

## Frequently Asked Questions

**Q. 1. Why are the turbines so big?**

A. Larger turbines maximise the amount of electricity produced from the clean renewable source. Wind energy is key to the Government's Climate Action Plan. The proposed height of the turbines is standard for modern wind turbines, and similar turbines have already been granted planning permission throughout the Country. The landscape and visual impact will be assessed for the project which will involve generating photomontages of the proposed development.

**Q. 2. Are wind turbines noisy?**

A. Wind turbines do emit noise. However, as the distance from the turbine increases, the noise reduces. The World Health Organisation\* recommends, for average noise exposure, reducing noise levels produced by wind turbines below 45 dB L<sub>den</sub>. Application of the current Irish Wind Energy Development Guidelines (2006) will generally achieve this. The Draft Revised Wind Energy Development Guidelines, released by the Department of Housing, Planning and Local Government in December 2019, would also comply with the WHO recommendation. Detailed analysis will be completed for the houses around the proposed site to ensure the appropriate guidelines are met.

**Q. 3. What is shadow flicker?**

A. Shadow flicker occurs where the turbine blades cast a shadow over a window in a nearby house and the rotating blades causes the light within the room to flick on and off. This effect lasts only for a short period of time until the sun passes beyond the turbines. Detailed shadow flicker calculations will be carried out for all houses around the site to ensure the guidelines are not exceeded.

**Q. 4. Do wind turbines affect health?**

A. Research by the Australian Government's National Health and Research Council (NMHRC)\*\* states, "there is no consistent evidence that wind farms cause adverse health effects in humans". In 2017, the NMHRC commissioned a further two scientific studies to assess if inaudible noise from turbines has effects on human health when compared to silence and traffic noise. These studies are expected to be complete within 5 years.

**Q. 5. Do wind farms affect property values?**

A. Research carried out in the UK\*\*\* which analysed 82,000 housing transactions in proximity to wind farms found that "there is no evidence to suggest that there was a long-term negative impact on house prices, either during the period of construction or post completion of the wind farms".

**Q. 6. Do wind farms affect tourism?**

A. There is no evidence to suggest wind farms have any impact on tourism. In Irish and Scottish surveys undertaken, most respondents take a positive likelihood of returning to an area.

\* *Environmental Noise Guideline for European Region (2018)*

\*\* *Evidence on Wind Farms and Human Health (2015)*

\*\*\* *The Effect of Wind Farms on House Prices (2014)*

**Q. 7. Who can I contact?**

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We would like to hear any comments or queries you may have

# Renewable Energy Project Wind Information Leaflet

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## Who We Are Enerco Energy

Enerco Energy, based near Macroom, Co.Cork is a 100% Irish owned leading renewable energy company, with the capability to develop, construct and operate projects that contribute towards our goal of creating a sustainable future.

The company's core activity includes the development and operation of medium to large scale wind farms. Enerco also works in other renewable sectors such as solar and battery storage.



To date Enerco has installed a generating capacity of approximately 550 MW, with 180 MW under construction and a further 400 MW in the planning process or already permitted.

## Climate Action Plan 2019

### Introduction

In August 2019 the Irish government published the Climate Action Plan to build net zero carbon energy systems and create a sustainable country. The principles of the action plan are as follows:

### Current situation

- Ireland will miss the target set for 2013-2020 of reducing emissions by 20% (relative to 2005 Levels) by one eighth and more worrying it is expected that recent growth in emissions will put the country on a trajectory to be 25% off target for the 2021-2030 period.

### Targets for 2030 and beyond

- Increase percentage of electricity generated from renewables from 30% to 70% by 2030.
- Establish a trajectory which leads to Ireland being net zero carbon by 2050.

### Road map to achieve Targets

The greatest saving from known technologies lie in transport and electricity. Three quarters of the adjustments required will not impose a cost on the country. The Climate Action Plan proposes:

- Adding 8.2 gigawatts of onshore wind.
- 100% of new cars and vans to be electric (EV) by 2030.
- 30% Green House Gas reduction
- Ending coal burning in ESB's Moneypoint by 2025 and Bord na Mona transitioning away from peat by 2028.

Source: *Climate Action Plan 2019 (01/08/2019)*

### Wind in Ireland

Ireland has over 250 wind farms with a total installed capacity of 3,700 MW and employing 4,400 people. In quarter 2 2019 wind energy generated 27% of the total electricity.

A new record for wind energy generated in Ireland was recorded on 18th December 2019, electricity generated by wind energy at that time had the potential to power over 1.9 million houses, and it accounted for approximately 72% of the electricity demand that day. As more wind farms are being built this record will continue to be broken and wind energy will fulfill more and more of our energy demand.

Source: [www.eirgridgroup.com](http://www.eirgridgroup.com)

The SEAI reports that in 2017 alone wind energy cut our carbon dioxide emissions by 2.7 million tonnes saving the Irish economy more than €220 million in fossil fuel imports. Wind energy helps reduce both our reliance on imported fossil fuels and our carbon emissions whilst contributing towards a downward pressure on the price of electricity.

