

Project

Projekt Kępno

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Calculated

2011-12-06 09:43/2.7.486

DECIBEL - Main Result

Calculation: Pilot, wariant 2

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 1,0

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)

Pure tones:

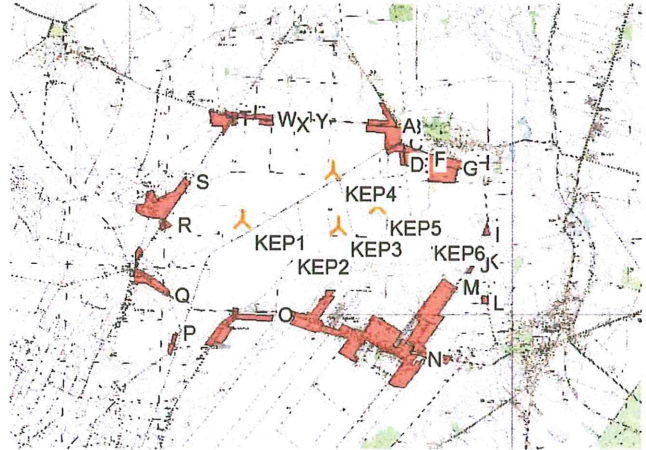
Pure and Impulse tone penalty are added to WTG source noise

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

1,5 m 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)



New WTG

Noise sensitive area

WTGs

Poland UKLAD 65 4				WTG type			Noise data						
East	North	Z	Row	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Creator	Name	Wind speed	Hub height
		[m]	data/Description				[kW]	[m]	[m]			[m/s]	[m]
Poland UKLAD 65 4													
KEP1	3 791 816	5 579 531	190,9	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5
KEP2	3 792 275	5 579 299	190,6	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5
KEP3	3 792 819	5 579 504	182,8	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5
KEP4	3 792 748	5 580 073	187,8	Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 1 - calculated - Mode 1 - 07-2009	8,0	105,0
KEP5	3 793 228	5 579 728	188,0	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5
KEP6	3 793 688	5 579 490	179,8	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5

*)Notice: One or more noise data for this WTG is generic or input by user

Calculation Results**Sound Level**

Poland UKLAD 65 4				Demands		Sound Level		Demands fulfilled ?	
No.	Name	East	North	Z	Imission height	Noise	From WTGs	Noise	
				[m]	[m]	[dB(A)]	[dB(A)]		
A	6MN/RM	3 793 091	5 580 564	180,5	1,5	40,0	36,8	Yes	
B	7MN/RM	3 793 284	5 580 316	181,7	1,5	40,0	39,1	Yes	
C	8MN/RM	3 793 307	5 580 259	184,1	1,5	40,0	39,8	Yes	
D	1RM	3 793 450	5 580 160	186,3	1,5	45,0	40,4	Yes	
E	2RM	3 793 503	5 580 157	186,3	1,5	45,0	40,1	Yes	
F	9MN/RM	3 793 487	5 580 295	183,5	1,5	40,0	38,4	Yes	
G	1TR	3 793 736	5 579 997	182,7	1,5	45,0	40,4	Yes	
H	10MN/RM	3 793 871	5 580 174	182,1	1,5	40,0	37,2	Yes	
I	11MN/RM	3 794 334	5 579 466	180,0	1,5	40,0	36,3	Yes	
J	1M	3 794 207	5 579 136	177,5	1,5	40,0	36,6	Yes	
K	12MN/RM	3 794 238	5 579 219	177,5	1,5	40,0	36,8	Yes	
L	2M	3 794 347	5 578 829	177,5	1,5	40,0	32,9	Yes	
M	3M	3 793 930	5 578 996	182,5	1,5	40,0	38,0	Yes	
N	4/5/6/7/8M	3 792 711	5 578 841	187,1	1,5	40,0	39,2	Yes	
O	9/10M	3 792 157	5 578 557	190,6	1,5	40,0	36,2	Yes	
P	11M	3 791 178	5 578 337	193,4	1,5	40,0	30,1	Yes	
Q	12/13M	3 791 070	5 578 785	185,8	1,5	40,0	32,1	Yes	
R	14M	3 791 077	5 579 451	185,3	1,5	40,0	34,9	Yes	
S	15M	3 791 258	5 579 908	185,0	1,5	40,0	35,9	Yes	
T	1MN/RM	3 791 575	5 580 408	187,8	1,5	40,0	33,9	Yes	
U	2MN/RM	3 791 701	5 580 594	187,5	1,5	40,0	33,0	Yes	
V	3MN/RM	3 792 094	5 580 529	186,1	1,5	40,0	35,0	Yes	
W	3MN/RM	3 792 090	5 580 584	187,0	1,5	40,0	34,5	Yes	
X	4MN/RM	3 792 280	5 580 531	186,1	1,5	40,0	35,8	Yes	
Y	5MN/RM	3 792 489	5 580 577	188,8	1,5	40,0	36,3	Yes	

