





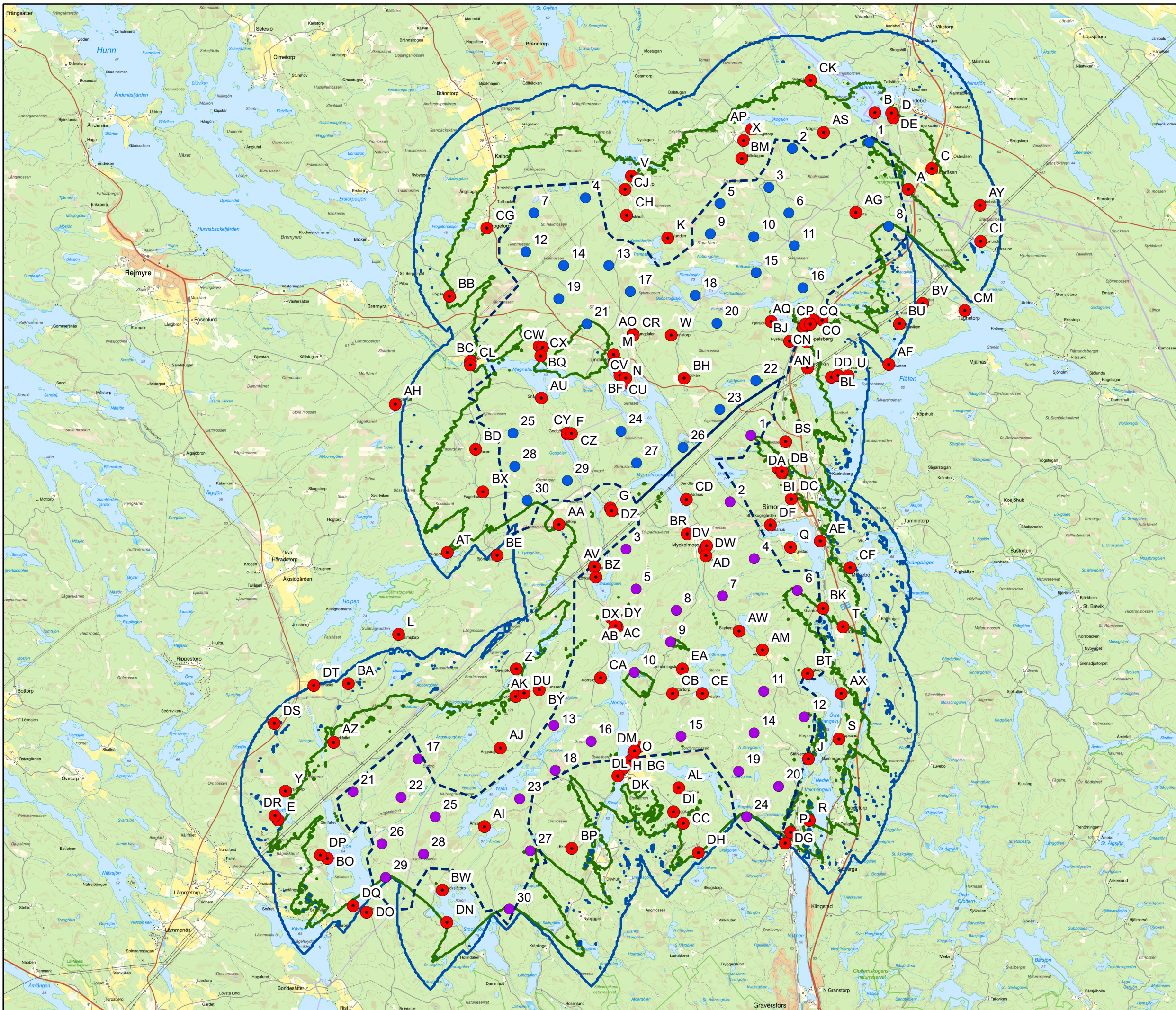


# Klintaberget & Skybygget

-  Utredningsområde
-  Skuggkänsliga objekt
-  Exempel på verksplacering, KLB
-  Exempel på verksplacering, SKB

