



**AN BILLE COMHSHAOIL AGUS SLÁINTE POIBLÍ
(TUIRBÍNÍ GAOITHE), 2012
ENVIRONMENT AND PUBLIC HEALTH (WIND TURBINES)
BILL 2012**

EXPLANATORY MEMORANDUM

Purpose of the Bill

The purpose of this Bill is to ensure that the State's renewable energy and environmental targets are implemented without exposing people in their homes to adverse health effects arising from wind turbines, and to ensure that there is suitable community consultation and participation in wind farm development planning. The 2006 Department of the Environment *Wind Energy Planning Guidelines* apply the standards for environmental noise set in 1980 by the World Health Organization (WHO), rather than the updated 1999 WHO standards; and the recommendations in the 2006 Guidelines for community consultation and participation are not enforceable and do not meet the requirements of the Aarhus Convention on Public Participation in Environmental Matters. Enacting this Bill would mean that Ireland strongly supports the leading international environmental standards from the Aarhus Convention, and the leading international public health protection standards from the World Health Organization.

The main elements of the Bill are:

- (a) in *sections 3 and 4*, to protect the health of people in their homes who may be affected by noise (including Low Frequency Noise (LFN) and Amplitude Modulation (AM)) and shadow flicker, in particular by requiring that wind turbines comply with World Health Organization (WHO) standards set down in 1999, and to ensure that any equivalent or replacement WHO standards would also apply in the future,
- (b) in *section 5*, to set mandatory minimum distances between wind turbines and dwellings based on the size of a wind turbine, which are in addition to the general protections from noise and shadow flicker in *sections 3 and 4*,
- (c) in *section 6*, to implement specific provisions of the 1998 UNECE Aarhus Convention on Access to Information and Public Participation in Environmental Matters, which came into force in Ireland in September 2012,

- (d) in *section 7*, to allow existing wind turbines one year to comply with the duties on noise and shadow flicker in *sections 3 and 4*,
- (e) in *section 8*, to require the planning authorities and relevant Ministers to monitor compliance with the duties in the Bill, and
- (f) in *section 9*, to provide that nothing in the Bill alters or affects any civil liability that may arise independently of the Bill.

Detailed provisions of the Bill

Section 1 of the Bill is a standard provision setting out the Short Title, the Environment and Public Health (Wind Turbines) Act 2012. *Section 1* does not include any reference to the coming into operation of the Bill, which means it would come into operation immediately on being signed into law by the President: see Article 25.4.1° of the Constitution. This would ensure that the protections for people's health in the Bill would be legally enforceable immediately.

Section 2 is a standard section containing basic definitions for the Bill. The most significant definitions concern the scope of the meaning of a dwelling. This definition is based directly on the definition of a dwelling in the Criminal Law (Defence and the Dwelling) Act 2011.

Section 3(1) provides for a mandatory obligation on every person applying for planning permission to construct a wind turbine generator under the Planning and Development Act 2000, and every operator of a wind turbine generator, to ensure that the noise from a wind turbine does not exceed the noise limits specified in the World Health Organization (WHO) 1999 *Guidelines for Community Noise*, which replaced the WHO 1980 *Guidelines for Community Noise*.

The WHO 1980 Guidelines had stated that a maximum indoor bedroom noise level of 35 dB LAeq was sufficient to protect human health; this was based on studies of environmental noise carried out in the 1970s. The WHO 1999 Guidelines lowered the maximum indoor bedroom noise level by more than half to 30 dB LAeq (a 3 decibel reduction is a halving of the sound pressure from noise); this was based on more extensive studies of environmental noise from the 1980s and 1990s. The WHO 1999 Guidelines state, at paragraph 4.3.1:

“In dwellings, the critical effects of noise are on sleep, annoyance and speech interference. To avoid sleep disturbance, indoor guideline values for bedrooms are 30 dB LAeq for continuous noise and 45 dB L_{Amax} for single sound events. Lower levels may be annoying, depending on the nature of the noise source. The maximum sound pressure level should be measured with the instrument set at ‘Fast’.”

