr. 7	24:37	66	0:29	13:52		1:36	0:48
	AC* Kukas Nr. 28	11:34	39	0:22	6:43		0:41	0:22
	AD* Kukas Nr. 2	19:37	76	0:22	11:01		1:19	0:37
	AE* Kukas Nr. 33	15:56	68	0:22	8:13		1:06	0:25
	AF* Kukas Nr. 24	14:41	47	0:23	4:36		0:55	0:14
	AG* Kukas Nr. 27	13:31	44	0:22	5:31		0:50	0:17
	AH* Kukas Nr. 10	18:26	73	0:23	21:37		1:17	1:15
	AI* Kukas Nr. 9	21:59	71	0:24	17:48		1:29	1:02
	AJ* Kukas Nr. 3	21:37	77	0:21	7:48		1:26	0:25
	AK* 1	30:06	89	0:27	13:32		2:02	0:48
	AL* 1	28:02	86	0:27	9:58		1:52	0:34
	AM* Kuku Drava	6:31	28	0:21	20:12	27	0:56	2:09
	AN* Kukas Nr. 17	15:51	67	0:22	4:56		1:06	0:15
	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	15:51	49	0:23	3:36		1:00	0:10
	AR* Kukas Nr. 15	18:09	74	0:22	7:05		1:13	0:22
	AS* Kukas Nr. 16	14:45	71	0:22	7:53		1:02	0:25
	AT* Kukas Nr. 31	23:50	64	0:29	14:11		1:33	0:50
	AU* Dukernieki	5:47	25	0:21	18:31	38	1:26	5:08
	AV* Lukapickas	3:00	19	0:18	0:44	2	0:32	0:08
	AW* Purmalrasas	35:54	120	0:25	70:23	113	6:41	13:44
	AX* Kukas 11	15:21	58	0:23	25:35	18	1:06	1:30
	AY* Kukas Nr. 4	19:29	75	0:21	2:36		1:17	0:08
	AZ* Kukas Nr. 34	34:45	92	0:29	21:19		2:23	1:20
	BA* Kuku Medilas	1:49	31	0:05	12:06	11	0:11	1:15
	BB* Kraukli	1:22	18	0:11	4:59	8	0:20	1:15
	BC* Kuku Balo ž i	21:24	60	0:24	13:45		1:24	0:48
	BD* Kukas Nr. 13	20:46	80	0:23	22:31		1:25	1:20
	BE* Kukas Nr. 12	17:53	78	0:26	24:26		1:15	1:27
	BF* Kartupnieki	4:54	23	0:19	12:17	25	1:10	3:05
	BG* Kukas Nr. 30	10:51	34	0:23	6:13		0:38	0:20
	BH* Zeltinkukas 1	16:06	49	0:23	6:45		1:01	0:21
	BI* Mednieki	1:12	17	0:07	5:29	10	0:17	1:21

