

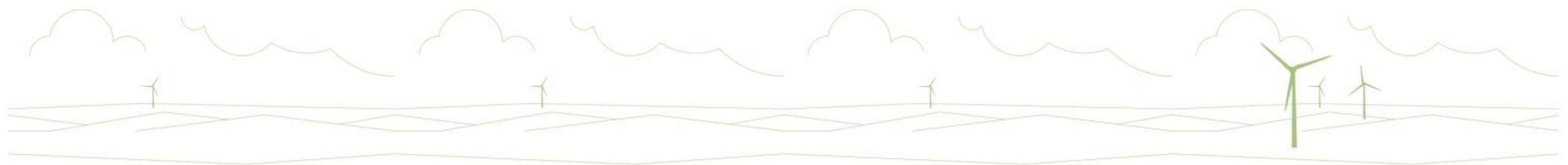


Technical Appendix 9.6

Modelled Receptor Noise Levels

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1 Modelled Receptor Noise Levels

1.1 Individual Windfarm Receptor Levels

1.1.1 Proposed Development in Isolation

Receptor	Wind Speed Referenced to 10m Height (Standardised U ₁₀), m/s									
	3	4	5	6	7	8	9	10	11	12
Upper Minnygap	-	15.9	20.9	25.1	26.3	26.3	26.3	26.3	26.3	26.3
Nether Minnygap	-	17.5	22.5	26.7	27.9	27.9	27.9	27.9	27.9	27.9
Barntimpin	-	16.7	21.7	25.9	27.1	27.1	27.1	27.1	27.1	27.1
Auld Laundry Cottage	-	15.2	20.2	24.4	25.6	25.6	25.6	25.6	25.6	25.6
Mollin Farm	-	20.7	25.7	29.9	31.1	31.1	31.1	31.1	31.1	31.1
Holmwood	-	19.3	24.3	28.5	29.7	29.7	29.7	29.7	29.7	29.7
Courancehill	-	19.9	24.9	29.1	30.3	30.3	30.3	30.3	30.3	30.3
Burrancehill Cottage	-	19.6	24.6	28.8	30.0	30.0	30.0	30.0	30.0	30.0
Burrancebrae	-	18.3	23.3	27.5	28.7	28.7	28.7	28.7	28.7	28.7
Kirkland Cottage	-	18.1	23.1	27.3	28.5	28.5	28.5	28.5	28.5	28.5
Lamphitt	-	19.4	24.4	28.6	29.8	29.8	29.8	29.8	29.8	29.8
Townhead Farm	-	13.8	18.8	23.0	24.2	24.2	24.2	24.2	24.2	24.2
Wood Farm	-	14.3	19.3	23.5	24.7	24.7	24.7	24.7	24.7	24.7
Woodside	-	15.9	20.9	25.1	26.3	26.3	26.3	26.3	26.3	26.3
Glencorse	-	14.4	19.4	23.6	24.8	24.8	24.8	24.8	24.8	24.8
Glenfine Farm	-	14.7	19.7	23.9	25.1	25.1	25.1	25.1	25.1	25.1
Glenview	-	15.0	20.0	24.2	25.4	25.4	25.4	25.4	25.4	25.4
Gubhill Farm	-	15.3	20.3	24.5	25.7	25.7	25.7	25.7	25.7	25.7
Craigshiels	-	19.8	24.8	29.0	30.2	30.2	30.2	30.2	30.2	30.2
Knockenshang	-	16.0	21.0	25.2	26.4	26.4	26.4	26.4	26.4	26.4

Table 9.6.1: Receptor Noise Levels – Proposed Development in isolation, L_{A90,T}, dB

1.1.2 Harestanes Windfarm in Isolation

Receptor	Wind Speed Referenced to 10m Height (Standardised U ₁₀), m/s									
	3	4	5	6	7	8	9	10	11	12
Upper Minnygap	18.1	25.5	30.3	33.8	34.1	34.1	34.1	34.1	34.1	34.1
Nether Minnygap	18.0	25.8	30.6	34.0	34.3	34.3	34.3	34.3	34.3	34.3
Barntimpin	15.5	23.2	28.0	31.5	31.7	31.7	31.7	31.7	31.7	31.7
Auld Laundry Cottage	12.8	19.9	24.7	28.2	28.5	28.5	28.5	28.5	28.5	28.5
Mollin Farm	14.1	21.2	26.0	29.5	29.8	29.8	29.8	29.8	29.8	29.8
Holmwood	12.9	19.7	24.6	28.1	28.4	28.4	28.4	28.4	28.4	28.4
Courancehill	13.3	20.1	24.9	28.5	28.7	28.7	28.7	28.7	28.7	28.7
Burrancehill Cottage	14.0	20.7	25.6	29.1	29.4	29.4	29.4	29.4	29.4	29.4