Source: *SEAI - Renewable Energy in Ireland 2019 (01/2019)*

### Solar in Ireland

Solar energy currently has low penetration in Ireland. This contrasts with other countries such as Germany and the UK, which have successfully deployed solar power. The proposed Renewable Energy Support Scheme (RESS) is due to be rolled out next year making solar electricity generation more commercially viable. Under RESS Enerco will be in prime position to develop solar projects.

## Decommissioning

The wind turbines which are part of each development are expected to have a lifespan of approximately 25 to 30 years. Following the end of their useful life, the wind turbines may be replaced subject to planning permission being obtained, or the site may be decommissioned fully, with the exception of the electricity substation.

Upon decommissioning of the proposed wind farm, the wind turbines would be disassembled in reverse order to how they were erected. All above ground turbine components would be separated and removed off-site for recycling.

Turbine foundations would remain in place underground and would be covered with earth and reseeded as appropriate. Leaving the turbine foundation in-situ is considered a more environmentally prudent option. Site roads facilitate other uses during the lifetime of the windfarm and therefore would be left in situ after decommissioning.



# What is an EIAR?

An Environmental Impact Assessment Report (EIAR) is a document that describes the proposed development and all issues relating to the potential impact of the proposed wind farm on the environment.

Each wind farm project undergoes a rigorous environmental impact assessment by the planning authority and/or An Bord Pleanála, prior to being granted planning permission. An EIAR is prepared and forms part of the planning permission application to be submitted to the Local Authority or An Bord Pleanála as appropriate.

The EIAR usually includes detailed information on impacts relating to the following topics:

1. Introduction to the Project
2. Background to the Proposed Development
3. Site Selection and Alternatives
4. Description of the Proposed Development
5. Human Beings, Population & Human Health including Shadow Flicker
6. Biodiversity, Flora and Fauna
7. Land, Soils, Geology and Peat Stability
8. Water – Surface Water & Groundwater
9. Air and Climate
10. Noise and Vibration
11. Landscape and Visual
12. Cultural Heritage
13. Material Assists, including Traffic and Telecommunications
14. Interaction of Impacts



**Knocknagoum Wind Farm 44.5MW**

### Wind Resource in Ireland

Wind Energy is one of Ireland's greatest natural resources. Modern wind farms use this natural resource to produce energy to power homes and industries throughout Ireland. Ireland has one of the best wind resources in Europe.

### How Wind Turbines Work

When the wind speed rises above 4 metres per second (a gentle breeze) the turbine turns into the wind and the rotor begins to rotate. This causes a shaft inside the rotor to rotate. This shaft is often attached via a gearbox to a generator or may be gearless. The rotation of the generator generates electricity in much the same way as a bicycle dynamo works. The electricity is carried via cables down the turbine tower, and out into the local electricity grid to power homes and industry throughout Ireland.

### Environmental Benefits

A wind farm generates clean, renewable, carbon neutral electricity. Every megawatt it generates is the equivalent of powering approximately 650 homes for a year.

### Knocknagoum Wind Farm

Knocknagoum Wind Farm generates enough power to supply approximately 28,000 homes every year. Every watt of electricity generated at the wind farm will replace the same amount that would have been generated by burning coal or gas. A wind farm will emit no toxic substances or air pollutants, unlike coal or gas power stations. The carbon emissions created during the construction of the wind farm and the manufacturing of the turbines etc. will be offset in the electricity generated by the wind farm in the first 1-2 years of operation, therefore the wind farm generates carbon neutral power for the remaining 23-28 years of the project (Modern turbines have a lifespan of 25-30 years).

### Economic Benefits

Wind farm developments have a number of long-term and short-term benefits for the local economy. The developments can represent an investment of several million euro in the locality of the development, with a large percentage of the total cost relating to on-site works, which would be relying heavily on local contractors and suppliers. The project will create many local jobs during the construction stage,

which generally lasts in the region of 18 months. The construction phase will see employment opportunities for:

- Local contractors
- Construction plant suppliers
- Machinery operators
- Skilled labourers
- Construction materials suppliers
- Transport companies.

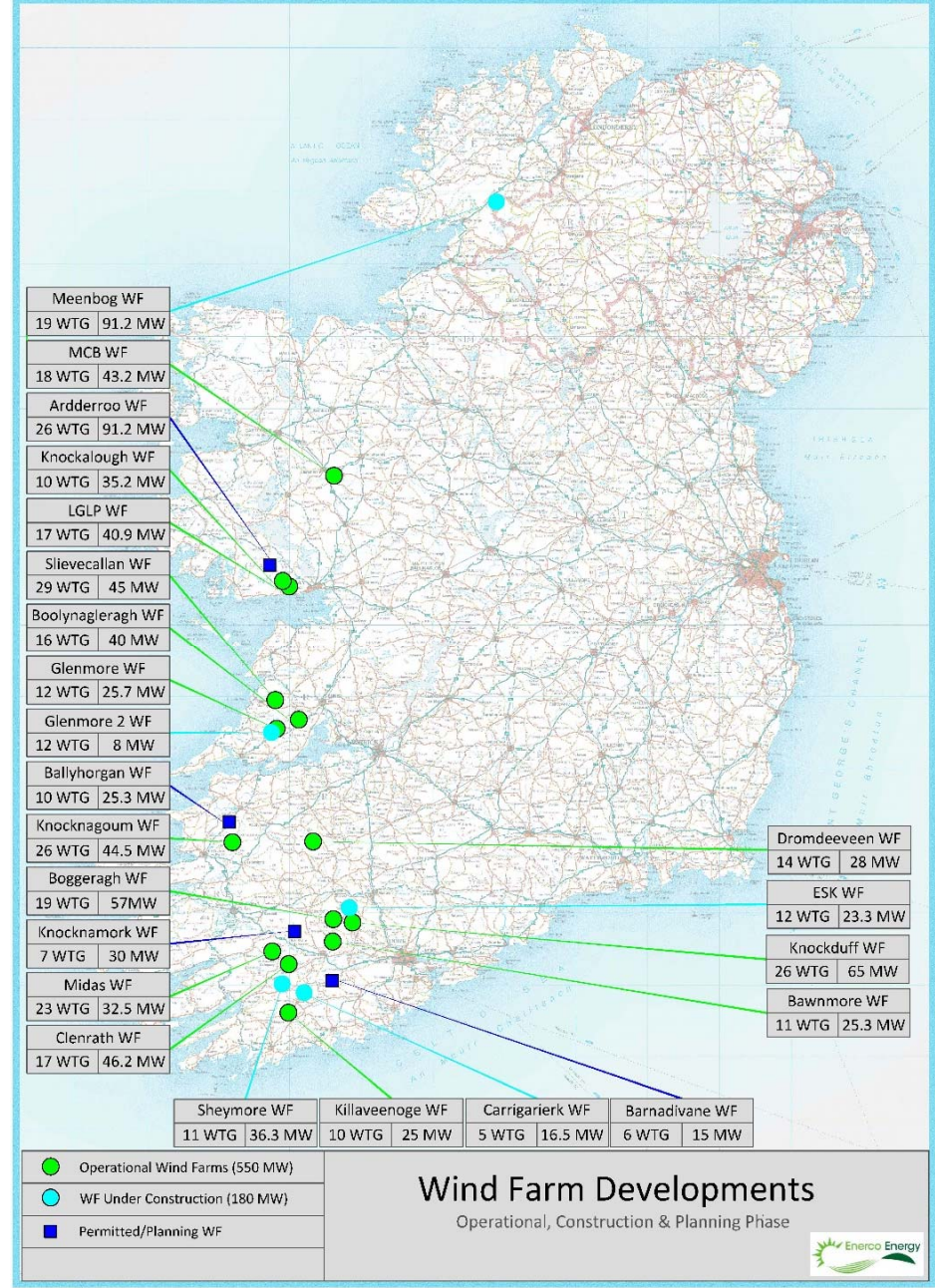
Increased activity in the locality benefits the local hospitality and service sector. Contractors and wind farm employees use shops, restaurants, hotels and B&B's in the wind farm proximity throughout a project lifecycle.

### Security of Energy Supply

Ireland imported 66% of its energy requirement in 2017, one of the highest ratios in Europe. The more of its own energy Ireland can produce, the less vulnerable it would be to foreign policy and conflict interrupting gas, oil and electricity supply lines. There is an opportunity to continue developing a strong indigenous wind industry, that will take advantage of Ireland's excellent wind resource, reducing our import dependency.



**LGLP Wind Farm 40.9MW**



# Benefits of Wind Turbines



- Carbon Neutral Electricity
- Low Ecology Impacts
- Income directly into the locality
- Employment Generation
- Boost Local Economy
- Improve local road and power infrastructure
- Low Cost Electricity

## Community Involvement

- As a long-term owner, developer and operator of energy assets Enerco Energy Ltd. seeks to be an active partner in the communities in which we develop and operate projects.
- As part of planning a project we like to hear from the community about their vision for its future and how the project might help.
- A community benefit scheme will be made available every year for the operational lifespan of the wind farm.
- "Open up opportunity for community participation in renewable generation and community gain arrangements" is a stated aim of the Climate Action Plan 2019.
- The community benefit scheme will be available to communities and voluntary groups. The benefit will be set out to aid the local community, by supporting projects and the area around the development.
- The community closest to the proposed development will decide how the community benefit scheme is administered and whether the focus is on local groups and clubs, or those living closest to the wind farm.