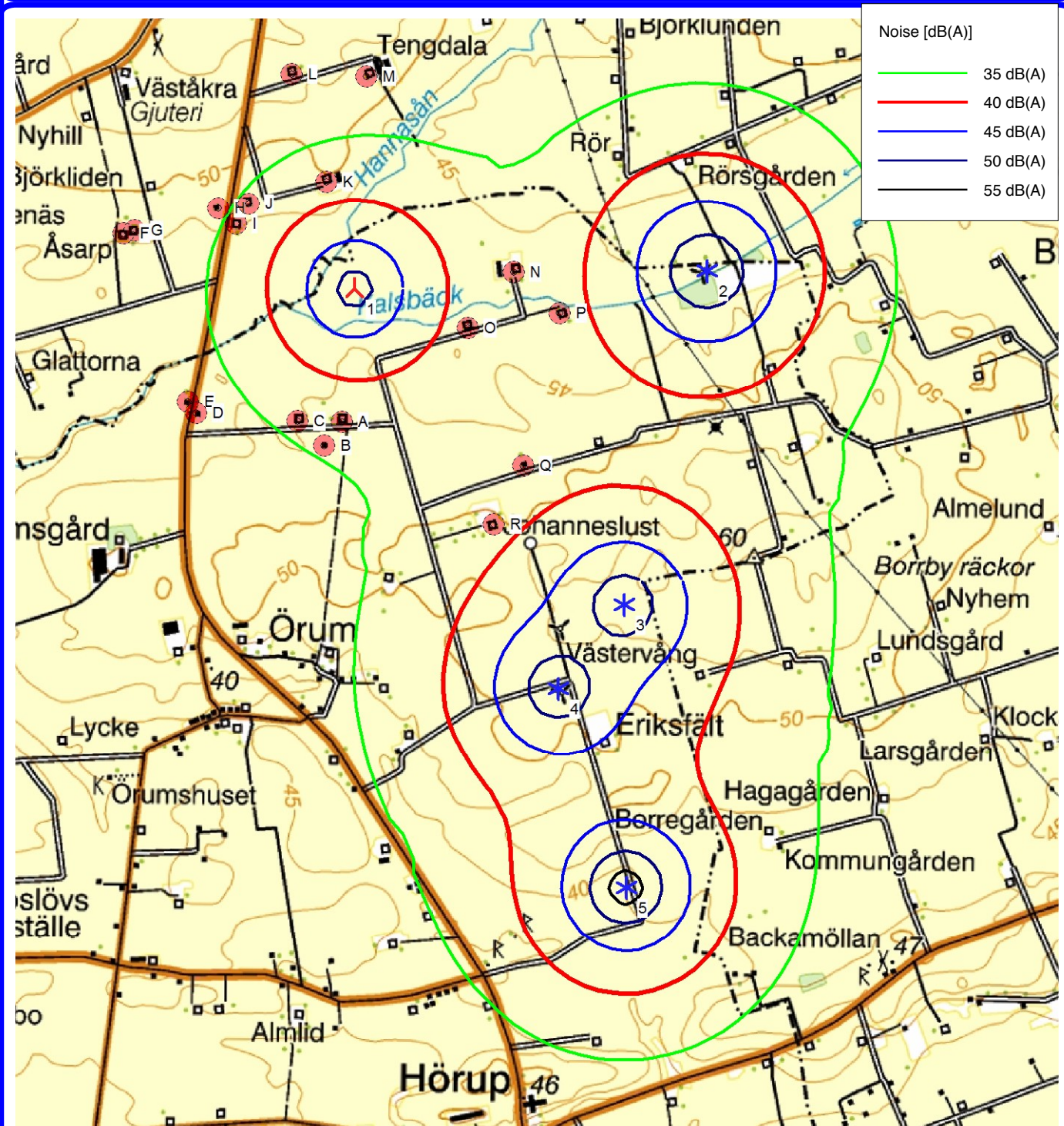


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DECIBEL - Map 8,0 m/s



Noise [dB(A)]	
—	35 dB(A)
—	40 dB(A)
—	45 dB(A)
—	50 dB(A)
—	55 dB(A)