## Skuggning (Sannolikt fall)

-  0 h/år
-  8 h/år



Sweco Energy AB/seaubo  
 Datum: 2020-09-21  
 © Lantmäteriet



## SHADOW - Main Result

Calculation: 20200823

### 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) [NORRKOPING]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,92 2,22 3,42 6,16 9,78 8,52 7,67 6,33 5,05 3,02 1,57 1,25

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

EmdEuropeEra5\_N58.769466\_E016.122223 (5)

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
622	562	466	415	512	728	674	913	1302	1199	665	631	8689

Idle start wind speed: Cut in wind speed from power curve

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:

Height contours used: GSD Grid 2+ / 50+

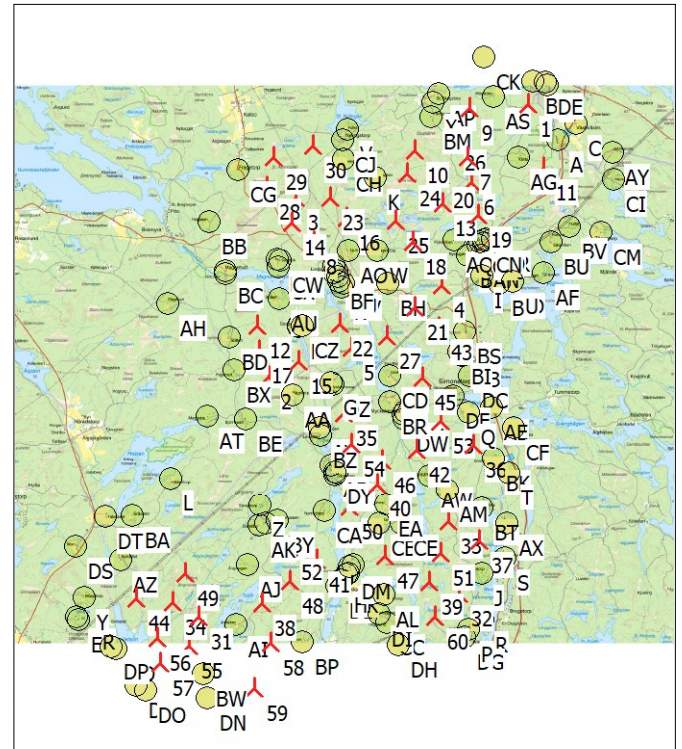
Obstacles used in calculation

Eye height for map: 1,5 m

Grid resolution: 1,0 m

All coordinates are in  
Swedish UTM 33-SWREF99 (SE)

### WTGs



Scale 1:200 000  
New WTG  
Shadow receptor

	Easting	Northing	Z	Row data/Description	WTG type			Shadow data			
					Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Calculation distance [m]
1	568123	6523908	57,2	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
2	561246	6516714	102,3	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
3	561976	6521431	92,1	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
4	565839	6519123	74,9	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
5	563446	6517464	102,8	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
6	566616	6521833	77,4	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
7	566503	6522497	76,1	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
8	562446	6520264	89,2	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
9	566570	6523788	80,0	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
10	565119	6520279	72,7	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
11	568509	6522220	77,4	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
12	560957	6518062	95,9	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
13	565848	6521296	74,9	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
14	561876	6520766	85,9	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
15	562046	6517114	97,1	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
16	563316	6520909	79,1	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
17	560992	6517398	94,8	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
18	565060	6520274	79,4	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
19	566787	6520991	81,2	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
20	565799	6522012	69,1	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
21	565115	6518541	80,9	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
22	563129	6518099	84,3	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
23	562885	6521435	89,4	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
24	564926	6522071	74,4	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
25	564620	6520836	76,1	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
26	566103	6523005	71,2	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
27	564380	6517778	86,1	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
28	561213	6521708	81,9	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
29	561378	6522492	82,6	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
30	562413	6522803	73,8	Sweco SW180 7400 180.0 !-! hub:...No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0