Receptor	Wind Speed Referenced to 10m Height (Standardised U ₁₀), m/s									
	3	4	5	6	7	8	9	10	11	12
Burrancebrae	12.3	19.0	23.8	27.4	27.6	27.6	27.6	27.6	27.6	27.6
Kirkland Cottage	12.2	18.6	23.5	27.0	27.3	27.3	27.3	27.3	27.3	27.3
Lamphitt	15.1	21.0	25.8	29.5	29.8	29.8	29.8	29.8	29.8	29.8
Townhead Farm	11.7	18.0	22.9	26.5	26.8	26.8	26.8	26.8	26.8	26.8
Wood Farm	13.5	19.5	24.3	28.0	28.3	28.3	28.3	28.3	28.3	28.3
Woodside	13.6	19.4	24.3	27.9	28.3	28.3	28.3	28.3	28.3	28.3
Glencorse	14.5	20.2	25.0	28.7	29.0	29.0	29.0	29.0	29.0	29.0
Glenfine Farm	15.6	21.1	25.9	29.6	30.0	30.0	30.0	30.0	30.0	30.0
Glenview	18.8	24.5	29.3	33.0	33.3	33.3	33.3	33.3	33.3	33.3
Gubhill Farm	19.5	25.0	29.8	33.5	33.9	33.9	33.9	33.9	33.9	33.9
Craigshiels	23.4	28.7	33.5	37.3	37.6	37.6	37.6	37.6	37.6	37.6
Knockenshang	21.9	27.4	32.2	36.0	36.3	36.3	36.3	36.3	36.3	36.3

Table 9.6.2: Receptor Noise Levels – Harestanes Windfarm in isolation, L_{A90,T}, dB

1.1.3 Minnygap Windfarm in Isolation

Receptor	Wind Speed Referenced to 10m Height (Standardised U ₁₀), m/s									
	3	4	5	6	7	8	9	10	11	12
Upper Minnygap	26.9	29.1	31.1	34.4	36.0	36.1	36.1	36.1	36.1	36.1
Nether Minnygap	29.0	31.2	33.2	36.5	38.1	38.1	38.1	38.1	38.1	38.1
Barntimpin	24.6	26.8	28.7	32.0	33.7	33.7	33.7	33.7	33.7	33.7
Auld Laundry Cottage	16.6	18.8	20.5	23.7	25.6	25.6	25.6	25.6	25.6	25.6
Mollin Farm	16.3	18.5	20.1	23.3	25.2	25.2	25.2	25.2	25.2	25.2
Holmwood	13.5	15.7	17.3	20.3	22.3	22.3	22.3	22.3	22.3	22.3
Courancehill	13.1	15.1	16.7	19.7	21.8	21.7	21.7	21.7	21.7	21.7
Burrancehill Cottage	13.2	15.3	16.9	19.8	21.9	21.8	21.8	21.8	21.8	21.8
Burrancebrae	11.7	13.7	15.3	18.2	20.3	20.2	20.2	20.2	20.2	20.2
Kirkland Cottage	10.1	12.0	13.6	16.3	18.5	18.4	18.4	18.4	18.4	18.4
Lamphitt	9.3	11.1	12.7	15.4	17.7	17.5	17.5	17.5	17.5	17.5
Townhead Farm	7.4	9.1	10.7	13.1	15.6	15.4	15.4	15.4	15.4	15.4
Wood Farm	8.2	9.8	11.4	13.9	16.3	16.2	16.2	16.2	16.2	16.2
Woodside	8.4	10.1	11.7	14.2	16.5	16.4	16.4	16.4	16.4	16.4
Glencorse	7.8	9.5	11.0	13.5	15.9	15.8	15.8	15.8	15.8	15.8
Glenfine Farm	8.0	9.7	11.3	13.8	16.1	16.0	16.0	16.0	16.0	16.0
Glenview	10.6	12.4	14.0	16.6	18.9	18.8	18.8	18.8	18.8	18.8
Gubhill Farm	11.0	12.8	14.4	17.1	19.4	19.3	19.3	19.3	19.3	19.3
Craigshiels	12.4	14.4	16.0	18.9	21.1	21.0	21.0	21.0	21.0	21.0
Knockenshang	13.5	15.5	17.1	19.9	22.1	22.0	22.0	22.0	22.0	22.0

