



Cush Wind Farm
Phase II

Environmental Impact Assessment Report

Annex 12.5: Sound Power Levels

Cush Wind Limited

ANNEX 12-5. SOUND POWER LEVELS FOR OTHER WIND FARMS

This Annex presents the sound power levels of the other wind farms included in the assessment, along with the coordinates of the turbines.

Table 12-5-1. Cloghan: Vestas V136-4.2 at a hub height of 101m

Standardised 10m Height Wind Speed (m/s)	Octave Band (Hz) Sound Power Levels (dB re 10 ⁻¹² W)								
	63	125	250	500	1k	2k	4k	8k	dB(A)
3	72.2	80.1	85.0	86.9	85.8	81.6	74.5	64.3	91.7
4	75.7	83.7	88.5	90.4	89.2	85.0	77.8	67.5	95.2
5	80.8	88.7	93.6	95.4	94.2	90.0	82.8	72.5	100.2
6	84.4	92.1	96.8	98.6	97.5	93.4	86.5	76.4	103.5
7	84.9	92.5	97.2	99.0	97.9	93.8	86.9	76.9	103.9
8	85.0	92.6	97.2	99.0	97.9	93.9	87.0	77.3	103.9
≥9	85.2	92.6	97.2	99.0	97.9	93.9	87.2	77.5	103.9

Table 12-5-2. Derrinlough: Vestas V150-6.0 at a hub height of 110 m

Standardised 10m Height Wind Speed (m/s)	Octave Band (Hz) Sound Power Levels (dB re 10 ⁻¹² W)								
	63	125	250	500	1k	2k	4k	8k	dB(A)
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	81.3	89.1	93.9	95.8	94.7	90.5	83.4	73.2	100.6
6	84.6	92.5	97.4	99.3	98.2	94.1	87.0	76.8	104.1
7	85.1	93.1	98.0	100.0	98.9	94.8	87.7	77.5	104.8
8	85.5	93.3	98.2	100.1	99.0	94.8	87.7	77.6	104.9
9	86.3	93.7	98.2	100.0	98.9	94.8	88.0	78.2	104.9

Table 12-5-3. Meenwaun: General Electric GE-120 at a hub height of 110 m

Standardised 10m Height Wind Speed (m/s)	Octave Band (Hz) Sound Power Levels (dB re 10 ⁻¹² W)								
	63	125	250	500	1k	2k	4k	8k	dB(A)
3	74.6	83.0	86.4	88.4	89.1	86.0	76.4	60.6	94.2
4	76.5	85.3	88.8	90.2	90.3	87.0	77.7	62.0	95.8
5	77.4	87.2	92.3	94.8	95.0	91.0	80.9	64.5	99.9
6	82.6	91.7	96.1	98.0	98.2	95.1	86.7	69.6	103.5
7	83.4	92.5	96.9	98.8	99.0	95.9	87.5	70.4	104.3
8	83.1	92.3	96.8	98.9	99.0	96.0	87.5	70.4	104.3
9	83.1	92.3	96.8	98.9	99.0	96.0	87.5	70.4	104.3

Table 12-5-3. Cush Phases I and II: Assessment Turbine

Standardised 10m Height Wind Speed (m/s)	Octave Band (Hz) Sound Power Levels (dB re 10⁻¹²W)								
	63	125	250	500	1k	2k	4k	8k	dB(A)
3	88.5	91.6	90.7	89.3	89.4	87.8	80.0	67.2	97.6
4	90.1	93.2	91.2	89.2	91.0	90.0	82.3	69.4	98.9
5	84.6	91.0	93.2	94.0	97.0	98.5	94.0	79.0	103.2
6	87.7	92.5	97.1	100.5	101.3	99.7	92.9	78.5	106.4
7	94.4	98.7	99.8	99.3	101.7	101.1	95.2	82.6	107.7
8	88.1	95.7	100.4	99.7	102.0	101.9	96.2	82.9	107.8
9	89.8	96.8	101.4	100.4	101.0	99.9	98.3	85.5	107.8

a. See EIAR Chapter 12 Section 12.4.5.3 for discussion

Table 12-5-4. Turbine Coordinates for Cloghan Wind Turbines

Turbine Reference	Easting ITM	Northing ITM
Cloghan T1	608,097	715,366
Cloghan T2	608,601	715,678
Cloghan T3	608,108	715,754
Cloghan T4	608,750	716,042
Cloghan T5	608,327	716,161
Cloghan T6	608,672	716,535
Cloghan T7	608,311	716,733
Cloghan T8	608,600	717,098
Cloghan T9	609,153	717,319

Table 12-5-5. Turbine Coordinates for Meenwaun Wind Turbines

Turbine Reference	Easting ITM	Northing ITM
Meenwaun T1	605,523	712,484
Meenwaun T2	605,200	712,679
Meenwaun T3	604,933	713,362
Meenwaun T4	604,656	713,609

Table 12-5-6. Turbine Coordinates for Derrinlough Wind Turbines

Turbine Reference	Easting ITM	Northing ITM
Derrinlough T1	607,026	715,375
Derrinlough T2	607,206	714,769
Derrinlough T3	606,666	713,348
Derrinlough T4	605,958	713,100
Derrinlough T5	606,961	712,824
Derrinlough T6	606,452	714,872
Derrinlough T7	605,725	714,915
Derrinlough T8	605,919	715,618
Derrinlough T9	605,955	714,337
Derrinlough T10	605,094	714,562
Derrinlough T11	605,274	714,022
Derrinlough T12	609,662	715,257
Derrinlough T13	609,601	714,503
Derrinlough T14	609,982	714,058
Derrinlough T15	610,807	714,384
Derrinlough T16	610,313	714,732
Derrinlough T17	610,068	715,972
Derrinlough T18	609,959	716,616

Derrinlough T19	609,360	715,724
Derrinlough T20	609,307	716,406
Derrinlough T21	609,762	717,087

Table 12-5-7. Turbine Coordinates for Cush Phase I Wind Turbines

Turbine Reference	Easting ITM	Northing ITM
Cush Phase I T1	606797	710446
Cush Phase I T2	606312	709829
Cush Phase I T3	607351	710753
Cush Phase I T4	607060	710033
Cush Phase I T5	607922	710465
Cush Phase I T6	607844	709967
Cush Phase I T7	608286	709735
Cush Phase I T8	608427	710195