

Project:

**Pinewoods Wind Farm**

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Licensed user:

**Gaitech Energy Development Limited**  
Cootehill Enterprise Park, Cootehill  
IE-CO. Cavan  
+353 86 8222803

Calculated:

05/08/2020 08:53/2.8.579

## DECIBEL - Main Result

**Calculation:** Noise Predictions (Rev01 - August 2020)

### Noise calculation model:

ISO 9613-2 General

### Wind speed:

4.0 m/s - 12.0 m/s, step 1.0 m/s

### Ground attenuation:

General, Ground factor: 0.5

### 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 90% exceedance values (L90)

### Pure tones:

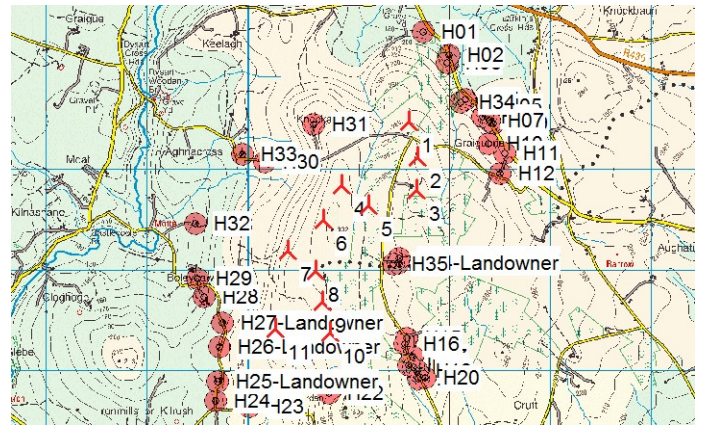
Pure and Impulse tone penalty are added to WTG source noise

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

4.0 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)



Scale 1:75,000  
New WTG Noise sensitive area

## WTGs

Irish Grid (IG)-IRELAND65 (IE)	WTG type	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data	Creator	Name	First wind speed	LwaRef	Last wind speed	LwaRef	Pure tones
											[m/s]	[dB(A)]	[m/s]	[dB(A)]	
1 251,604 182,460 258.7 T1	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
2 251,693 182,105 267.5 T2	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
3 251,676 181,781 273.2 T3	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
4 250,937 181,833 297.7 T4	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
5 251,205 181,628 299.3 T5	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
6 250,756 181,489 302.7 T6	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
7 250,403 181,186 278.9 T7	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
8 250,682 180,984 292.8 T8	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
9 250,742 180,675 291.0 T9	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
10 250,826 180,372 287.6 T10	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB
11 250,276 180,413 260.8 T11	GE WIND ENERGY	Yes		GE 3.2-103-3,200	3,200	103.2	85.0	USER		Normal Operation (Pinewoods)	4.0	98.0	12.0	107.0	0 dB

## Calculation Results

### Sound Level

Noise sensitive area	Irish Grid (IG)-IRELAND65 (IE)	Demands	Sound Level	Demands fulfilled ?				
					No.	Name	East	North
A	H01	251,747 183,345 179.5	4.0	43.0	36.5	Yes		
B	H02	252,003 183,118 189.9	4.0	43.0	37.9	Yes		
C	H03	251,985 183,038 196.4	4.0	43.0	38.7	Yes		
D	H04	252,171 182,682 208.9	4.0	43.0	40.5	Yes		
E	H05	252,389 182,614 212.0	4.0	43.0	38.7	Yes		
F	H06	252,334 182,504 217.9	4.0	43.0	39.8	Yes		
G	H07	252,407 182,475 217.6	4.0	43.0	39.2	Yes		
H	H08	252,419 182,452 218.8	4.0	43.0	39.2	Yes		
I	H09	252,443 182,442 220.0	4.0	43.0	39.0	Yes		
J	H10	252,398 182,245 230.0	4.0	43.0	40.0	Yes		
K	H11	252,554 182,144 226.2	4.0	43.0	38.6	Yes		
L	H12	252,505 181,946 240.1	4.0	43.0	39.1	Yes		
M	H13-Landowner	251,509 181,108 286.4	4.0	45.0	43.5	Yes		
N	H14-Landowner	251,504 181,064 286.4	4.0	45.0	43.3	Yes		
O	H15	251,584 180,317 281.7	4.0	43.0	39.9	Yes		
P	H16	251,563 180,264 282.8	4.0	43.0	39.9	Yes		
Q	H17	251,638 180,140 276.5	4.0	43.0	38.7	Yes		

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**DECIBEL - Main Result****Calculation:** Noise Predictions (Rev01 - August 2020)