Section 3(1) of the Bill also specifies that the mandatory obligation on noise would also apply to any equivalent or replacement document to the WHO 1999 Guidelines. This would allow reference to an equivalent document, such as the WHO 2009 *Night Noise Guidelines for Europe*, which used the standards in the 1999 WHO Guidelines with a specific focus on night noise. It would also ensure that the obligation would apply to any future updated general WHO standards.

Section 3(2) of the Bill provides that the mandatory obligation in *section 3(1)* concerning noise levels must include Low Frequency Noise and Amplitude Modulation, which are characteristic features of wind turbine noise. Low Frequency Noise (LFN) is the perceptible vibration, often described as a “droning” noise, produced by wind turbines. Amplitude Modulation (AM) is the “thump and swish” noise produced by the movement of the wind turbine blades as it rotates.

Section 4 of the Bill provides for a mandatory obligation on every person applying for planning permission to construct a wind turbine generator under the Planning and Development Act 2000, and every operator of a wind turbine generator, to ensure that the distance of a wind turbine from a dwelling must be such that any shadow flicker from the turbine does not pass over the dwelling. Shadow flicker from wind turbines is caused when the sun passes through the rotating blades of the turbine, casting a shadow that can be felt not only outside but also inside homes, especially at sunrise and sunset. As a general rule, in order to avoid shadow flicker inside a home, a turbine should be at least ten times its height from a home. Therefore, a 50 metre turbine should be 500 metres from a home, and a 100 metre turbine should be 1,000 metres from a home.

Section 5 of the Bill provides for a mandatory minimum distance rule for wind turbines from dwellings. This is usually referred to as a “set-back” rule. The proposal in the Bill is directly related to the size of the turbine in question, which avoids a “one size fits all” approach. The general approach taken in the Bill is that the distance should be at least 10 times the size of the turbine. This would, in general terms, avoid adverse health effects from noise and shadow flicker, which are dealt with in *sections 3* and *4* of the Bill.

Section 5(1) provides that, bearing in mind that the noise and shadow flicker produced from a wind turbine will vary depending on the specific landscape setting in which it is situated, the minimum distance between a wind turbine generator and a dwelling set out in *section 5(3)* is subject to the duties in *section 3* and *section 4* of the Bill.

Section 5(2) provides that, if a number of wind turbine generators are being built as part of the same development, the minimum distance applies to each wind turbine generator individually.

Section 5(3) then sets out the proposed minimum distances between a wind turbine generator and a dwelling. These are:

- (a) 500 metres, where the height of the wind turbine generator is greater than 25 metres but does not exceed 50 metres,
- (b) 1,000 metres, where the height of the wind turbine generator is greater than 50 metres but does not exceed 100 metres,
- (c) 1,500 metres, where the height of the wind turbine generator is greater than 100 metres but does not exceed 150 metres,
- (d) 2,000 metres, where the height of the wind turbine generator is greater than 150 metres.

Section 5(4) provides that the height of the wind turbine generator is measured from the ground to the end of the blade tip at its highest point.

Section 6 of the Bill provides for the implementation of Article 6 of the Aarhus Convention (the 1998 UNECE Convention on Access to Information and Public Participation in Environmental Matters), which came into force in Ireland in September this year. Section 8 of the Environment (Miscellaneous Provisions) Act 2011 already provides that the courts may take judicial notice of the Aarhus Convention, and section 6 of the Bill reinforces this in the context of wind farm developments.

Section 6(1) provides that every person applying for permission to construct a wind turbine generator under the Planning and Development Act 2000 must, in addition to their duties under sections 171A and section 172 of the 2000 Act (which implemented Article 3 of the EIA Directive), provide to persons occupying dwellings within the minimum distances specified in *section 5* at the time of making the application the following information free of charge:

- (a) a description of the site and the physical and technical characteristics of the proposed wind farm development activity,
- (b) a description of the effects of the proposed development on the environment, in particular the effects on:
 - (i) human beings, fauna and flora,
 - (ii) soil, water, air, climate and the landscape,
 - (iii) material assets and the cultural heritage, and
 - (iv) the interaction between these (these are the 4 headings in Article 3 of the EIA Directive);
- (c) a description of the measures envisaged to prevent or to reduce the effects, including emissions,
- (d) a non-technical summary of the above, and
- (e) an outline of the main alternatives studied by the applicant.