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DECIBEL - Main Result

Calculation: Pilot, wariant 2

Distances (m)**WTG**

NSA	KEP1	KEP2	KEP3	KEP4	KEP5	KEP6
A	1641	1506	1095	600	837	1113
B	1589	1433	936	537	591	920
C	1658	1409	898	584	536	846
D	1750	1457	910	707	485	701
E	1799	1498	945	759	509	684
F	1837	1569	1035	772	623	741
G	1976	1620	1041	990	575	510
H	2153	1820	1247	1128	783	709
I	2519	2066	1515	1692	1137	647
J	2405	1916	1426	1734	1145	628
K	2424	1940	1436	1717	1131	613
L	2626	2125	1670	2026	1435	933
M	2057	1543	1201	1600	1015	550
N	1068	633	662	1231	981	999
O	913	751	1155	1626	1587	1792
P	1355	1459	2015	2341	2478	2762
Q	1056	1310	1892	2115	2355	2711
R	743	1207	1743	1782	2168	2611
S	674	1185	1613	1499	1978	2466
T	909	1311	1538	1183	1768	2286
U	1069	1416	1562	1167	1755	2273
V	991	1243	1256	798	1388	1903
W	1056	1298	1303	833	1424	1937
X	1082	1232	1160	655	1242	1751
Y	1122	1281	1123	567	1125	1618

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DECIBEL - Detailed results**Calculation:** Pilot, wariant 2 **Noise calculation model:** ISO 9613-2 General 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 6MN/RM**

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]
KEP1	1 641	1 644	23,78	107,0	0,00	75,32	-	-	0,00	0,00	-	0,00
KEP2	1 506	1 509	24,86	107,0	0,00	74,58	-	-	0,00	0,00	-	0,00
KEP3	1 095	1 099	28,76	107,0	0,00	71,82	-	-	0,00	0,00	-	0,00
KEP4	600	609	31,52	104,0	0,00	66,69	-	-	0,00	0,00	-	0,00
KEP5	847	853	31,74	107,0	0,00	69,62	-	-	0,00	0,00	-	0,00
KEP6	1 229	1 233	27,38	107,0	0,00	72,82	-	-	0,00	0,00	-	0,00

Sum 36,77

- Data undefined due to calculation with octave data

Noise sensitive area: B 7MN/RM

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]
KEP1	1 664	1 667	23,60	107,0	0,00	75,44	-	-	0,00	0,00	-	0,00
KEP2	1 433	1 436	25,49	107,0	0,00	74,15	-	-	0,00	0,00	-	0,00
KEP3	936	940	30,61	107,0	0,00	70,47	-	-	0,00	0,00	-	0,00
KEP4	589	598	31,71	104,0	0,00	66,54	-	-	0,00	0,00	-	0,00
KEP5	591	599	35,72	107,0	0,00	66,55	-	-	0,00	0,00	-	0,00
KEP6	920	925	30,80	107,0	0,00	70,32	-	-	0,00	0,00	-	0,00