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SHADOW - Main Result

Calculation: Vestas V162 - Real Case Curtailment CUMULATIVE

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No.	Name	Shadow, worst case			Avoided hours per year	Shadow, expected values	
		Shadow hours per year	Shadow days per year	Max shadow hours per day		Shadow hours per year	Avoided hours per year
		[h/year]	[days/year]	[h/day]	[h/year]	[days/year]	[h/year]
	BJ O š lejas	0:00	0	0:00			0:00
	BK* Kraces	4:20	35	0:09	8:31	5	0:30
	BL* Kukas Nr. 5	23:02	79	0:24	4:31		1:30
	BM* Jani š i	18:35	60	0:22	0:45		1:13
	BN* Kukas Nr. 36	26:48	82	0:27	9:02		1:46
	BO* Kukas Nr. 20	18:34	57	0:22	1:22		1:12
	BP* Speldzinu Ozolini	0:02	2	0:01	5:38	34	0:00
	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
	BT Speldzinas	0:00	0	0:00			0:00
	BU* Virzinas	0:00	0	0:00	17:37	48	0:00
	BV Lici š i	14:15	57	0:23			4:28
	BW Priednieku Bisenieki	9:43	42	0:21			3:03
	BX* Bisenieki	11:20	52	0:20	0:14		3:33
	BY* Lei š u Sils	29:45	98	0:24	42:50		2:09
	BZ* Lei š usils	22:50	70	0:24	25:55		1:31
	CA* Strazdi	38:43	153	0:26	30:16	27	7:12
	CB* Radini	35:03	162	0:26	28:09	28	7:12
	CC* Kreslini	31:44	106	0:27	58:17	101	6:03
	CD* Sili	35:35	151	0:24	51:09	46	6:36
	CE* Skujenieki	30:54	106	0:26	69:42	125	5:34
	CF* Salmini	27:35	129	0:24	56:21	86	5:57
	CG* Senci	15:32	62	0:24	74:02	155	2:03
	CH* Pakalni	26:07	112	0:24	61:28	120	4:50
	CI* Skalbes	33:54	124	0:25	61:32	81	7:43
	CJ* Kastani	29:04	109	0:25	54:16	103	4:32
	CK Kvie š i	17:12	54	0:26			3:03
	CL Pukulejas	5:02	24	0:19			1:21
	CM* Celinieki	12:24	52	0:22	98:52	169	2:50
	CN* Purvini	46:14	145	0:26	52:52	83	5:26
	CO Salenieki	22:38	72	0:28			6:33
	CP* Ogu Purvs	11:27	49	0:22	17:20	33	2:28
	CQ* Me ž a Papuli	23:23	80	0:27	23:42	64	4:55
	CR* Noras	43:52	145	0:29	56:29	89	6:08
	CS* Me ž mali	37:27	152	0:28	52:37	93	5:11
	CT* Kurani	38:17	159	0:27	55:36	87	5:20
	CU* Berzkalni	32:18	127	0:24	85:24	70	5:17
	CV* Saulcerini	27:35	99	0:26	28:06	60	5:53
	CW* Airites	13:26	36	0:29	50:45	114	3:02
	CX* Lejnieki	43:51	188	0:25	43:59	64	6:29
	CY* Vipmali	13:01	64	0:22	233:09	204	1:20
	CZ* Celmalas	0:00	0	0:00	60:56	127	0:00
	DA* Kalna Galvani	43:28	143	0:26	99:40	103	7:59
	DB* Su š i	12:10	52	0:21	65:48	105	3:20
	DC Strautlejas	9:12	42	0:20			2:53
	DD Irgeni	6:02	28	0:19			1:52
	DE Alejas	0:00	0	0:00			0:00
	DF* Galvani	40:29	126	0:29	67:49	64	7:38

* Receptors where shadow flicker is reduced by curtailment

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

No.	Name	Worst case	Stopped due to flicker curtailment	Expected
		[h/year]	[h/year]	[h/year]
1	K20	34:08	42:23	3:19
2	K21	27:25	60:57	7:35
3	K19	27:12	42:46	5:14
4	K18	32:57	13:58	3:44
5	K22	46:46	19:45	9:50
6	K1	52:54	151:27	5:18
7	K8	38:09	86:15	7:41

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SHADOW - Main Result

Calculation: Vestas V162 - Real Case Curtailment CUMULATIVE

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No.	Name	Worst case [h/year]	Stopped due to flicker [h/year]	Expected [h/year]
8	K17	37:24	20:17	5:56
9	K5	37:56	28:17	11:35
10	K9	15:04		1:05
11	K11	16:22	147:45	5:11
12	K12	22:56	30:05	4:23
13	K23	50:03	58:16	8:36
14	K4	25:22	134:46	3:35
15	K3	122:38	28:41	15:06
16	K15	6:49	210:00	1:08
17	K13	27:59		5:41
18	K16	1:49	118:59	0:19
19	K14	84:32		14:48
20	K6	27:59		5:40
21	K2	113:07	34:48	10:35
22	K7	32:59	48:42	8:20
23	K10	34:10	27:12	5:43
24	B1	14:37	89:17	0:54
25	B11	0:00		0:00
26	B12	0:00		0:00
27	B14	0:00		0:00
28	B15	0:00		0:00
29	B17	14:09	268:53	3:03
30	B18	0:00		0:00
31	B2	11:49	21:16	2:01
32	B22	0:00		0:00
33	B23	0:00		0:00
34	B24	0:00		0:00
35	B25	0:00		0:00
36	B3	0:00		0:00
37	B4	27:12		1:49
38	B5	0:00		0:00
39	B7	0:00		0:00
40	B9	0:00		0:00

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 - Real Case Curtailment CUMULATIVE