Table 9.6.3: Receptor Noise Levels – Minnygap Windfarm in isolation, L_{A90,T}, dB

1.1.4 Dalswinton Windfarm in Isolation

Receptor	Wind Speed Referenced to 10m Height (Standardised U ₁₀), m/s									
	3	4	5	6	7	8	9	10	11	12
Upper Minnygap	-	3.6	8.4	11.4	11.7	11.9	11.5	12.1	12.1	12.1
Nether Minnygap	-	3.8	8.5	11.6	11.9	12.1	11.7	12.2	12.2	12.2
Barntimpin	-	4.4	9.1	12.2	12.5	12.7	12.3	12.8	12.8	12.8
Auld Laundry Cottage	-	1.4	6.2	9.2	9.5	9.8	9.3	9.9	9.9	9.9
Mollin Farm	-	5.9	10.7	13.7	14.0	14.2	13.8	14.3	14.3	14.3
Holmwood	-	5.6	10.4	13.4	13.7	13.9	13.5	14.0	14.0	14.0
Courancehill	-	7.1	11.9	15.0	15.3	15.4	15.0	15.4	15.4	15.4
Burrancehill Cottage	-	7.6	12.4	15.5	15.8	16.0	15.6	16.0	16.0	16.0
Burrancebrae	-	7.2	12.0	15.1	15.4	15.6	15.2	15.6	15.6	15.6
Kirkland Cottage	-	9.0	13.9	17.0	17.3	17.3	17.0	17.3	17.3	17.3
Lamphitt	-	15.2	20.3	23.5	23.8	23.7	23.5	23.5	23.5	23.5
Townhead Farm	-	12.5	17.5	20.7	21.0	20.9	20.7	20.8	20.8	20.8
Wood Farm	-	13.8	18.9	22.1	22.4	22.2	22.1	22.1	22.1	22.1
Woodside	-	15.3	20.5	23.7	24.0	23.8	23.7	23.7	23.7	23.7
Glencorse	-	17.2	22.5	25.8	26.1	25.9	25.8	25.6	25.6	25.6
Glenfine Farm	-	17.3	22.6	25.8	26.1	25.9	25.8	25.7	25.7	25.7
Glenview	-	17.2	22.4	25.7	26.0	25.8	25.7	25.6	25.6	25.6
Gubhill Farm	-	16.0	21.2	24.5	24.8	24.6	24.5	24.4	24.4	24.4
Craigshiels	-	14.9	20.0	23.2	23.5	23.4	23.2	23.2	23.2	23.2
Knockenshang	-	15.3	20.4	23.6	23.9	23.7	23.6	23.6	23.6	23.6

Table 9.6.4: Receptor Noise Levels – Dalswinton Windfarm in isolation, L_{A90,T}, dB

1.2 Cumulative Windfarm Receptor Noise Levels

1.2.1 Identified Cumulative Developments Only (Harestanes Windfarm + Minnygap Windfarm + Dalswinton Windfarm) No Proposed Development

Receptor	Wind Speed Referenced to 10m Height (Standardised U ₁₀), m/s									
	3	4	5	6	7	8	9	10	11	12
Upper Minnygap	27.5	30.7	33.8	37.1	38.2	38.2	38.2	38.2	38.2	38.2
Nether Minnygap	29.3	32.3	35.1	38.4	39.6	39.6	39.6	39.6	39.6	39.6
Barntimpin	25.1	28.4	31.4	34.7	35.8	35.9	35.9	35.9	35.9	35.9
Auld Laundry Cottage	18.2	22.4	26.2	29.6	30.3	30.3	30.3	30.3	30.3	30.3
Mollin Farm	18.4	23.1	27.1	30.5	31.2	31.1	31.1	31.1	31.1	31.1
Holmwood	16.3	21.3	25.5	28.9	29.5	29.5	29.4	29.5	29.5	29.5
Courancehill	16.3	21.4	25.7	29.2	29.7	29.7	29.7	29.7	29.7	29.7
Burrancehill Cottage	16.7	22.0	26.3	29.8	30.3	30.3	30.2	30.3	30.3	30.3
Burrancebrae	15.2	20.3	24.6	28.1	28.6	28.6	28.6	28.6	28.6	28.6