Sum 39,11

- Data undefined due to calculation with octave data

Noise sensitive area: C 8MN/RM

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]
KEP1	1 658	1 661	23,64	107,0	0,00	75,41	-	-	0,00	0,00	-	0,00
KEP2	1 409	1 413	25,70	107,0	0,00	74,00	-	-	0,00	0,00	-	0,00
KEP3	898	903	31,08	107,0	0,00	70,11	-	-	0,00	0,00	-	0,00
KEP4	589	598	31,72	104,0	0,00	66,53	-	-	0,00	0,00	-	0,00
KEP5	536	545	36,75	107,0	0,00	65,73	-	-	0,00	0,00	-	0,00
KEP6	858	863	31,60	107,0	0,00	69,72	-	-	0,00	0,00	-	0,00

Sum 39,80

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DECIBEL - Detailed results**Calculation: Pilot, wariant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s****Noise sensitive area: D 1RM****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]
KEP1	1 750	1 753	22,95	107,0	0,00	75,88	-	-	0,00	0,00	-	0,00
KEP2	1 457	1 460	25,28	107,0	0,00	74,29	-	-	0,00	0,00	-	0,00
KEP3	910	914	30,93	107,0	0,00	70,22	-	-	0,00	0,00	-	0,00
KEP4	707	715	29,75	104,0	0,00	68,08	-	-	0,00	0,00	-	0,00
KEP5	485	495	37,78	107,0	0,00	64,90	-	-	0,00	0,00	-	0,00
KEP6	711	717	33,72	107,0	0,00	68,11	-	-	0,00	0,00	-	0,00

Sum 40,44

- Data undefined due to calculation with octave data

Noise sensitive area: E 2RM**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]
KEP1	1 799	1 802	22,59	107,0	0,00	76,11	-	-	0,00	0,00	-	0,00
KEP2	1 498	1 502	24,93	107,0	0,00	74,53	-	-	0,00	0,00	-	0,00
KEP3	945	950	30,49	107,0	0,00	70,55	-	-	0,00	0,00	-	0,00
KEP4	760	767	28,96	104,0	0,00	68,70	-	-	0,00	0,00	-	0,00
KEP5	509	519	37,28	107,0	0,00	65,30	-	-	0,00	0,00	-	0,00
KEP6	692	698	34,02	107,0	0,00	67,88	-	-	0,00	0,00	-	0,00

Sum 40,12

- Data undefined due to calculation with octave data

Noise sensitive area: F 9MN/RM**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]
KEP1	1 837	1 840	22,32	107,0	0,00	76,30	-	-	0,00	0,00	-	0,00
KEP2	1 569	1 573	24,35	107,0	0,00	74,93	-	-	0,00	0,00	-	0,00
KEP3	1 035	1 040	29,42	107,0	0,00	71,34	-	-	0,00	0,00	-	0,00
KEP4	772	779	28,78	104,0	0,00	68,83	-	-	0,00	0,00	-	0,00
KEP5	623	632	35,13	107,0	0,00	67,01	-	-	0,00	0,00	-	0,00
KEP6	830	836	31,98	107,0	0,00	69,44	-	-	0,00	0,00	-	0,00

Sum 38,40

- Data undefined due to calculation with octave data

Noise sensitive area: G 1TR**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]
KEP1	1 976	1 978	21,36	107,0	0,00	76,93	-	-	0,00	0,00	-	0,00
KEP2	1 620	1 623	23,94	107,0	0,00	75,21	-	-	0,00	0,00	-	0,00
KEP3	1 041	1 045	29,36	107,0	0,00	71,39	-	-	0,00	0,00	-	0,00
KEP4	991	997	25,98	104,0	0,00	70,98	-	-	0,00	0,00	-	0,00
KEP5	575	584	36,00	107,0	0,00	66,33	-	-	0,00	0,00	-	0,00
KEP6	510	518	37,30	107,0	0,00	65,29	-	-	0,00	0,00	-	0,00

Sum 40,41

- Data undefined due to calculation with octave data

Noise sensitive area: H 10MN/RM**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]
KEP1	2 153	2 155	20,22	107,0	0,00	77,67	-	-	0,00	0,00	-	0,00
KEP2	1 820	1 824	22,44	107,0	0,00	76,22	-	-	0,00	0,00	-	0,00
KEP3	1 247	1 251	27,20	107,0	0,00	72,94	-	-	0,00	0,00	-	0,00
KEP4	1 128	1 133	24,50	104,0	0,00	72,08	-	-	0,00	0,00	-	0,00
KEP5	783	790	32,63	107,0	0,00	68,95	-	-	0,00	0,00	-	0,00

To be continued on next page...