0 250 500 750 1000m

Map: Bitmap map: 956102_Terrängkartan.jpg , Print scale 1:25 000, Map center Swedish RT90 2.5gonV 0:-15-RT90 (SE) East: 1 393 492 North: 6 149 699
 ▲ New WTG * Existing WTG ■ Noise sensitive area
 Noise calculation model: Swedish 2009. Wind speed: 8,0 m/s
 Height above sea level: 0,0 m

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DECIBEL - Main Result

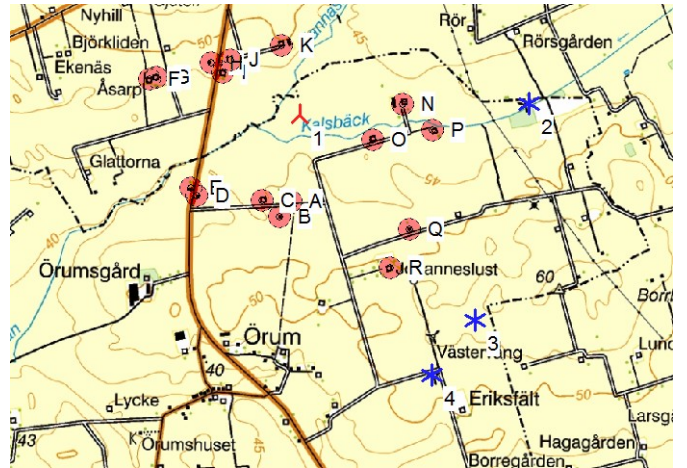
SVENSKA BESTÄMMELSER FÖR EXTERNT BULLER FRÅN LANDBASERADE VINDKRAFTVERK

Beräkningen är baserad på den av Statens Naturvårdsverk rekommenderad metod "Ljud från landbaserade vindkraftverk", 2001 (ISBN 91-620-6249-2)

Roughness class: 1,5
 Roughness length: 0,055
 K: 1.0 dB/(m/s)

OBSERVERA

Oktavdata saknas för ett eller flera av vindkraftverken där avståndet överstiger 1 000 m till beräkningspunkten (Ljudkänsligt område).



Scale 1:50 000
 New WTG Existing WTG Noise sensitive area

WTGs

Swedish RT90 2.5gonV 0:-15-RT90 (SE)				WTG type			Noise data			Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones			
East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]				Creator	Name	
1	1 392 736	6 150 945	43,0	ENERCON E-53 800 53.0 I-I hu...Yes	Yes	ENERCON	E-53-800	800	53,0	73,3	EMD	Level 0 - man.spec. - Enercon - 05/2010	8,0	101,5	No h
2	1 394 248	6 151 021	45,0	VESTAS V52 850 52.0 I-I hu...Yes	Yes	VESTAS	V52-850	850	52,0	65,0	EMD	Level 0 - 104.2 dB(A) - 07-2006	8,0	104,5	No h
3	1 393 893	6 149 591	53,0	ENERCON E-70 E4 2,3 MW 23...Yes	Yes	ENERCON	E-70 E4 2,3 MW-2 300	2 300	71,0	64,0	EMD	Level 0 - man.spec. - OM II/Rev.1.2 - 04/2012	8,0	103,1	No h
4	1 393 609	6 149 231	50,0	ENERCON E-70 E4 2,3 MW 23...Yes	Yes	ENERCON	E-70 E4 2,3 MW-2 300	2 300	71,0	64,0	EMD	Level 0 - man.spec. - OM II/Rev.1.2 - 04/2012	8,0	103,1	No h
5	1 393 902	6 148 376	0,0	ENERCON E-70 E4 2,3 MW 23...Yes	Yes	ENERCON	E-70 E4 2,3 MW-2 300	2 300	71,0	64,0	EMD	Level 0 - man.spec. - OM II/Rev.1.2 - 04/2012	8,0	103,1	No h