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Noise sensitive area		Irish Grid (IG)-IRELAND65 (IE)			Demands	Sound Level	Demands fulfilled ?	
No.	Name	East	North	Z	Imission height	Max Noise	Max From WTGs	Noise
				[m]	[m]	[dB(A)]	[dB(A)]	
	R H18	251,603	180,046	273.4	4.0	43.0	38.5	Yes
	S H19	251,691	179,992	270.9	4.0	43.0	37.6	Yes
	T H20	251,763	179,930	266.8	4.0	43.0	36.8	Yes
	U H21	251,697	179,912	266.9	4.0	43.0	37.2	Yes
	V H22	250,816	179,769	278.8	4.0	43.0	40.8	Yes
	W H23	250,021	179,640	215.1	4.0	43.0	37.9	Yes
	X H24	249,684	179,702	193.7	4.0	43.0	36.6	Yes
	Y H25-Landowner	249,712	179,885	196.4	4.0	45.0	38.0	Yes
	Z H26-Landowner	249,723	180,232	200.3	4.0	45.0	40.2	Yes
	AA H27-Landowner	249,755	180,471	197.1	4.0	45.0	41.4	Yes
	AB H28	249,570	180,722	179.3	4.0	43.0	39.4	Yes
	AC H29	249,506	180,906	170.2	4.0	43.0	38.7	Yes
	AD H30	250,173	182,064	215.9	4.0	43.0	40.6	Yes
	AE H31	250,665	182,436	264.8	4.0	43.0	41.2	Yes
	AF H32	249,491	181,450	162.4	4.0	43.0	37.9	Yes
	AG H33	249,951	182,134	198.5	4.0	43.0	38.6	Yes
	AH H34	252,119	182,649	215.9	4.0	43.0	41.3	Yes
	AI H35	251,454	181,054	289.1	4.0	43.0	43.6	No
	AJ H36	251,654	180,035	272.0	4.0	43.0	38.1	Yes

**Distances (m)**

NSA	WTG										
	1	2	3	4	5	6	7	8	9	10	11
A	896	1241	1565	1715	1800	2103	2542	2589	2852	3111	3279
B	769	1059	1376	1669	1690	2051	2508	2509	2748	2987	3208
C	692	977	1294	1597	1611	1977	2435	2432	2669	2906	3131
D	609	749	1028	1497	1429	1850	2315	2258	2463	2672	2955
E	800	862	1096	1648	1540	1982	2445	2360	2543	2732	3050
F	731	755	977	1549	1429	1876	2337	2244	2424	2611	2933
G	803	804	1008	1604	1470	1922	2382	2279	2451	2630	2964
H	815	804	1001	1606	1467	1921	2380	2274	2443	2619	2957
I	839	822	1012	1624	1481	1937	2395	2286	2452	2626	2968
J	822	719	858	1518	1343	1807	2258	2129	2281	2445	2803
K	1001	862	950	1646	1444	1913	2354	2202	2332	2474	2860
L	1037	827	845	1572	1338	1807	2235	2061	2173	2301	2704
M	1355	1014	693	923	602	844	1108	836	881	1004	1415
N	1399	1058	737	955	638	860	1107	826	855	968	1389
O	2142	1791	1466	1648	1364	1435	1466	1121	915	760	1311
P	2196	1845	1521	1689	1410	1466	1481	1137	918	745	1295
Q	2320	1965	1641	1832	1549	1611	1618	1275	1043	844	1389
R	2413	2060	1736	1907	1631	1673	1655	1314	1066	842	1376
S	2469	2112	1789	1989	1706	1764	1756	1415	1169	945	1476
T	2534	2175	1852	2074	1787	1855	1851	1509	1264	1036	1563
U	2549	2192	1869	2065	1785	1836	1815	1476	1222	985	1506
V	2803	2494	2187	2067	1899	1721	1476	1222	909	603	840
W	3233	2978	2705	2376	2313	1989	1592	1497	1261	1088	814
X	3360	3131	2878	2471	2453	2083	1649	1624	1437	1324	925
Y	3194	2974	2729	2300	2294	1913	1473	1465	1298	1215	772
Z	2915	2717	2492	2009	2035	1627	1171	1218	1111	1112	582
AA	2715	2534	2324	1803	1854	1427	965	1059	1008	1075	524
AB	2675	2533	2357	1761	1869	1412	953	1142	1173	1303	770
AC	2610	2493	2339	1705	1845	1379	939	1178	1257	1423	914
AD	1484	1520	1529	798	1120	819	907	1194	1501	1813	1654
AE	939	1080	1204	661	972	951	1277	1452	1762	2070	2059