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DECIBEL - Detailed results**Calculation: Pilot, wariant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s**

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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]
KEP6	709	715	33,75	107,0	0,00	68,09	-	-	0,00	0,00	-	0,00
Sum	37,23											

- Data undefined due to calculation with octave data

Noise sensitive area: I 11MN/RM

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]
KEP1	2 519	2 521	18,08	107,0	0,00	79,03	-	-	0,00	0,00	-	0,00
KEP2	2 066	2 069	20,77	107,0	0,00	77,32	-	-	0,00	0,00	-	0,00
KEP3	1 515	1 519	24,79	107,0	0,00	74,63	-	-	0,00	0,00	-	0,00
KEP4	1 699	1 702	19,65	104,0	0,00	75,62	-	-	0,00	0,00	-	0,00
KEP5	1 137	1 142	28,30	107,0	0,00	72,16	-	-	0,00	0,00	-	0,00
KEP6	647	655	34,74	107,0	0,00	67,32	-	-	0,00	0,00	-	0,00
Sum	36,26											

- Data undefined due to calculation with octave data

Noise sensitive area: J 1M

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]
KEP1	2 423	2 426	18,61	107,0	0,00	78,70	-	-	0,00	0,00	-	0,00
KEP2	1 939	1 942	21,61	107,0	0,00	76,77	-	-	0,00	0,00	-	0,00
KEP3	1 436	1 439	25,46	107,0	0,00	74,16	-	-	0,00	0,00	-	0,00
KEP4	1 734	1 738	19,39	104,0	0,00	75,80	-	-	0,00	0,00	-	0,00
KEP5	1 145	1 150	28,22	107,0	0,00	72,21	-	-	0,00	0,00	-	0,00
KEP6	628	636	35,05	107,0	0,00	67,07	-	-	0,00	0,00	-	0,00
Sum	36,55											

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Noise sensitive area: K 12MN/RM

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]
KEP1	2 441	2 444	18,51	107,0	0,00	78,76	-	-	0,00	0,00	-	0,00
KEP2	1 965	1 968	21,44	107,0	0,00	76,88	-	-	0,00	0,00	-	0,00
KEP3	1 447	1 450	25,37	107,0	0,00	74,23	-	-	0,00	0,00	-	0,00
KEP4	1 717	1 721	19,51	104,0	0,00	75,72	-	-	0,00	0,00	-	0,00
KEP5	1 131	1 136	28,36	107,0	0,00	72,11	-	-	0,00	0,00	-	0,00
KEP6	613	621	35,32	107,0	0,00	66,86	-	-	0,00	0,00	-	0,00
Sum	36,75											

- Data undefined due to calculation with octave data

Noise sensitive area: L 2M

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]
KEP1	2 626	2 628	17,50	107,0	0,00	79,39	-	-	0,00	0,00	-	0,00
KEP2	2 125	2 127	20,39	107,0	0,00	77,56	-	-	0,00	0,00	-	0,00
KEP3	1 670	1 673	23,56	107,0	0,00	75,47	-	-	0,00	0,00	-	0,00
KEP4	2 026	2 029	17,48	104,0	0,00	77,14	-	-	0,00	0,00	-	0,00
KEP5	1 435	1 440	25,46	107,0	0,00	74,16	-	-	0,00	0,00	-	0,00
KEP6	933	938	30,63	107,0	0,00	70,45	-	-	0,00	0,00	-	0,00
Sum	32,91											