h) Generic octave distribution used

Calculation Results

Sound Level

Noise sensitive area		Swedish RT90 2.5gonV 0:-15-RT90 (SE)				Sound Level	Demands fulfilled ?
No.	Name	East	North	Z	Imission height	From WTGs	Noise
					[m]	[dB(A)]	
A	Noise sensitive point: Swedish - Night; Dwellings (1)	1 392 683	6 150 373	46,0	1,5	40,0	Yes
B	Noise sensitive point: Swedish - Night; Dwellings (2)	1 392 608	6 150 273	46,0	1,5	35,6	Yes
C	Noise sensitive point: Swedish - Night; Dwellings (3)	1 392 492	6 150 377	45,0	1,5	36,1	Yes
D	Noise sensitive point: Swedish - Night; Dwellings (4)	1 392 058	6 150 411	43,0	1,5	32,7	Yes
E	Noise sensitive point: Swedish - Night; Dwellings (5)	1 392 023	6 150 461	42,0	1,5	32,6	Yes
F	Noise sensitive point: Swedish - Night; Dwellings (6)	1 391 746	6 151 180	46,0	1,5	30,8	Yes
G	Noise sensitive point: Swedish - Night; Dwellings (7)	1 391 794	6 151 193	46,0	1,5	30,8	Yes
H	Noise sensitive point: Swedish - Night; Dwellings (8)	1 392 152	6 151 290	47,0	1,5	34,4	Yes
I	Noise sensitive point: Swedish - Night; Dwellings (9)	1 392 227	6 151 224	46,0	1,5	36,0	Yes
J	Noise sensitive point: Swedish - Night; Dwellings (10)	1 392 283	6 151 308	47,0	1,5	36,0	Yes
K	Noise sensitive point: Swedish - Night; Dwellings (11)	1 392 616	6 151 403	49,0	1,5	38,1	Yes
L	Noise sensitive point: Swedish - Night; Dwellings (12)	1 392 468	6 151 865	57,0	1,5	31,3	Yes
M	Noise sensitive point: Swedish - Night; Dwellings (13)	1 392 788	6 151 853	53,0	1,5	32,2	Yes
N	Noise sensitive point: Swedish - Night; Dwellings (14)	1 393 421	6 151 016	44,0	1,5	37,4	Yes
O	Noise sensitive point: Swedish - Night; Dwellings (15)	1 393 222	6 150 777	44,0	1,5	38,5	Yes
P	Noise sensitive point: Swedish - Night; Dwellings (16)	1 393 618	6 150 842	44,0	1,5	38,5	Yes
Q	Noise sensitive point: Swedish - Night; Dwellings (17)	1 393 461	6 150 187	47,0	1,5	37,7	Yes
R	Noise sensitive point: Swedish - Night; Dwellings (18)	1 393 335	6 149 935	51,0	1,5	38,8	Yes

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DECIBEL - Main Result**Distances (m)****WTG**

NSA	1	2	3	4	5
A	574	1693	1441	1470	2339
B	683	1802	1454	1445	2296
C	618	1869	1605	1599	2446
D	862	2272	2009	1948	2745
E	861	2293	2061	2006	2805
F	1017	2506	2670	2695	3535
G	974	2459	2639	2671	3517
H	678	2112	2432	2521	3398
I	580	2030	2331	2424	3302
J	580	1985	2353	2463	3348
K	473	1675	2216	2387	3287
L	958	1969	2683	2869	3771
M	909	1680	2516	2746	3650
N	688	826	1500	1794	2682
O	514	1054	1362	1593	2494
P	887	655	1280	1610	2481
Q	1048	1146	736	967	1863
R	1174	1419	655	755	1658

