



Frequently Asked Questions

At FuturEnergy Ireland (FEI), we work hard to be good, long-standing neighbours and develop wind farm projects in a responsible and respectful manner so that local communities, as well as Ireland as a whole, can benefit. As a team, we value and respect honest, straightforward engagements. There is much information in circulation on the important issues associated with wind farms but not all of it can be relied upon with confidence. Here we have compiled answers to some of the most frequently asked questions about wind farms, backed up with scientific studies, independent references and peer-reviewed research. If you still have questions or would like further information on any of the topics we cover below, please contact us and we will be happy to help.

Janine Thomas, Communications and Media Manager

Janine.thomas@futureenergyireland.ie

1. Why do we need onshore wind farms?

In August 2021, the Intergovernmental Panel on Climate Change (IPCC) published its [Sixth Assessment Report](#)¹ which stated that major climate disruption is “widespread, rapid and intensifying”. This was described by the UN secretary general as “[a code red for humanity](#)”². One week later, the Environmental Protection Agency, Met Éireann and the Marine Institute published “[The Status of Ireland’s Climate](#)”³. The report gave robust evidence that global climate change means Ireland will continue to get warmer and wetter.

It is clear that we must act now to stop the climate crisis or our planet will suffer irreversible damage. Wind energy is certainly not the only answer: we will need a range of renewable energy technologies working together. However, due to Ireland’s exceptional wind conditions, onshore wind energy is the most cost-effective way to quickly cut our carbon emissions and ensure a secure supply of energy for our homes, farms, businesses and communities. It already provides 36 per cent of Ireland’s electricity and last year wind energy cut our carbon emissions by 4 million tonnes.

¹ <https://www.ipcc.ch/report/ar6/wg1/>

² <https://www.un.org/press/en/2021/sgsm20847.doc.htm>

³ https://www.epa.ie/publications/research/climate-change/The-Status-of-Irelands-Climate-2020_Draft_11-of-brochure.pdf

In response to UN accords such as the Paris Agreement, and EU targets and legislation, the Irish Government aims to generate 80% of electricity from renewable sources by 2030 and ultimately to have a carbon neutral economy by 2050. The 80% target, combined with expected increases in demand for electricity, mean we need to build twice as much renewable energy in the next 10 years as we did in the last two decades. The [Climate Action Plan](#)⁴ commits to 4,000 MW of onshore wind over the next ten years, reaching up to 8,200 MW overall, plus 3,500 MW from offshore wind, which the [Programme for Government](#)⁵ raised to 5,000 MW. In summary, it is not a question of whether Ireland needs onshore or offshore wind energy; both are required.

For onshore wind, delivering this target will be made easier by deploying the latest turbine technology with larger rotors each producing much more renewable energy and at lower cost to consumers. This will allow the onshore wind energy target to be reached with fewer sites / fewer turbines.

2. How do you select an area for wind farm development?

Wind farm development is guided by legislation and policy at EU, national, regional and county level. The Programme for Government and the Climate Action Plan have declared the development of renewable energy as a primary and urgent requirement for Ireland's energy future. To reach the Government's target of achieving 80% of electricity from renewable sources by 2030, counties need to zone areas of land suitable for renewable energy (notably wind energy) development.

Typically, County Development Plans identify areas that are suitable for wind farm development, those open to consideration and areas that are unsuitable. County Development Plans are required to reflect national energy policy and act as a guide for developers.

County councils update their development plans every four or five years. This involves a statutory public consultation process and therefore it is important that citizens get involved and make their views known before a County Development Plan is finalised. This is the most effective way to influence your county's participation in the adoption of renewable energy. See your local county council's website for more information on its development plan.

There are many other factors to consider when choosing an area for a wind farm. Our design team rigorously identifies all environmentally sensitive areas and removes these during the site selection process. These include protected sites such as Special Areas of Conservation, Special Protection Areas and Natural Heritage Areas.

There are also setback distances from properties and rivers to take into consideration. In wind farm development, this is known as a "constraints-led approach", achieved through a full desk-

⁴ <https://www.gov.ie/en/publication/ccb2e0-the-climate-action-plan-2019/>

⁵ <https://www.gov.ie/en/publication/7e05d-programme-for-government-our-shared-future/>

based assessment, extensive field surveys and detailed consultation. These comprehensive studies, combined with wind speed data, determine the final location of turbines within any given site.

3. How can I be kept up to date on the project?

FuturEnergy Ireland commits to a transparent dialogue process between those most involved to share all relevant information and develop wind projects that benefit local communities.

FEI always maintains regular communications with a community about any local project. This is done primarily through a dedicated Community Liaison Officer (CLO) who will routinely call door to door (Covid-19 restrictions permitting) and deliver newsletters, leaflets and more detailed brochures with progress updates. There is also a project website that contains the latest news and information.

We welcome your input and feedback – our CLO is available on the phone, via email or you can arrange a meeting within Covid-19 guidelines. If you choose to make contact by phone and the number is not answered, be sure to leave a voicemail with your contact details and our CLO will call you back at a time that suits you best.

FEI's approach to community engagement typically involves informal and highly interactive Community Engagement Clinics that are usually held in a local hotel or community centre. At each session there are information stands on specific topics such as visuals, noise and recreation with relevant experts available to respond to questions. This ensures one-to-one attention and answers to individual questions.

When these sessions were unable to run due to Covid-19 restrictions, we created Virtual Exhibitions on project websites and webinars that are easy to navigate and offer all the same information and the opportunity to get any queries answered.. Given the success of these Virtual Exhibitions during the Covid pandemic, we will also continue to utilize this as part of our future engagement processes.

4. Can you explain the planning application process?

There are two planning paths depending on the size of a wind farm project. If the wind farm will generate under 50 MW of electricity, we apply to the county council. If the project is over 50 MW (the number of turbines will depend on the technology selection) it is deemed a Strategic Infrastructure Development (SID), which means we are obliged to apply directly to An Bord Pleanála for planning. The local county council is still consulted as part of this process.

All our planning applications are open for you to review and comment on. A pre-planning advert is placed in the local newspaper and notifications will be uploaded on to the dedicated project website. We also place site notices around the project area and inform everyone who has been in touch with the project during the community engagement process.

When we apply for planning, a full Environmental Impact Assessment (EIA) report and planning details will be published either on the dedicated project website or on a separate planning website for An Bord Pleanála applications.

If you wish to make a submission, comment or lodge an objection, you can do so on the planning authority's website. The period in which to do this is five weeks for a county council and seven weeks for An Bord Pleanála. Each authority has a different fee for processing a submission, comment or objection.

If you would like to be notified when a planning application is going to be submitted, please contact your local CLO and we will be sure to let you know.

5. Are wind turbines noisy?

A wind turbine generates two kinds of noise: aerodynamic noise created when the turbine blades pass through the air; and a mechanical noise caused by the generator in the turbine's nacelle (the large box at the top of the turbine behind the rotors). Every effort is made by FuturEnergy Ireland as the developer, and by turbine manufacturers, to minimise the amount of noise a wind farm generates, and at all times to operate within noise limits prescribed by the relevant authorities.

When planning a wind farm, extensive studies are carried out to identify the best location for each individual turbine to ensure any potential disruption for local residents is eliminated or kept to an absolute minimum. In general, Ireland's [Wind Energy Guidelines](#)⁶ specify noise limits at neighbouring properties that are set between 35 and 45 dB(A)⁷ depending on the time of day and the level of background noise. To put this in context, your [kitchen fridge](#) typically generates a sound level of around 40-43 decibels.

While the existing 2006 Wind Energy Guidelines state that "in general, noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500 metres", FuturEnergy Ireland has committed to operating well above this benchmark. We have adopted a minimum setback standard of 750 metres from neighbouring properties to try to remove the risk of any potential noise nuisance. This is helped by the nature of the Coillte estate, which acts as an important starting point for the vast majority of our early stage screening initiatives.

⁶ <https://www.gov.ie/en/publication/f449e-wind-energy-development-guidelines-2006/>

⁷ dB refers to decibels and (A) refers to the weighting applied to the decibel levels that takes into account the sensitivity of our ears to different sound frequencies. This places greater weighting on noise generated at the frequencies that people are most sensitive to.

In December 2019, the Department of Housing, Planning and Local Government published [Draft Revised Wind Energy Development Guidelines](#)⁸ that proposed much stricter limits for noise detectable at dwellings adjacent to wind energy developments. A public consultation commenced and the Government is expected to publish revised Wind Energy Development Guidelines once this process has concluded. This is included as a key target in the current Programme for Government.

If you would like to know more about the levels of noise generated by wind turbines, we are happy to arrange a visit to one of our operating wind farms and / or to talk with an acoustics specialist. Please cross-refer also to Q7 on FAQs relating to health matters.

6. What is shadow flicker?

Without appropriate control systems, shadow flicker can occur at certain times of the day, typically when the sun is low in the sky. At these times, the movement of blades can periodically cast momentary shadows through the windows of a home that cause the light to appear to flicker.

Modern turbine technology allows for constant monitoring of the conditions that cause shadow flicker to occur and can therefore control the operation of the turbine to reduce or eliminate any impact. The 2019 Draft Revised Wind Energy Development Guidelines propose that future projects should be conditioned to prohibit any shadow flicker from occurring.

In practice, if the turbine blades are spinning quite rapidly, it can take one or two minutes for the wind turbine control system to safely shut it down but it is certainly possible to reduce any shadow flicker to negligible levels.

7. Do wind farms have health impacts?

At FEI, we are committed to ensuring that we operate our wind farms and carry out our work to the highest possible health and safety standards. We are conscious that in recent years opponents of renewable energy have portrayed wind turbines as a risk to public health, citing low frequency noise and infrasound, despite there being no credible evidence to support such claims.

Infrasound receives a lot of media attention, in particular on social media platforms. In relation to wind turbines, it is important to note that infrasound is best described as sound that occurs at a

⁸ <https://www.gov.ie/en/publication/9d0f66-draft-revised-wind-energy-development-guidelines-december-2019/#:~:text=Draft%20Revised%20Wind%20Energy%20Development%20Guidelines%20December%202019.,community%20consultation%20obligations%2C%20community%20dividend%20and%20grid%20connections>

frequency (pitch) that is too low to be audible to the human ear at typical sound pressure levels⁹. Infrasound is all around us all the time and it can be measured.

In November 2016 the State Office for the Environment, Measurement and Nature Conservation of the Federal State of Baden-Württemberg, Germany, published a [report](#)¹⁰ on infrasound levels generated by wind turbines, traffic and household appliances. Researchers measured infrasound levels at distances of between 150 metres and 700 metres from six individual wind turbines when the turbines were switched on and when they were switched off. The infrasound levels they detected at a distance from the turbine of between 650 metres and 700 metres were the same whether the turbine was on or not. Among their conclusions they found:

- The levels of infrasound from road traffic are significantly higher than close to wind turbines;
- The highest level of infrasound recorded in the project was inside a car travelling at 130km/h;
- Infrasound generated by washing machines, heating systems in residential buildings and fridges were comparable to that of a wind farm. In fact, during the spin cycle, the washing machine generated more infrasound than any of the wind turbines even at distances of 150 metres; and
- Infrasound levels from sea surf were generally higher than that from wind turbines at a distance of 25 metres and comparable at a distance of 250 metres.

This has since been further corroborated by a [study](#)¹¹ from Finland published In June 2020. The Finnish research team found no evidence that infrasound nor low-frequency sound caused any adverse impacts on humans. The study also found that infrasound levels in rural areas with wind power parks were about the same as levels in a regular urban environment. The researchers measured infrasound levels from 17 wind turbines in two wind farms over more than 300 days in what is believed to be the most long-term study of infrasound ever carried out.

In 2018, the World Health Organisation assessed the environmental noise guidelines for a range of noise sources including traffic, aircraft, trains, leisure activities and wind turbines. This [report](#)¹² stated that evidence of any negative health impacts due to wind turbine noise was either absent or of low / very low quality. It also noted that “effects related to attitudes towards wind turbines

⁹ Sound is a variation in air pressure around the mean or average air pressure. Sound pressure levels describe the amplitude of height in these pressure changes.

¹⁰ [Low Frequency Noise Including Infrasound from Wind Turbines and Other Sources](#). the State Office for the Environment, Measurement and Nature Conservation of the Federal State of Baden-Württemberg, Nov 2016

¹¹ [Infrasound does not explain symptoms related to wind turbines](#). Technical Research Centre of Finland, June 2020

¹² [Environmental Noise Guidelines for the European Region](#). World Health Organisation, 2018, pages 77-78

are hard to discern from those related to noise and may be partly responsible for the associations (Knopper & Ollson, 2011)”.

In addition, the HSE published a [report](#)¹³ in 2017 entitled “Position Paper on Wind Turbines and Public Health”. This report states: “There is no direct evidence that exposure to wind farm noise affects physical or mental health.”

There is also no credible evidence from scientific research that there is any link between wind turbines and people nearby developing autism spectrum disorders or having existing symptoms of an autism spectrum disorder made worse. When asked to contribute to [research](#)¹⁴ on this subject in 2016, the British National Autism Society stated: “There is no evidence whatsoever that visibility or noise from wind turbines causes autistic spectrum disorders in previously undiagnosed individuals, or that visibility or noise from wind turbines exacerbates the symptoms of autistic spectrum disorders in most people already diagnosed with the condition.”

In summary, to date there are no credible studies that provide evidence of any direct adverse effects on the general health of residents in the vicinity of wind farms (see a cross-section of research links in Appendix 1). It is important to remember that anything which creates stress and anxiety can affect our physical and mental health. This is why we strive to give as much information as possible to alleviate concerns and provide reassurance about our projects.

8. Will a wind farm nearby impact property value?

For most of us, the purchase of our family home is the single, largest financial investment we will make in our lives. It is understandable that property owners, on hearing that a wind farm is to be developed in their community, may have concerns about its possible impact on the resale ability or value of their home.

The price attached to land or a property at any given time depends on many variables, for example:

- The age, condition, and location of a property;
- Its intended use or purpose;
- The attractiveness of a location, including the availability of services, access to local amenities and other features a property may have such as energy efficiency, landscaping, security and so on;
- The general supply of land and property and the demand for such in an area from the pool of willing sellers and buyers; and

¹³ [Position Paper on Wind Turbines and Public Health](#). HSE Public Health Medicine Environment and Health Group, Feb 2017

¹⁴ [Common Concerns About Wind Power](#). Centre for Sustainable Energy, June 2017

- The general market cycle of the economy.

For any proposed infrastructure development, consideration is given to the benefits it can bring to that area. In the case of a proposed wind farm development there can be opportunities for recreation and biodiversity improvements and enhancements, Community Benefit Scheme funding (to improve the energy efficiency status of local housing stock, for example) and Near Neighbour payment contributions.

Based on our assessments, we have not identified any peer-reviewed evidence in Ireland that indicates wind farms lower or impact property prices. In other parts of the world, the vast majority of studies indicate that there is no evidence to support the claim that a wind farm has a negative impact on local property prices.

Much of the research data emphasises the specific context of an individual wind farm, which makes engaging with local communities all the more important. The specific location, the quality of the community engagement programme and the level of net community gain in the form of a benefit fund and/or near neighbour scheme have been cited as important considerations.

Our community liaison teams explore with the community the appetite for recreation facilities along with other local projects, which helps to increase community gain benefits. This is evident at [Mountlucas Wind Farm](#), [Sliabh Bawn Wind Farm](#) and [Galway Wind Park](#)¹⁵ among others.

We are committed to developing a Community Benefit Fund proposal, including a Near Neighbour Scheme, along with the potential for a Recreation and Biodiversity Plan to co-exist within the proposed development. The project team welcomes any input from members of the local community to help advance these proposals.

9. What is the Community Benefit Fund?

One of the key features of the Government's [Renewable Electricity Support Scheme](#)¹⁶ (RESS)¹⁷ is that all successful project applicants are required to set up a Community Benefit Fund that focuses on sharing the economic benefits of a wind farm with the local community. The scheme also puts the local community at the heart of decision-making. They will decide their own priorities and where they want to see the funding invested.

The exact fund amount differs from project to project, but it will be a significant financial package that benefits a host community for many years. The calculation of the total fund for any one project depends on the number of turbines and the total production of electricity in any given

¹⁵ Mountlucas and Galway Wind Park were developed in partnership with other development companies

¹⁶ <https://www.gov.ie/en/publication/36d8d2-renewable-electricity-support-scheme/>

¹⁷ RESS is a competitive auction process run by the Irish Government in which renewable energy projects bid in prices for a 15year+ period. When market prices are higher than the bid prices, renewable projects pay money back to consumers and when market prices are lower the renewable energy project receives a top up payment

year. In essence, the Government has mandated that the developer must contribute €2/MWh¹⁸ per year. For example, the value of the fund for a **50 MW** project is expected to be approximately **€300,000 per annum** and available for distribution during the first 15 years of operation.

According to the Department of Environment, Climate & Communication, the goal is to support local projects in the areas of energy efficiency, climate change initiatives, environmental stability and near-neighbour payments. There is also funding available for community and sports-themed activities in recreation, health and wellbeing, culture, heritage and tourism. One particular focus is to support local initiatives that align with the UN Sustainable Development Goals. Examples of these types of projects include home and community hall retrofits, pollinator farms, cycling paths, educational materials and scholarships.

In July 2021, the Department of Environment, Climate and Communication published the [“Good Practice Principles Handbook for Community Benefit Funds”](#), which sets out how the funds should be operated and administered.

10. Are there opportunities to invest in wind farms?

Enabling better and broader opportunities to invest in wind farm infrastructure is a focus area for the wind industry and the Department of Environment, Climate & Communication. This principle featured in the initial design of the RESS1 scheme in 2019/20 and in the initial consultation regarding RESS2, conducted in summer 2021.

A number of policy measures are required to enable such a step, including how investments could be sized and priced, correctly offered and marketed to the public, and administered during the project life cycle.

We are committed to being a leader in the onshore wind sector, and therefore we will look to assume a leadership position in facilitating investment opportunities for the public in our projects when the Government has put in place the policies and regulations that enable this to happen.

11. Will this project include recreational amenities?

As part of FEI wind farm developments there is an opportunity for the project to build a recreation amenity for the community and for tourists on site. [Sliabh Bawn Wind Farm](#) in Co. Roscommon is a good example of how a rural upland location can become a popular recreational area with all the community benefits that brings. More than 28km of waymarked walking and biking trails run through the site, which lead to archaeological points of interest. There is also a children’s playground, picnic areas, a viewing point, outdoor fitness equipment and parking all on site.

¹⁸ A megawatt/hour (MWh) is a unit of energy. If a 4 MW wind turbine produced electricity at its maximum rate for an hour it would have produced 4 MWh. A normal Irish household would use around 4.2 MWh of electricity over a full year.

We encourage anyone with ideas to come forward and work with the project team here to brainstorm possible design concepts and recreational options.

Appendix 1 – Health study references

[Environmental Noise Guidelines for the European Region](#). World Health Organisation, 2018, pages 77-78.

[Position Paper on Wind Turbines and Public Health](#). HSE Public Health Medicine Environment and Health Group, Feb 2017.

[Low Frequency Noise Including Infrasound from Wind Turbines and Other Sources](#). the State Office for the Environment, Measurement and Nature Conservation of the Federal State of Baden-Württemberg, Nov 2016.

[Health effects of wind turbines on humans in residential settings](#). Alice Freiberg, Christiane Schefter, Maria Girbg, Vanise C Murta, Andreas Seidler. Environmental Research, Vol 169, Feb 2019.

[The Potential Health Impact of Wind Turbines](#). Chief Medical Officer of Ontario report, May 2010.

[Evidence on Wind Farms and Human Health](#). National Health and Medical Research Council of Australia. February 2015.

[Common Concerns About Wind Power](#). Centre for Sustainable Energy, June 2017.

[Infrasound does not explain symptoms related to wind turbines](#). Technical Research Centre of Finland (VTT), June 2020.