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## SHADOW - Main Result

Calculation: 20200823

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	Easting	Northing	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]
31	559398	6510347	108,6	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
32	566296	6510964	118,2	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
33	565997	6512872	95,1	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
34	558706	6510737	98,5	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
35	563230	6515735	105,5	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
36	566678	6514907	95,8	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
37	566814	6512364	107,1	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
38	561088	6510712	98,5	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
39	565496	6511264	117,5	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
40	564130	6513867	106,3	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
41	562530	6511867	105,7	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
42	565169	6514786	95,4	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
43	565745	6518017	80,6	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
44	557740	6510855	84,5	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
45	565325	6516677	85,3	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
46	564243	6514504	101,7	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
47	564333	6511968	96,3	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
48	561806	6511289	96,5	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
49	559046	6511514	95,0	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
50	563397	6513257	98,0	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
51	565805	6512038	99,4	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
52	561783	6512189	94,6	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
53	565811	6515539	84,4	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
54	563431	6514936	96,3	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
55	559157	6509600	98,6	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
56	558323	6509805	79,9	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
57	558394	6509136	87,1	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
58	561304	6509664	110,7	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
59	560884	6508491	103,8	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0
60	565655	6510351	106,0	Sweco SW180 7400 180.0 !-! hub:...No	No	Sweco	SW180-7400	7400	180,0	200,0	2250	0,0

## Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation	Slope of	Direction mode	Eye height
			[m]	[m]	[m]	a.g.l.	window		(ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	568905	6522963	59,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
B	568240	6524512	45,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
C	569382	6523385	55,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
D	568610	6524402	48,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
E	556231	6510286	81,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
F	562054	6518043	76,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
G	562914	6516555	82,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
H	563189	6511336	84,1	5,0	5,0	1,0	0,0	"Green house mode"	1,0
I	566886	6519376	71,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
J	566901	6511511	74,1	5,0	5,0	1,0	0,0	"Green house mode"	1,0
K	564075	6521983	72,8	5,0	5,0	1,0	0,0	"Green house mode"	1,0
L	558655	6514010	81,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
M	562978	6519647	74,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
N	563191	6519068	66,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
O	563374	6511507	94,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
P	566539	6510040	64,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
Q	566543	6515760	78,1	5,0	5,0	1,0	0,0	"Green house mode"	1,0
R	566923	6510275	65,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
S	567513	6511915	82,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
T	567597	6514171	93,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
U	567702	6519214	68,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
V	563341	6523236	63,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
W	564139	6520030	82,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
X	565594	6523948	67,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
Y	556386	6510860	86,1	5,0	5,0	1,0	0,0	"Green house mode"	1,0
Z	561021	6513316	96,3	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AA	561885	6516219	79,8	5,0	5,0	1,0	0,0	"Green house mode"	1,0