Receptor	Wind Speed Referenced to 10m Height (Standardised U ₁₀), m/s									
	3	4	5	6	7	8	9	10	11	12
Kirkland Cottage	14.4	19.8	24.3	27.8	28.2	28.2	28.2	28.2	28.2	28.2
Lamphitt	16.2	22.3	27.0	30.6	31.0	30.9	30.9	30.9	30.9	30.9
Townhead Farm	13.3	19.5	24.2	27.7	28.0	28.0	28.0	28.0	28.0	28.0
Wood Farm	14.8	20.9	25.6	29.1	29.5	29.4	29.4	29.4	29.4	29.4
Woodside	14.9	21.2	25.9	29.5	29.8	29.8	29.8	29.7	29.7	29.7
Glencorse	15.5	22.2	27.0	30.6	30.9	30.9	30.8	30.8	30.8	30.8
Glenfine Farm	16.4	22.8	27.7	31.2	31.6	31.5	31.5	31.5	31.5	31.5
Glenview	19.5	25.4	30.2	33.8	34.2	34.1	34.1	34.1	34.1	34.1
Gubhill Farm	20.1	25.7	30.5	34.1	34.5	34.5	34.5	34.5	34.5	34.5
Craigshiels	23.8	29.0	33.8	37.5	37.9	37.9	37.9	37.9	37.9	37.9
Knockenshang	22.5	27.9	32.6	36.3	36.7	36.7	36.7	36.7	36.7	36.7

Table 9.6.5: Receptor Noise Levels – Identified Cumulative Developments Only, L_{A90,T}, dB

1.2.2 Cumulative Scenario (Proposed Development + Harestanes Windfarm + Minnygap Windfarm + Dalswinton Windfarm)

Receptor	Wind Speed Referenced to 10m Height (Standardised U ₁₀), m/s									
	3	4	5	6	7	8	9	10	11	12
Upper Minnygap	27.5	30.8	34.0	37.4	38.4	38.5	38.5	38.5	38.5	38.5
Nether Minnygap	29.3	32.4	35.3	38.7	39.9	39.9	39.9	39.9	39.9	39.9
Barntimpin	25.1	28.7	31.8	35.3	36.4	36.4	36.4	36.4	36.4	36.4
Auld Laundry Cottage	18.3	23.2	27.2	30.7	31.6	31.6	31.6	31.6	31.6	31.6
Mollin Farm	18.4	25.1	29.5	33.3	34.2	34.2	34.2	34.2	34.2	34.2
Holmwood	16.4	23.4	27.9	31.7	32.6	32.6	32.6	32.6	32.6	32.6
Courancehill	16.4	23.7	28.3	32.1	33.0	33.0	33.0	33.0	33.0	33.0
Burrancehill Cottage	16.8	24.0	28.6	32.3	33.2	33.2	33.1	33.2	33.2	33.2
Burrancebrae	15.3	22.4	27.0	30.8	31.7	31.7	31.7	31.7	31.7	31.7
Kirkland Cottage	14.6	22.1	26.8	30.6	31.4	31.4	31.4	31.4	31.4	31.4
Lamphitt	16.3	24.1	28.9	32.7	33.4	33.4	33.4	33.4	33.4	33.4
Townhead Farm	13.5	20.6	25.3	28.9	29.6	29.5	29.5	29.5	29.5	29.5
Wood Farm	14.9	21.7	26.5	30.2	30.7	30.7	30.7	30.7	30.7	30.7
Woodside	15.0	22.3	27.1	30.8	31.4	31.4	31.4	31.4	31.4	31.4
Glencorse	15.6	22.9	27.7	31.4	31.9	31.8	31.8	31.8	31.8	31.8
Glenfine Farm	16.5	23.4	28.3	32.0	32.5	32.4	32.4	32.4	32.4	32.4
Glenview	19.5	25.8	30.6	34.3	34.7	34.7	34.7	34.7	34.7	34.7
Gubhill Farm	20.1	26.1	30.9	34.6	35.0	35.0	35.0	35.0	35.0	35.0
Craigshiels	23.8	29.5	34.3	38.1	38.6	38.6	38.5	38.5	38.5	38.5
Knockenshang	22.6	28.2	32.9	36.6	37.1	37.1	37.1	37.1	37.1	37.1

Table 9.6.6: Receptor Noise Levels – Cumulative Scenario, L_{A90,T}, dB

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