- Data undefined due to calculation with octave data

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2011-12-06 09:43/2.7.486

DECIBEL - Detailed results**Calculation: Pilot, wariant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s****Noise sensitive area: M 3M****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]
KEP1	2 181	2 184	20,04	107,0	0,00	77,78	-	-	0,00	0,00	-	0,00
KEP2	1 683	1 687	23,45	107,0	0,00	75,54	-	-	0,00	0,00	-	0,00
KEP3	1 222	1 226	27,44	107,0	0,00	72,77	-	-	0,00	0,00	-	0,00
KEP4	1 600	1 604	20,37	104,0	0,00	75,10	-	-	0,00	0,00	-	0,00
KEP5	1 015	1 021	29,64	107,0	0,00	71,18	-	-	0,00	0,00	-	0,00
KEP6	550	559	36,47	107,0	0,00	65,95	-	-	0,00	0,00	-	0,00

Sum 38,02

- Data undefined due to calculation with octave data

Noise sensitive area: N 4/5/6/7/8M**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]
KEP1	1 130	1 135	28,37	107,0	0,00	72,10	-	-	0,00	0,00	-	0,00
KEP2	633	641	34,97	107,0	0,00	67,14	-	-	0,00	0,00	-	0,00
KEP3	672	679	34,33	107,0	0,00	67,64	-	-	0,00	0,00	-	0,00
KEP4	1 233	1 237	23,47	104,0	0,00	72,85	-	-	0,00	0,00	-	0,00
KEP5	1 027	1 032	29,51	107,0	0,00	71,27	-	-	0,00	0,00	-	0,00
KEP6	1 173	1 177	27,94	107,0	0,00	72,41	-	-	0,00	0,00	-	0,00

Sum 39,18

- Data undefined due to calculation with octave data

Noise sensitive area: O 9/10M**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]
KEP1	1 032	1 037	29,46	107,0	0,00	71,31	-	-	0,00	0,00	-	0,00
KEP2	751	757	33,10	107,0	0,00	68,59	-	-	0,00	0,00	-	0,00
KEP3	1 155	1 159	28,12	107,0	0,00	72,28	-	-	0,00	0,00	-	0,00
KEP4	1 626	1 630	20,18	104,0	0,00	75,24	-	-	0,00	0,00	-	0,00
KEP5	1 587	1 589	24,21	107,0	0,00	75,02	-	-	0,00	0,00	-	0,00
KEP6	1 792	1 795	22,65	107,0	0,00	76,08	-	-	0,00	0,00	-	0,00

Sum 36,15

- Data undefined due to calculation with octave data

Noise sensitive area: P 11M**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]
KEP1	1 355	1 358	26,18	107,0	0,00	73,66	-	-	0,00	0,00	-	0,00
KEP2	1 459	1 463	25,26	107,0	0,00	74,30	-	-	0,00	0,00	-	0,00
KEP3	2 015	2 016	21,11	107,0	0,00	77,09	-	-	0,00	0,00	-	0,00
KEP4	2 341	2 343	15,68	104,0	0,00	78,39	-	-	0,00	0,00	-	0,00
KEP5	2 478	2 480	18,31	107,0	0,00	78,89	-	-	0,00	0,00	-	0,00
KEP6	2 762	2 764	16,80	107,0	0,00	79,83	-	-	0,00	0,00	-	0,00

Sum 30,14

- Data undefined due to calculation with octave data

Noise sensitive area: Q 12/13M**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]
KEP1	1 056	1 060	29,19	107,0	0,00	71,51	-	-	0,00	0,00	-	0,00
KEP2	1 310	1 314	26,59	107,0	0,00	73,37	-	-	0,00	0,00	-	0,00
KEP3	1 892	1 894	21,94	107,0	0,00	76,55	-	-	0,00	0,00	-	0,00
KEP4	2 115	2 118	16,95	104,0	0,00	77,52	-	-	0,00	0,00	-	0,00
KEP5	2 355	2 357	19,00	107,0	0,00	78,45	-	-	0,00	0,00	-	0,00

To be continued on next page...

