

Environmental Noise Assessment

Question: Will I need a noise assessment for my wind turbine?

In Northern Ireland a planning application for a wind turbine will not require a noise assessment where it can be shown that the noise from the proposed turbine will not exceed 35 dB LA90 at the boundary of the nearest noise sensitive receiver, at any wind speed from cut in to 12 m/s. Typically this will require a separation distance of 340 metres based on a typical 250 kW turbine with a hub height of 30 m and a sound power of 97 dB.

If the projected noise from the turbine exceeds the 35 dB criterion then it may be possible to obtain planning permission if the noise from the turbine is less than the prevailing background noise + 5 dB. The prevailing background noise can only be ascertained by measurement using the methodology of ETSU R 49. We use a two week period of continuous measurement to obtain the prevailing background curve. Higher background noise levels are associated with roads, rivers and forests, so you tend to find that separation distances decrease due to the proximity of these features. Higher background noise levels have the effect of masking the turbine noise.

The prevailing background noise is established by correlating noise levels and wind speeds for the duration of the measurement period.

In practical terms this means erecting an anemometer at the turbine site and a noise analyser at the boundary of the nearest residence. Where there is more than one neighbouring property involved, noise measurements will be needed at each property which in turn means a 2 week measurement at each property. You should ask your acoustic consultant to liaise with Environmental Health to determine the number of properties that will require assessment.

Many applicants have their own anemometer and if it is suitable we can take data from that device and import it into our analysis.

Where the noise level from the turbine exceeds the prevailing background + 5dB then planning permission would normally be refused. The most difficult times of the day are 6pm to 11pm Monday to Friday, 1pm to 11pm on Saturdays and all day on Sunday. At these times of day noise levels have diminished and people are more likely to be using their gardens for recreation so that the noise from a turbine could be potentially disturbing.

The night time criterion is 43 dB which is not usually a problem as people are asleep.

A lesser standard applies where a neighbouring property is in the control of the applicant, or the occupant of the neighbouring property has a financial interest in the turbine.



For further details contact:

Martin Grainger on 028 8224 4800 or
email: sales@graingercommunication.com