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## SHADOW - Main Result

Calculation: 20200823

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
AB	562919	6514363	86,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AC	563002	6514124	86,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AD	564804	6515714	89,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AE	567140	6515889	66,8	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AF	568517	6519443	69,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AG	567854	6522500	84,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AH	558594	6518646	86,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AI	560383	6510150	97,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AJ	560709	6511735	101,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AK	561012	6512771	104,1	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AL	564294	6510935	104,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AM	565977	6513705	84,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AN	566867	6519903	81,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AO	563368	6520050	73,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AP	565761	6524172	59,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AQ	566150	6520310	72,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AR	567176	6520340	78,1	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AS	567205	6524109	66,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AT	559637	6515665	83,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AU	561530	6518766	67,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AV	562594	6515377	84,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AW	565506	6514084	87,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AX	567558	6512825	67,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AY	570352	6522640	74,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
AZ	557352	6511848	83,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BA	557646	6513027	82,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BB	559680	6520810	73,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BC	560106	6519507	67,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BD	560205	6517741	92,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BE	560638	6515605	95,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BF	563093	6519342	66,3	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BG	563483	6511743	96,1	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BH	564404	6519165	80,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BI	566284	6517362	84,8	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BJ	566524	6519911	73,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BK	567192	6514543	67,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BL	567363	6519187	73,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BM	565558	6523584	71,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BN	566797	6520194	76,8	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BO	557223	6509515	71,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BP	562143	6509707	114,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BQ	561490	6519818	76,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BR	564464	6516039	76,3	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BS	566446	6517894	66,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BT	566883	6513229	71,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BU	568733	6520262	68,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BV	569202	6520674	75,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BW	559535	6508871	83,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BX	560354	6516885	93,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BY	561487	6512897	103,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
BZ	562625	6515166	82,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CA	562722	6513142	90,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CB	564169	6512825	96,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CC	564385	6510215	114,3	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CD	564446	6516727	73,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CE	564768	6512824	88,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CF	567738	6515353	71,3	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CG	560434	6522183	59,8	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CH	563243	6522446	65,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CI	570364	6521923	71,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CJ	563213	6522968	64,1	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CK	566942	6525153	56,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CL	560104	6519432	64,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CM	570046	6520527	67,8	5,0	5,0	1,0	0,0	"Green house mode"	1,0

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## SHADOW - Main Result

Calculation: 20200823

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation	Slope of	Direction mode	Eye height
			[m]	[m]	[m]	a.g.l.	window		(ZVI) a.g.l.
						[m]	[°]		[m]
CN	566943	6520322	84,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CO	566993	6520339	81,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CP	566842	6520258	85,8	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CQ	566938	6520255	83,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CR	563377	6520030	74,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CS	562988	6519456	68,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CT	563050	6519498	75,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CU	563109	6519224	65,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CV	563226	6519170	71,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CW	561554	6519783	74,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CX	561517	6519618	65,8	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CY	562051	6518064	76,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
CZ	562134	6518048	82,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DA	566367	6517261	79,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DB	566369	6517302	82,3	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DC	566555	6516740	88,1	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DD	567495	6519229	72,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DE	568571	6524497	45,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DF	566135	6516212	69,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DG	566435	6509814	82,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DH	564687	6509628	114,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DI	564188	6510447	115,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DJ	563319	6511472	90,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DK	563169	6511317	84,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DL	563069	6511164	84,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DM	563402	6511671	95,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DN	559629	6508225	84,6	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DO	558014	6508424	72,5	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DP	557083	6509580	76,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DQ	557746	6508562	77,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DR	556170	6510367	83,0	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DS	556158	6512227	87,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DT	556950	6512991	82,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DU	561182	6512832	100,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DV	564855	6515798	88,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DW	564840	6515591	87,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DX	563052	6514168	91,9	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DY	563022	6514192	95,2	5,0	5,0	1,0	0,0	"Green house mode"	1,0
DZ	562947	6516499	85,7	5,0	5,0	1,0	0,0	"Green house mode"	1,0
EA	564363	6513320	91,4	5,0	5,0	1,0	0,0	"Green house mode"	1,0

## Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	46:44	71	0:50	7:46	
B	88:43	103	1:10	14:56	
C	50:00	125	0:33	12:33	
D	68:13	100	1:14	12:49	
E	22:42	72	0:27	6:21	
F	162:01	203	1:19	32:03	
G	122:24	245	0:52	24:36	
H	92:03	144	1:03	26:50	
I	58:22	162	0:39	13:09	
J	109:31	206	0:50	26:05	
K	215:43	332	1:11	48:48	
L	0:00	0	0:00	0:00	
M	61:54	155	0:47	13:12	
N	119:53	191	1:07	20:00	
O	142:32	139	1:31	42:03	
P	59:38	86	0:47	17:27	