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DECIBEL - Detailed results**Calculation: Pilot, wariant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s**

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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]
KEP6	2 711	2 713	17,06	107,0	0,00	79,67	-	-	0,00	0,00	-	0,00
Sum	32,10											

- Data undefined due to calculation with octave data

Noise sensitive area: R 14M

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]
KEP1	743	750	33,21	107,0	0,00	68,50	-	-	0,00	0,00	-	0,00
KEP2	1 207	1 211	27,59	107,0	0,00	72,66	-	-	0,00	0,00	-	0,00
KEP3	1 743	1 745	23,01	107,0	0,00	75,84	-	-	0,00	0,00	-	0,00
KEP4	1 782	1 785	19,06	104,0	0,00	76,03	-	-	0,00	0,00	-	0,00
KEP5	2 168	2 170	20,13	107,0	0,00	77,73	-	-	0,00	0,00	-	0,00
KEP6	2 611	2 612	17,58	107,0	0,00	79,34	-	-	0,00	0,00	-	0,00
Sum	34,92											

- Data undefined due to calculation with octave data

Noise sensitive area: S 15M

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]
KEP1	674	682	34,29	107,0	0,00	67,67	-	-	0,00	0,00	-	0,00
KEP2	1 185	1 190	27,81	107,0	0,00	72,51	-	-	0,00	0,00	-	0,00
KEP3	1 613	1 616	24,00	107,0	0,00	75,17	-	-	0,00	0,00	-	0,00
KEP4	1 499	1 503	21,16	104,0	0,00	74,54	-	-	0,00	0,00	-	0,00
KEP5	1 978	1 981	21,35	107,0	0,00	76,94	-	-	0,00	0,00	-	0,00
KEP6	2 466	2 467	18,38	107,0	0,00	78,85	-	-	0,00	0,00	-	0,00
Sum	35,88											

- Data undefined due to calculation with octave data

Noise sensitive area: T 1MN/RM

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]
KEP1	909	915	30,92	107,0	0,00	70,23	-	-	0,00	0,00	-	0,00
KEP2	1 311	1 315	26,58	107,0	0,00	73,38	-	-	0,00	0,00	-	0,00
KEP3	1 538	1 541	24,60	107,0	0,00	74,76	-	-	0,00	0,00	-	0,00
KEP4	1 220	1 224	23,59	104,0	0,00	72,76	-	-	0,00	0,00	-	0,00
KEP5	1 787	1 790	22,68	107,0	0,00	76,06	-	-	0,00	0,00	-	0,00
KEP6	2 304	2 306	19,31	107,0	0,00	78,26	-	-	0,00	0,00	-	0,00
Sum	33,94											

- Data undefined due to calculation with octave data

Noise sensitive area: U 2MN/RM

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]
KEP1	1 069	1 074	29,04	107,0	0,00	71,62	-	-	0,00	0,00	-	0,00
KEP2	1 416	1 420	25,63	107,0	0,00	74,04	-	-	0,00	0,00	-	0,00
KEP3	1 562	1 564	24,41	107,0	0,00	74,89	-	-	0,00	0,00	-	0,00
KEP4	1 169	1 174	24,09	104,0	0,00	72,39	-	-	0,00	0,00	-	0,00
KEP5	1 755	1 758	22,92	107,0	0,00	75,90	-	-	0,00	0,00	-	0,00
KEP6	2 273	2 275	19,49	107,0	0,00	78,14	-	-	0,00	0,00	-	0,00
Sum	32,98											

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DECIBEL - Detailed results**Calculation: Pilot, wariant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s****Noise sensitive area: V 3MN/RM****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]
KEP1	1 035	1 040	29,41	107,0	0,00	71,34	-	-	0,00	0,00	-	0,00
KEP2	1 243	1 247	27,23	107,0	0,00	72,92	-	-	0,00	0,00	-	0,00
KEP3	1 256	1 259	27,11	107,0	0,00	73,00	-	-	0,00	0,00	-	0,00
KEP4	798	804	28,42	104,0	0,00	69,11	-	-	0,00	0,00	-	0,00
KEP5	1 388	1 392	25,88	107,0	0,00	73,87	-	-	0,00	0,00	-	0,00
KEP6	1 903	1 905	21,86	107,0	0,00	76,60	-	-	0,00	0,00	-	0,00