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DECIBEL - Detailed results**Noise calculation model:** Swedish, Jan 2002, Land 8,0 m/s**Assumptions**

Calculated L(DW) = LWA,ref + K + Dc - (Adiv + Aatm + Agr + Abar + Amisc) - Cmet
(when calculated with ground attenuation, then Dc = Domega)

LWA,ref:	Sound pressure level at WTG
K:	Pure tone
Dc:	Directivity correction
Adiv:	the attenuation due to geometrical divergence
Aatm:	the attenuation due to atmospheric absorption
Agr:	the attenuation due to ground effect
Abar:	the attenuation due to a barrier
Amisc:	the attenuation due to miscellaneous other effects
Cmet:	Meteorological correction

Calculation Results**Noise sensitive area: A Noise sensitive point: Swedish - Night; Dwellings (1)**

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	574	578	35,41	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 693	1 694	26,54	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	1 441	1 442	26,90	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	1 470	1 472	26,68	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	2 339	2 339	21,51	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	37,01											

- Data undefined due to calculation with octave data

Noise sensitive area: B Noise sensitive point: Swedish - Night; Dwellings (2)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	683	687	33,37	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 802	1 803	25,85	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	1 454	1 456	26,80	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	1 445	1 446	26,87	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	2 296	2 296	21,72	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	35,64											

- Data undefined due to calculation with octave data

Noise sensitive area: C Noise sensitive point: Swedish - Night; Dwellings (3)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	618	622	34,56	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 869	1 870	25,44	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	1 605	1 607	25,72	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	1 599	1 601	25,76	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	2 446	2 446	20,99	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	36,11											

- Data undefined due to calculation with octave data

Noise sensitive area: D Noise sensitive point: Swedish - Night; Dwellings (4)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	862	865	30,47	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	2 272	2 273	23,24	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00

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DECIBEL - Detailed results**Noise calculation model:** Swedish, Jan 2002, Land 8,0 m/s

...continued from previous page

		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
3	2 009	2 010	23,23	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	1 948	1 949	23,58	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	2 745	2 745	19,65	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00

Sum 32,68

- Data undefined due to calculation with octave data

Noise sensitive area: E Noise sensitive point: Swedish - Night; Dwellings (5)

		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	861	864	30,48	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	2 293	2 294	23,13	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	2 061	2 063	22,94	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	2 006	2 007	23,25	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	2 805	2 805	19,39	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00

Sum 32,60

- Data undefined due to calculation with octave data

Noise sensitive area: F Noise sensitive point: Swedish - Night; Dwellings (6)

		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	1 017	1 020	28,99	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	2 506	2 507	22,11	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	2 670	2 671	19,97	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	2 695	2 696	19,86	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	3 535	3 535	16,63	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00

Sum 30,78

- Data undefined due to calculation with octave data

Noise sensitive area: G Noise sensitive point: Swedish - Night; Dwellings (7)

		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	974	976	28,87	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	2 459	2 460	22,33	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	2 639	2 640	20,10	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	2 671	2 672	19,96	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	3 517	3 517	16,70	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00

Sum 30,75

- Data undefined due to calculation with octave data

Noise sensitive area: H Noise sensitive point: Swedish - Night; Dwellings (8)

		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	678	682	33,46	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	2 112	2 113	24,07	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	2 432	2 433	21,05	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	2 521	2 522	20,64	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	3 398	3 398	17,11	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00

Sum 34,42

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DECIBEL - Detailed results**Noise calculation model:** Swedish, Jan 2002, Land 8,0 m/s**Noise sensitive area: I Noise sensitive point: Swedish - Night; Dwellings (9)**

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	580	584	35,29	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	2 030	2 031	24,52	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	2 331	2 332	21,54	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	2 424	2 425	21,09	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	3 302	3 302	17,46	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	36,01											