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## SHADOW - Main Result

Calculation: 20200823

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
Q	128:50	221	0:54	25:31
R	0:00	0	0:00	0:00
S	56:12	163	0:28	14:00
T	45:57	149	0:24	9:06
U	8:32	30	0:23	2:04
V	71:15	141	1:17	12:47
W	129:05	261	0:51	31:54
X	127:10	169	1:22	21:06
Y	22:52	65	0:31	5:16
Z	46:35	105	0:52	6:15
AA	37:36	116	0:30	8:21
AB	72:24	167	0:37	13:18
AC	90:50	180	0:46	18:38
AD	153:55	210	1:17	26:54
AE	60:59	145	0:40	12:24
AF	0:00	0	0:00	0:00
AG	117:35	197	1:13	25:19
AH	0:00	0	0:00	0:00
AI	147:33	255	1:11	34:42
AJ	161:54	320	0:57	34:09
AK	70:35	133	1:04	10:51
AL	71:36	152	0:47	21:35
AM	128:27	197	1:19	22:13
AN	48:41	159	0:33	9:05
AO	136:17	188	1:34	39:25
AP	134:39	147	1:28	20:53
AQ	103:39	184	0:59	20:52
AR	38:34	116	0:28	9:14
AS	125:47	185	1:41	25:46
AT	24:30	73	0:24	7:47
AU	114:25	159	1:04	17:52
AV	65:40	143	0:44	13:56
AW	132:01	236	0:54	29:27
AX	55:54	98	1:00	12:29
AY	8:06	29	0:22	1:45
AZ	69:11	154	0:47	10:25
BA	10:15	36	0:22	1:21
BB	31:01	108	0:26	9:28
BC	39:26	122	0:27	8:57
BD	131:23	198	1:02	32:51
BE	0:00	0	0:00	0:00
BF	87:42	155	0:57	14:12
BG	140:51	166	1:48	40:21
BH	129:30	237	1:06	23:04
BI	46:58	127	0:36	8:35
BJ	86:35	190	0:56	17:22
BK	45:00	154	0:25	9:45
BL	21:22	67	0:28	4:46
BM	198:57	230	1:14	34:56
BN	28:32	79	0:31	5:33
BO	68:51	174	0:38	18:34
BP	57:17	108	0:50	14:03
BQ	90:15	148	1:00	24:58
BR	111:28	224	0:51	19:52
BS	158:06	185	1:31	44:53
BT	95:54	136	1:16	16:55
BU	9:37	35	0:21	2:48
BV	0:00	0	0:00	0:00
BW	69:53	143	0:57	19:08
BX	45:52	70	1:01	11:10
BY	110:54	162	1:26	16:47
BZ	76:13	179	0:49	14:15
CA	231:42	251	1:30	57:38