Sum 34,99

- Data undefined due to calculation with octave data

Noise sensitive area: W 3MN/RM**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]
KEP1	1 088	1 093	28,83	107,0	0,00	71,77	-	-	0,00	0,00	-	0,00
KEP2	1 298	1 302	26,70	107,0	0,00	73,29	-	-	0,00	0,00	-	0,00
KEP3	1 303	1 307	26,66	107,0	0,00	73,32	-	-	0,00	0,00	-	0,00
KEP4	833	840	27,94	104,0	0,00	69,48	-	-	0,00	0,00	-	0,00
KEP5	1 424	1 427	25,57	107,0	0,00	74,09	-	-	0,00	0,00	-	0,00
KEP6	1 937	1 939	21,63	107,0	0,00	76,75	-	-	0,00	0,00	-	0,00

Sum 34,51

- Data undefined due to calculation with octave data

Noise sensitive area: X 4MN/RM**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]
KEP1	1 102	1 107	28,68	107,0	0,00	71,88	-	-	0,00	0,00	-	0,00
KEP2	1 232	1 236	27,34	107,0	0,00	72,84	-	-	0,00	0,00	-	0,00
KEP3	1 160	1 164	28,07	107,0	0,00	72,32	-	-	0,00	0,00	-	0,00
KEP4	655	663	30,58	104,0	0,00	67,43	-	-	0,00	0,00	-	0,00
KEP5	1 242	1 246	27,24	107,0	0,00	72,91	-	-	0,00	0,00	-	0,00
KEP6	1 751	1 753	22,95	107,0	0,00	75,88	-	-	0,00	0,00	-	0,00

Sum 35,79

- Data undefined due to calculation with octave data

Noise sensitive area: Y 5MN/RM**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]
KEP1	1 243	1 248	27,23	107,0	0,00	72,92	-	-	0,00	0,00	-	0,00
KEP2	1 296	1 300	26,73	107,0	0,00	73,28	-	-	0,00	0,00	-	0,00
KEP3	1 123	1 126	28,47	107,0	0,00	72,03	-	-	0,00	0,00	-	0,00
KEP4	567	576	32,12	104,0	0,00	66,21	-	-	0,00	0,00	-	0,00
KEP5	1 125	1 129	28,44	107,0	0,00	72,06	-	-	0,00	0,00	-	0,00
KEP6	1 618	1 621	23,96	107,0	0,00	75,19	-	-	0,00	0,00	-	0,00

Sum 36,31

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2011-12-06 09:43/2.7.486

DECIBEL - Assumptions for noise calculation**Calculation:** Pilot, wariant 2 **Noise calculation model:** ISO 9613-2 General 8,0 m/s**Noise calculation model:**

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 1,0

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)

Pure tones:

Pure and Impulse tone penalty are added to WTG source noise

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

1,5 m 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	0,4	1,0	1,9	3,7	9,7	32,8	117,0

WTG: Siemens SWT-2.3-101 2300 101.0 !O!**Noise:** Level 0 - Calculated - 05-2010

Source	Source/Date	Creator	Edited
Siemens	2010-05-12	EMD	2011-01-21 11:12

Rev 3

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data							
					63	125	250	500	1000	2000	4000	8000
					[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	99,5	8,0	107,0	No	83,5	94,4	98,1	102,1	102,1	98,4	91,2	87,2

WTG: VESTAS V90 2000 90.0 !O!**Noise:** Level 1 - calculated - Mode 1 - 07-2009

Source	Source/Date	Creator	Edited
Manufacturer	2009-07-09	EMD	2009-10-20 11:49

Noise based on Document no.: 0004-6207 V01 2009-07-09.
Please contact Vestas on information on the latest noise data.
Accuracy = +/- 2 dB(A)

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63	125	250	500	1000	2000	4000	8000	
					[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	
From Windcat	105.0	8.0	104.0	No	Generic data	84.6	91.6	95.0	97.6	97.4	94.5	89.7	80.2

NSA: 6MN/RM-A**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 7MN/RM-B**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m

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DECIBEL - Assumptions for noise calculation**Calculation:** Pilot, wariant 2 **Noise calculation model:** ISO 9613-2 General 8,0 m/s**NSA:** 8MN/RM-C**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 1RM-D**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** 2RM-E**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** 9MN/RM-F**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 1TR-G**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** 10MN/RM-H**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 11MN/RM-I**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 1M-J**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 12MN/RM-K**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m