- Data undefined due to calculation with octave data

Noise sensitive area: J Noise sensitive point: Swedish - Night; Dwellings (10)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	580	584	35,29	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 985	1 986	24,77	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	2 353	2 354	21,44	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	2 463	2 464	20,91	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	3 348	3 348	17,29	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	36,01											

- Data undefined due to calculation with octave data

Noise sensitive area: K Noise sensitive point: Swedish - Night; Dwellings (11)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	473	478	37,56	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 675	1 676	26,66	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	2 216	2 217	22,12	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	2 387	2 388	21,27	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	3 287	3 287	17,51	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	38,15											

- Data undefined due to calculation with octave data

Noise sensitive area: L Noise sensitive point: Swedish - Night; Dwellings (12)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	958	960	29,10	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 969	1 970	24,86	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	2 683	2 683	19,92	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	2 869	2 870	19,13	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	3 771	3 771	15,85	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	31,26											

- Data undefined due to calculation with octave data

Noise sensitive area: M Noise sensitive point: Swedish - Night; Dwellings (13)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	909	911	29,79	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 680	1 681	26,63	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	2 516	2 517	20,66	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	2 746	2 747	19,64	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	3 650	3 650	16,24	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	32,21											

- Data undefined due to calculation with octave data

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2016-05-30 18:27 / 4

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Barometergatan 30

SE-211 17 Malmö

040154747

Björn Hansson / hansson.bjorn@telia.com

Calculated:

2016-05-30 18:25/2.8.579

DECIBEL - Detailed results**Noise calculation model:** Swedish, Jan 2002, Land 8,0 m/s**Noise sensitive area: N Noise sensitive point: Swedish - Night; Dwellings (14)**

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	688	692	33,27	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	826	829	34,02	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	1 500	1 502	26,46	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	1 794	1 795	24,50	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	2 682	2 682	19,92	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	37,38											

- Data undefined due to calculation with octave data

Noise sensitive area: O Noise sensitive point: Swedish - Night; Dwellings (15)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	514	519	36,64	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 054	1 056	31,62	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	1 362	1 364	27,51	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	1 593	1 594	25,81	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	2 494	2 494	20,77	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	38,53											

- Data undefined due to calculation with octave data

Noise sensitive area: P Noise sensitive point: Swedish - Night; Dwellings (16)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	887	890	30,10	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	655	658	36,88	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	1 280	1 282	28,17	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	1 610	1 611	25,69	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	2 481	2 481	20,83	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	38,48											

- Data undefined due to calculation with octave data

Noise sensitive area: Q Noise sensitive point: Swedish - Night; Dwellings (17)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	1 048	1 050	28,68	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 146	1 148	30,74	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	736	739	34,07	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	967	969	30,56	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	1 863	1 863	24,08	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	37,68											

- Data undefined due to calculation with octave data

Noise sensitive area: R Noise sensitive point: Swedish - Night; Dwellings (18)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	1 174	1 175	27,49	101,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
2	1 419	1 420	28,47	104,5	0,00	0,00	-	0,00	0,00	0,00	-	0,00
3	655	659	35,47	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
4	755	757	33,76	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
5	1 658	1 658	25,38	103,1	0,00	0,00	-	0,00	0,00	0,00	-	0,00
Sum	38,76											

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Calculated:

2016-05-30 18:25/2.8.579

DECIBEL - Assumptions for noise calculation**Noise calculation model:**

Swedish, Jan 2002, Land

Wind speed:

8,0 m/s

Ground attenuation:

None

Meteorological coefficient, C0:

0,0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Rough. Class %d:

1,5 m/s

Pure tones:

Pure tone penalty are added to demand: 5,0 dB(A)

Height above ground level, when no value in NSA object:

1,5 m Don't allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0,0 dB(A)

Octave data required

Air absorption

63	125	250	500	1 000	2 000	4 000	8 000
[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]
0,1	0,3	0,6	1,4	3,2	7,9	22,0	50,0

