



APPENDIX 12-6

SOUND POWER LEVELS

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Wind speed at 10m, m/s	Sound Power Level dB(A) at Octave-band centre frequency, Hz								Overall (dB(A))
	63	125	250	500	1000	2000	4000	8000	
3	76.5	88.3	87.0	86.8	86.3	85.1	83.0	74.7	93.5
4	78.0	84.8	88.5	88.3	87.8	86.6	84.5	76.2	95.0
5	82.2	89.2	93.0	93.9	94.4	93.1	88.8	79.6	100.5
6	86.4	93.4	97.2	98.1	98.6	97.3	93.3	83.8	104.7
7	87.8	94.8	98.6	99.5	99.9	98.7	94.4	85.2	106.0
8	88.9	94.6	96.9	97.7	99.5	100.0	97.7	87.1	106.0
9	88.9	94.6	96.9	97.7	99.5	100.0	97.7	87.1	106.0

Table 1 Assumed Turbine Sound Power Levels for Carranagowan Wind Farm (Vestas V136 at 101 m hub height)

Wind speed at 10m, m/s	Sound Power Level dB(A) at Octave-band centre frequency, Hz								Overall (dB(A))
	63	125	250	500	1000	2000	4000	8000	
3	73.7	81.4	86.2	88.0	86.8	82.6	75.4	65.2	92.8
4	76.9	84.8	89.6	91.5	90.3	86.2	79.0	68.8	96.3
5	81.2	89.0	93.8	95.7	94.6	90.4	83.3	73.1	100.5
6	84.5	92.4	97.3	99.2	98.1	94.0	86.9	76.7	104.0
7	85.1	93.1	98.0	100.0	98.9	94.8	87.7	77.5	104.8
8	86.0	93.6	98.3	100.0	98.9	94.8	87.8	77.8	104.9
9	86.3	93.7	98.2	100.0	98.9	94.8	88.0	78.2	104.9

Table 2 Assumed Turbine Sound Power Levels for Lackerragh (Vestas V150 at 105 m hub height)

Wind speed at 10m, m/s	Sound Power Level dB(A) at Octave-band centre frequency, Hz								Overall (dB(A))
	63	125	250	500	1000	2000	4000	8000	
3	74.7	81.7	85.5	86.4	86.9	85.6	81.3	72.1	93.0
4	76.7	83.7	87.5	88.4	88.9	87.6	83.3	74.1	95.0
5	82.3	89.3	93.1	94.0	94.5	93.2	88.9	79.7	100.6
6	86.0	93.0	96.8	97.7	98.2	96.9	92.6	83.4	104.3
7	86.3	93.3	97.1	98.0	98.4	97.2	92.9	83.7	104.5
8	86.2	93.2	97.0	97.9	98.4	97.1	92.8	83.6	104.5
9	86.2	93.2	97.0	97.9	98.4	97.1	92.8	83.6	104.5

Table 3 Assumed Turbine Sound Power Levels for Fahybeg Wind Farms (Nordex N133 at 110 m hub height)

Wind speed at 10m, m/s	Sound Power Level dB(A) at Octave-band centre frequency, Hz								Overall (dB(A))
	63	125	250	500	1000	2000	4000	8000	
3	74.0	80.9	79.9	87.5	85.4	82.8	76.5	65.8	91.4
4	77.6	82.5	87.8	90.0	89.3	85.5	78.8	69.1	94.6
5	82.6	87.5	92.7	94.9	94.0	90.0	83.1	73.0	99.7
6	85.6	90.5	95.9	98.4	98.1	94.9	88.9	79.9	103.5
7	86.0	90.9	96.3	98.8	98.5	95.3	89.3	80.3	103.9
8	86.0	90.9	96.3	98.8	98.5	95.3	89.3	80.3	103.9
9	86.0	90.9	96.3	98.8	98.5	95.3	89.3	80.3	103.9

Table 4 Assumed Turbine Sound Power Levels for Ballycar Wind Farm (Vestas V136 at 90 m hub height)

Wind speed at 10m, m/s	Sound Power Level dB(A) at Octave-band centre frequency, Hz								Overall (dB(A))
	63	125	250	500	1000	2000	4000	8000	
3	75.9	83.5	88.2	89.9	88.8	84.7	77.7	67.7	94.8
4	79.3	86.9	91.6	93.3	92.2	88.1	81.1	71.1	98.2
5	83.6	91.2	95.9	97.6	96.5	92.4	85.4	75.4	102.5
6	87.1	94.7	99.4	101.1	100.0	95.9	88.9	78.9	106.0
7	87.9	95.5	100.2	101.9	100.8	96.7	89.7	79.7	106.8
8	88.0	95.6	100.3	102.0	100.9	96.8	89.8	79.8	106.9
9	88.0	95.6	100.3	102.0	100.9	96.8	89.8	79.8	106.9

Table 5 Assumed Turbine Sound Power Levels for Oatfield Wind Farm (Vestas V150 at 105 m hub height, normal operation)

Note: Values in Table 5 include +2dB allowance for uncertainty

Wind speed at 10m, m/s	Sound Power Level dB(A) at Octave-band centre frequency, Hz								Overall (dB(A))
	63	125	250	500	1000	2000	4000	8000	
3	75.4	83.0	87.7	89.4	88.3	84.2	77.2	67.2	94.3
4	79.3	86.9	91.6	93.3	92.2	88.1	81.1	71.1	98.2
5	83.3	90.9	95.6	97.3	96.2	92.1	85.1	75.1	102.2
6	85.1	92.7	97.4	99.1	98.0	93.9	86.9	76.9	104.0
7	85.1	92.7	97.4	99.1	98.0	93.9	86.9	76.9	104.0
8	85.1	92.7	97.4	99.1	98.0	93.9	86.9	76.9	104.0
9	85.1	92.7	97.4	99.1	98.0	93.9	86.9	76.9	104.0

Table 6 Assumed Turbine Sound Power Levels for Oatfield Wind Farm (Vestas V150 at 105 m hub height, Mode SO2)

Note: Values in Table 6 include +2dB allowance for uncertainty