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Calculated

2011-12-06 09:43/2.7.486

DECIBEL - Assumptions for noise calculation**Calculation:** Pilot, wariant 2 **Noise calculation model:** ISO 9613-2 General 8,0 m/s**NSA:** 2M-L**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 3M-M**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 4/5/6/7/8M-N**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 9/10M-O**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 11M-P**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 12/13M-Q**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 14M-R**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 15M-S**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 1MN/RM-T**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m

Project

Projekt Kępno

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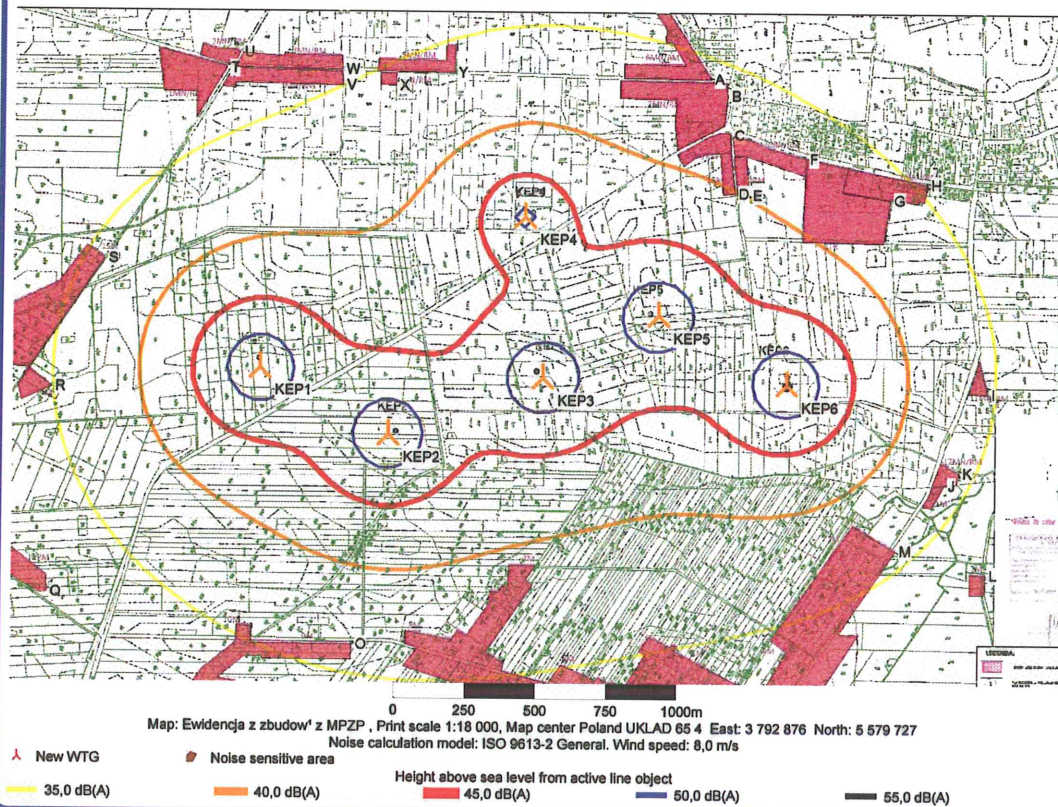
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Calculated

2011-12-06 09:43/2.7.486

DECIBEL - Assumptions for noise calculation**Calculation:** Pilot, wariant 2 **Noise calculation model:** ISO 9613-2 General 8,0 m/s**NSA:** 2MN/RM-U**Predefined calculation standard:****Immission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 3MN/RM-V**Predefined calculation standard:****Immission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 3MN/RM-W**Predefined calculation standard:****Immission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 4MN/RM-X**Predefined calculation standard:****Immission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 5MN/RM-Y**Predefined calculation standard:****Immission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m



DECIBEL -
Map 8,0 m/s
Calculation:
 Pilot, variant 2
 Noise calculation model:
 ISO 9613-2 General 8,0 m/s

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