Section 6(2) provides that every person applying for planning permission to construct a wind turbine generator must place an advertisement in a newspaper circulating in the area of the proposed development and on a local radio station broadcasting in the area of the proposed development. This must state that the applicant is arranging a public meeting to be held at a named convenient time and in a named convenient location near to the proposed development, at which persons occupying dwellings within the minimum distances specified in *section 5* and other members of the public may submit, in writing or verbally any comments, information, analyses or opinions that they consider relevant to the proposed development.

Section 6(3) provides that the applicant must submit to the planning authority or, as the case may be, An Bord Pleanála, a report of the meeting held in accordance with *subsection (2)*.

Section 6(4) provides that section 8 of the Environment (Miscellaneous Provisions) Act 2011, which already provides that the courts may take judicial notice of the Aarhus Convention, applies to this section; and it also provides that a word or expression used in this section has the same meaning as in the Aarhus Convention. This

is to reinforce the intention that *section 6* of the Bill is intended to implement Article 6 of the Convention.

Section 7 of the Bill deals with the application to existing wind turbines of the duties in the Bill concerning the protection of the health of people.

Section 7(1) provides that every operator of a wind turbine generator must ensure that a wind turbine generator in use or operation when this Bill comes into operation must comply with the duties on noise and shadow flicker in *sections 3* and *4* at the latest one year after the Bill comes into operation.

Section 7(2) provides that the operator of an existing wind turbine generator must, as soon as practicable after this Bill comes into operation, prepare a plan that contains the specific preparatory measures required to comply with *section 7(1)* and must then communicate that plan without delay to:

- (a) persons occupying dwellings within the minimum distances specified in *section 5* and
- (b) the planning authority or, as the case may be, An Bord Pleanála. This type of transitional provision that applies a new law to existing situations, subject to an appropriate lead-in time, has been used in other situations. For example, *section 19* of the Multi-Unit Developments Act 2001 applied the new statutory duty to establish a sinking fund to existing pre-2011 apartment complexes, subject to an 18 month lead-in time.

Section 8 of the Bill requires the planning authorities and relevant Ministers to monitor compliance with the duties in the Bill.

Section 8(1) provides that the planning authorities and relevant Ministers, in carrying out their duties and functions, must ensure that every person applying for planning permission to construct a wind turbine generator, and every operator of a wind turbine generator, complies with the duties in *sections 3* to *5* and *section 7* of the Bill.

Section 8(2) provides that they must also take due account of the outcome of the public participation provided for in *section 6*. This involves implementing another element of Article 6 of the Aarhus Convention.

Section 8(3) provides that, as well as applying to a planning authority and, where relevant An Bord Pleanála, the proposed duties in the section would apply to the Minister for the Environment, Community and Local Government and to any other Minister exercising functions in connection with any grant aid or financial assistance related to a wind turbine generator, including in connection with a Renewable Energy Feed-in Tariff Scheme (REFIT), which is currently the responsibility of the Minister for Communications, Energy and Natural Resources.

Section 9(1) of the Bill provides that nothing in the Bill itself, including the duties in *sections 3* to *8*, alters or affects any civil liability that may exist on the coming into operation of this Act concerning the use or operation of a wind turbine generator of any manufacturer, supplier, applicant for planning permission, operator, employer, or of any person having an interest in land on which such a wind turbine is situated. This means that the duties in the Bill

would not necessarily create any new civil liability, but nor would they remove any liability that already exists in law.

Section 9(2) provides that the term “civil liability” has the same meaning as in the Civil Liability Act 1961; and that it includes any liability that may arise under any rule of law, whether common law or statutory, or by virtue of the European Convention on Human Rights Act 2003, or arising under the law of the European Communities or the European Union.

*Deputy Willie Penrose,
November, 2012.*