WTG: ENERCON E-53 800 53.0 !-!**Noise:** Level 0 - man.spec. - Enercon - 05/2010

Source	Source/Date	Creator	Edited
Enercon	2010-05-01	EMD	2012-07-13 16:49

According to specification SIAS-04-SPL E-53 OM I Rev1_0-ger-ger.doc

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63	125	250	500	1000	2000	4000	8000	
From Windcat	73,3	8,0	101,5	No	Generic data	83,1	90,1	93,5	96,1	95,9	93,0	88,2	78,7

WTG: VESTAS V52 850 52.0 !O!**Noise:** Level 0 - - 104.2 dB(A) - 07-2006

Source	Source/Date	Creator	Edited
Manufacturer	2006-07-20	EMD	2010-09-14 13:48

Data based on document 946506.R9 2006-07-20.

Measurement standard IEC 61400-11 ed. 2 2002

Max. turbulence at 10 meter height: 16%

Inflow angle (vertical): 0 ± 2°

Air density: 1.225 kg/m³.

Please note that the sound power level may differ marginally at other hub heights.

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63	125	250	500	1000	2000	4000	8000	
From Windcat	65,0	8,0	104,5	No	Generic data	86,1	93,1	96,5	99,1	98,9	96,0	91,2	81,7
From Windcat	65,0	8,0	104,5	No	Generic data	86,1	93,1	96,5	99,1	98,9	96,0	91,2	81,7

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Björn Hansson / hansson.bjorn@telia.com

Calculated:

2016-05-30 18:25/2.8.579

DECIBEL - Assumptions for noise calculation**WTG:** ENERCON E-70 E4 2,3 MW 2300 71.0 IO!**Noise:** Level 0 - man.spec. - OM II/Rev.1.2 - 04/2012

Source	Source/Date	Creator	Edited
ENERCON GmbH	2012-04-23	EMD	2012-04-26 16:45

According to manufacturer specification document SIAS-04-SPL E-70 E4 OM II 2_3MW Rev1_2-ger-ger.pdf

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]	
From Windcat	64,0	8,0	103,1	No	Generic data	84,7	91,7	95,1	97,7	97,5	94,6	89,8	80,3

NSA: Noise sensitive point: Swedish - Night; Dwellings (1)-A**Predefined calculation standard:** Night; Dwellings**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:****NSA:** Noise sensitive point: Swedish - Night; Dwellings (2)-B**Predefined calculation standard:** Night; Dwellings**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:****NSA:** Noise sensitive point: Swedish - Night; Dwellings (3)-C**Predefined calculation standard:** Night; Dwellings**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:****NSA:** Noise sensitive point: Swedish - Night; Dwellings (4)-D**Predefined calculation standard:** Night; Dwellings**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:****NSA:** Noise sensitive point: Swedish - Night; Dwellings (5)-E**Predefined calculation standard:** Night; Dwellings**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:****NSA:** Noise sensitive point: Swedish - Night; Dwellings (6)-F**Predefined calculation standard:** Night; Dwellings**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:****NSA:** Noise sensitive point: Swedish - Night; Dwellings (7)-G**Predefined calculation standard:** Night; Dwellings**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:**

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DECIBEL - Assumptions for noise calculation

NSA: Noise sensitive point: Swedish - Night; Dwellings (8)-H

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Swedish - Night; Dwellings (9)-I

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Swedish - Night; Dwellings (10)-J

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Swedish - Night; Dwellings (11)-K

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Swedish - Night; Dwellings (12)-L

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Swedish - Night; Dwellings (13)-M

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Swedish - Night; Dwellings (14)-N

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Swedish - Night; Dwellings (15)-O

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Swedish - Night; Dwellings (16)-P

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

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DECIBEL - Assumptions for noise calculation

NSA: Noise sensitive point: Swedish - Night; Dwellings (17)-Q

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Swedish - Night; Dwellings (18)-R

Predefined calculation standard: Night; Dwellings

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand: