

MSD - Ireland + Commission 3 - STA JUNE 2015
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Table 3 - Details of the land cover classes (Memorandum dated 29/04/2015) and the model calculation

Absolute Noise Limit 45 dB

Location	Spatial extent (scale)	Height	Matching Minimum Wind Speed at Tip Height (m/s)	Setback from sensitive properties (residences, schools)	Area available matching minimum wind speed	Remaining Area (km ²) following application of 40dB limit	Remaining Area (km ²) following application of 45dB limit	Percent of ROI land Area	Capacity available (MW)	Assumed Capacity Factor for Tip Heights	Capacity Output Potential (GWh)
Mountain Moorland and hills	Existing guidelines	New		New							
	Tend towards large	Any height	7.75	Min 500m, multiplier of 5 (750m max)	437.18	217.35	413.75	0.59%	4,137.50	33.33%	10,268.25
Transitional marginal land	Tend towards small	Medium	8	Min 500m, multiplier of 6 (750m max)	63.49	40.89	61.15	0.09%	611.50	30.00%	1,365.97
	Ridges and hilltops preferred	Medium and short	8	Min 500m, multiplier of 7 (875m max)	0.33	0.15	0.33	0.00%	3.30	30.00%	7.37
Flat farm land	Tend towards small	Medium	8	Min 500m, multiplier of 7 (875m max)	80.25	0.19	1.38	0.00%	13.80	30.00%	30.83
Flat peat land	Large	Tall	7.75	Min 500m, multiplier of 5 (850m max)	218	102.93	217.98	0.31%	2,179.80	33.33%	5,409.72
Urban/Industrial	Urban town & villages	Short	8	Min 1km from town & villages	0	0.00	0.00	0.00%	0.00	30.00%	0.00
	Industrial	Short	8	Min 600m	0	0.00	0.00	0.00%	0.00	30.00%	0.00
Lakes/de	Tend towards small	100m	8	Min 500m, multiplier of 8 (800m max)	0	0.00	0.00	0.00%	0.00	30.00%	0.00
Coastal	Set back from water	Tall may be acceptable	8	Min 500m, multiplier of 8 (800m max)	0	0.00	0.00	0.00%	0.00	30.00%	0.00
					799.25	361.51	694.59		6,945.90		17,082.14

Republic of Ireland Land Area (km ²)	70,273
Capacity Intensity (MW per km ²)	10
Losses	15%
Hours in the Year	8,760

Previous result: 3,018.90

- Note:
- 500m buffer from lakes greater than 5km².
 - New Annex 1 mapping used.
 - Tip height buffer from SACs & SPAs.

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(TABLE-4.PDF)

Table 4 - Details of the land cover classes (Memorandum dated 29/04/2015) and the model calculation (16% of capacity delivered)

Absolute Noise Limit 45 dB

Location	Spatial extent (scale)		Height	Matching Minimum Wind Speed at Tip Height (m/s)	Setback from sensitive properties (residences, schools)	Area available (km ²)	Remaining Area (km ²) following application of 40dB limit	Remaining Area (km ²) following application of 45dB limit	Percent of ROI land Area	Capacity available (MW)	Assumed Capacity Factor for Tip Heights	Capacity Output Potential (GWh)
	Existing guidelines	New										
Mountain Moorland and hills	> 150m	Tend towards large	Existing guidelines Any height	7.75	Min 500m, multiplier of 5 (750m max)	437.18	217.35	413.75	0.59%	662.00	33.33%	1,642.92
	< 150m	Tend towards small	Medium	8	Min 500m, multiplier of 6 (750m max)	63.49	40.89	61.15	0.09%	97.84	30.00%	218.55
Transitional marginal land	Ridges and hilltops preferred	Tend towards small	Medium and short	8	Min 500m, multiplier of 7 (875m max)	0.33	0.15	0.33	0.00%	0.53	30.00%	1.18
	Flat farm land	Tend towards small	Medium	8	Min 500m, multiplier of 7 (875m max)	80.25	0.19	1.38	0.00%	2.21	30.00%	4.93
Flat peat land	Large	Tend towards large	Tall	7.75	Min 500m, multiplier of 5 (850m max)	218	102.93	217.98	0.31%	348.77	33.33%	865.56
	Urban town & villages	Tend towards small	Short	8	Min 1km from town & villages	0	0.00	0.00	0.00%	0.00	30.00%	0.00
Industrial	Industrial	Tend towards small	Short	8	Min 600m	0	0.00	0.00	0.00%	0.00	30.00%	0.00
	Lakeside	Tend towards small	Short	8	Min 500m, multiplier of 8 (800m max)	0	0.00	0.00	0.00%	0.00	30.00%	0.00
Coastal	Set back from water	Tend towards small	Tall may be acceptable	8	Min 500m, multiplier of 8 (800m max)	0	0.00	0.00	0.00%	0.00	30.00%	0.00
						799.25	361.51	694.59	0.00%	1,111.34	30.00%	2,733.14

Republic of Ireland Land Area (km ²)	70,273
Capacity Intensity (MW per km ²)	10
Losses	15%
Hours in the Year	8,760

Previous result: 616.38

- Notes: 1. 500m buffer from lakes greater than 5km².
- 2. New Annex 1 mapping used.
- 3. Tip height buffer from SACs & SPAs