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## SHADOW - Main Result

Calculation: 20200823

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No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
CB	140:52	238	1:12	26:26
CC	29:24	73	0:34	8:14
CD	100:50	194	0:47	19:31
CE	134:56	270	1:04	26:20
CF	29:42	75	0:36	6:47
CG	124:00	221	1:03	31:04
CH	190:37	306	1:22	40:10
CI	9:27	32	0:23	2:27
CJ	113:37	219	0:51	22:23
CK	50:05	108	0:40	7:06
CL	54:00	153	0:32	10:22
CM	0:00	0	0:00	0:00
CN	23:17	71	0:27	4:20
CO	26:18	91	0:26	5:19
CP	26:51	76	0:29	5:06
CQ	23:57	70	0:28	4:33
CR	138:34	185	1:32	39:49
CS	81:16	167	0:54	14:30
CT	76:32	161	0:53	14:00
CU	90:12	125	1:01	12:54
CV	110:17	177	1:03	18:25
CW	85:07	144	0:59	22:52
CX	68:00	173	0:38	14:54
CY	161:09	208	1:18	31:39
CZ	164:19	217	1:18	32:27
DA	50:45	135	0:35	9:19
DB	48:11	129	0:35	8:46
DC	55:57	144	0:34	10:29
DD	18:15	61	0:26	3:58
DE	59:21	79	1:03	10:51
DF	130:01	198	1:22	23:42
DG	0:00	0	0:00	0:00
DH	31:57	49	0:46	9:46
DI	61:36	141	0:45	17:43
DJ	125:42	136	1:24	36:57
DK	83:49	121	1:02	24:56
DL	31:34	70	0:31	9:58
DM	161:08	153	1:50	47:10
DN	47:40	98	0:44	13:40
DO	0:00	0	0:00	0:00
DP	65:25	178	0:34	17:25
DQ	19:39	54	0:26	6:04
DR	19:56	65	0:27	5:10
DS	8:48	32	0:21	1:11
DT	0:00	0	0:00	0:00
DU	52:59	66	1:14	8:08
DV	155:34	201	1:17	26:05
DW	167:56	217	1:24	30:33
DX	101:54	202	0:45	20:37
DY	97:04	194	0:44	19:08
DZ	120:24	242	0:52	23:00
EA	87:47	193	0:43	16:59

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

No.	Name	Worst case [h/year]	Expected [h/year]
1	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (389)	245:09	48:14
2	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (390)	131:24	28:21
3	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (391)	39:45	6:54
4	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (392)	176:47	32:26
5	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (393)	90:32	15:51
6	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (394)	34:32	5:31

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## SHADOW - Main Result

Calculation: 20200823

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
7	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (395)	105:42	16:57
8	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (396)	167:36	50:47
9	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (397)	207:28	45:59
10	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (398)	135:37	27:29
11	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (399)	141:41	26:56
12	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (400)	201:34	46:03
13	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (401)	52:21	14:28
14	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (402)	76:07	19:49
15	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (403)	156:28	26:46
16	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (404)	86:36	19:12
17	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (405)	124:03	23:22
18	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (406)	201:43	55:43
19	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (407)	24:31	5:08
20	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (408)	42:37	7:23
21	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (409)	147:03	28:35
22	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (410)	208:01	34:57
23	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (411)	91:03	14:22
24	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (412)	114:13	24:43
25	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (413)	134:27	33:45
26	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (414)	156:04	24:15
27	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (415)	97:58	18:37
28	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (416)	64:29	15:31
29	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (417)	87:11	25:17
30	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (418)	152:00	40:47
31	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (419)	53:11	14:06
32	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (420)	92:14	21:26
33	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (421)	227:04	44:15
34	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (422)	58:42	15:22
35	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (423)	149:12	30:36
36	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (424)	199:20	35:10
37	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (425)	154:58	25:31
38	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (426)	58:48	8:25
39	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (427)	134:35	31:45
40	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (428)	152:00	31:47
41	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (429)	273:36	66:59
42	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (430)	164:17	25:41
43	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (431)	172:26	41:09
44	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (432)	98:25	19:42
45	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (433)	172:43	42:33
46	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (434)	199:43	45:18
47	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (435)	321:24	75:27
48	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (436)	162:00	30:35
49	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (437)	30:24	5:44
50	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (438)	287:40	72:05
51	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (439)	163:37	36:08
52	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (440)	304:13	64:52
53	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (441)	292:02	60:08
54	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (442)	173:17	32:08
55	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (443)	46:58	12:09
56	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (444)	79:35	20:59
57	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (445)	72:36	18:11
58	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (446)	100:58	24:51
59	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (447)	71:43	14:13
60	Sweco SW180 7400 180.0 !-! hub: 200,0 m (TOT: 290,0 m) (448)	126:26	34:31

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.