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### WTG

NSA	1	2	3	4	5	6	7	8	9	10	11
AF	2341	2297	2209	1495	1723	1265	949	1279	1471	1715	1300
AG	1684	1742	1760	1031	1352	1031	1050	1362	1659	1967	1751
AH	548	691	974	1436	1370	1789	2254	2199	2406	2618	2897
AI	1414	1078	760	935	625	822	1059	775	806	927	1341
AJ	2425	2070	1746	1935	1655	1708	1699	1358	1114	894	1428

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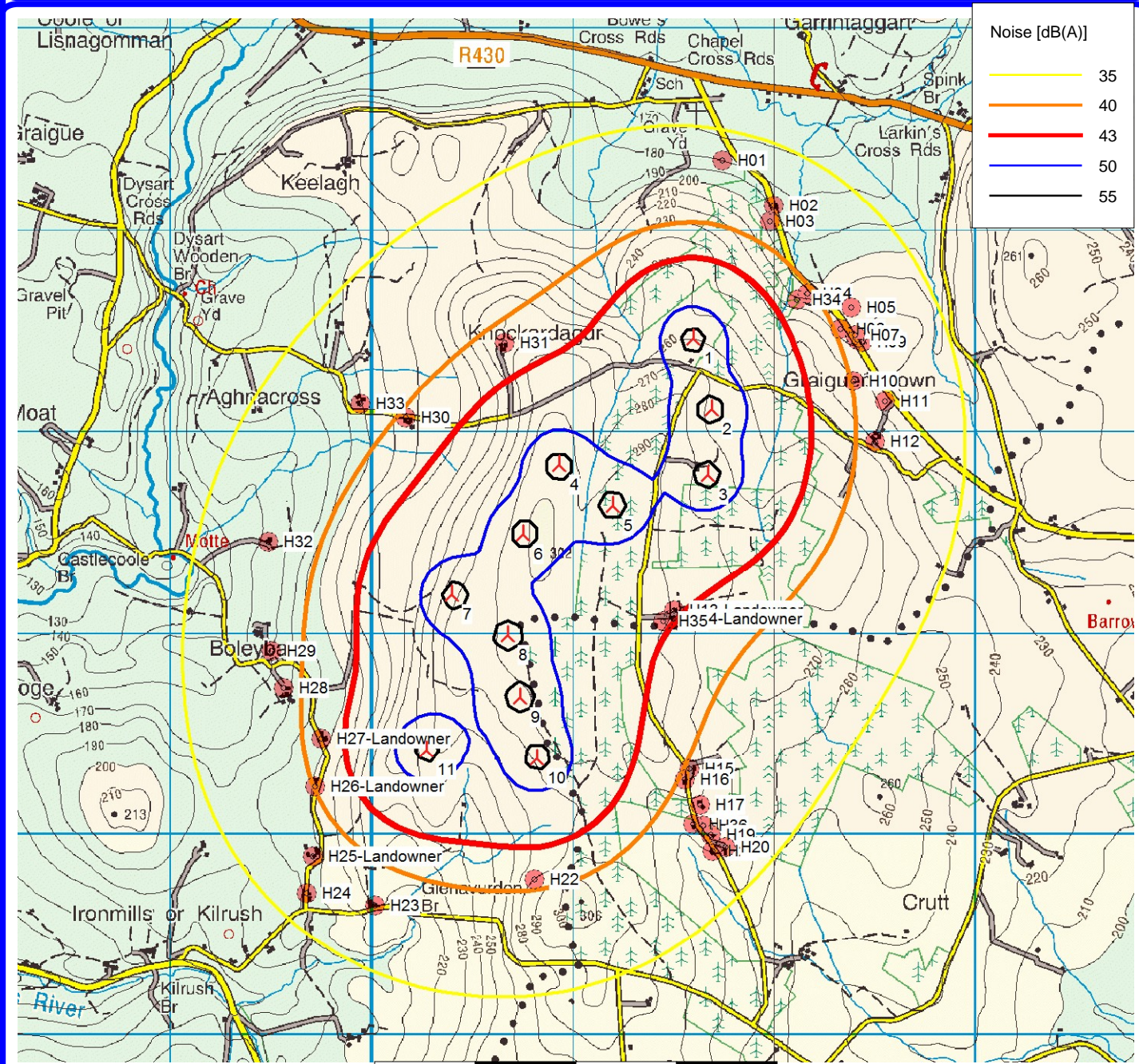
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**DECIBEL - Map 10.0 m/s**

Calculation: Noise Predictions (Rev01 - August 2020)



Map: 50,000 Map , Print scale 1:30,000, Map center Irish Grid (IG)-IRELAND65 (IE) East: 250,984 North: 181,416  
 0 500 1000 1500 2000 m  
 ▲ New WTG      ■ Noise sensitive area  
 Noise calculation model: ISO 9613-2 General. Wind speed: 10.0 m/s  
 Height above sea level from active line object