

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 planning application will be accompanied by an EIAR, which will assess the potential impact associated with noise emanating from the proposed development, to ensure that the development can operate in accordance with the appropriate guidelines.
- 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. Does the community benefit from the wind farm?**
- A. During construction phase there will be employment opportunities for local contractors and machinery operators and indirect benefits for local shops, B&Bs, and hotels. A community benefit scheme will be set up to provide yearly funding for community and volunteer groups in the locality of the wind farm.
- Q. 5. Can the land around the wind farm be used for farming?**
- A. The wind farm infrastructure takes up relatively little ground. The surrounding land can continue to be used for farming as normal.
- Q. 6. What carbon dioxide savings from wind farms?**
- A. Using the wind resource to produce Ireland's electricity reduces our need to burn fossil fuels such as coal or gas. In 2019, Irish wind energy led to avoiding 3.9 million tonnes of carbon emissions. Producing our own electricity helps to reduce the country's dependence on imported fuels. €248 million was saved on fossil fuel imports in 2019 due to wind energy**
- **Source: SEAI - Energy in Ireland 2020 Report (12/2020)
- Q. 7. Who can I contact?**
- A. Enerco Offices: +353 (0) 217336034
James Crowley Mob: +353 (0) 86 3979248 james.crowley@turnkeydev.com
We would like to hear any comments or queries you may have

Renewable Energy Project Wind Information Leaflet

Contents

Background **P.1**

Benefits **P.2**

Enerco Energy Projects **P.3**

Questions & Feedback **P.4**



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 and its associated companies have been responsible for the installation of a renewable electricity generating capacity of approximately 624 MW, with 195 MW under construction and a further 400 MW in the planning

Climate Action Plan 2021

Introduction

In November 2021 the Irish government published the Climate Action Plan to build net zero carbon energy systems and create a sustainable country.

Current situation

- Ireland missed 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 if we don't implement a new strategy.

Targets for 2030 and beyond

- Increase percentage of electricity generated from renewables to 80% by 2030.
- 51% greenhouse gas reduction by 2030 and establish a trajectory which leads to Ireland being net zero carbon by 2050.

Road map to achieve Targets

To meet the required level of emissions reduction by 2030 the Climate Action Plans includes:

- Adding 5 gigawatts of offshore wind.
- 1 million EV's in private transport fleet by 2030.
- Ending coal burning in ESB's Moneypoint by 2025 and Bord na Mona transitioning away from peat by 2028.

Source: Climate Action Plan 2021 (05/11/2021)

Wind in Ireland

During 2019 Ireland's installed wind capacity was raised by 461 MW to 4,137 MW. Wind energy accounted for 85% of normalised renewable electricity in 2018 and was one of the largest sources of electricity, second only to natural gas.

Source: SEAI – Renewable Energy in Ireland 2020 Report (04/2020)

On 18th December 2019, wind energy generated in Ireland produced enough electricity to potentially 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 fulfil more and more of our energy demand.

Source: www.eirgridgroup.com

In 2019 alone wind energy cut our carbon dioxide emissions by 3.9 million tonnes and saved the Irish economy more than €248 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 - Energy in Ireland 2020 Report (12/2020)

Solar in Ireland

Solar energy currently has low penetration in Ireland, this contrasts with other Northern European countries such as Germany and the UK, which have successfully deployed solar power at a rapid pace over the last decade. Solar has become a much more viable energy source, thanks to both the consistently falling costs and the increasing generational capacities of solar modules.

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, except for 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 typically 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 typically have a lifespan of 25-30 years).

Economic Benefits

Wind farm developments have several 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.

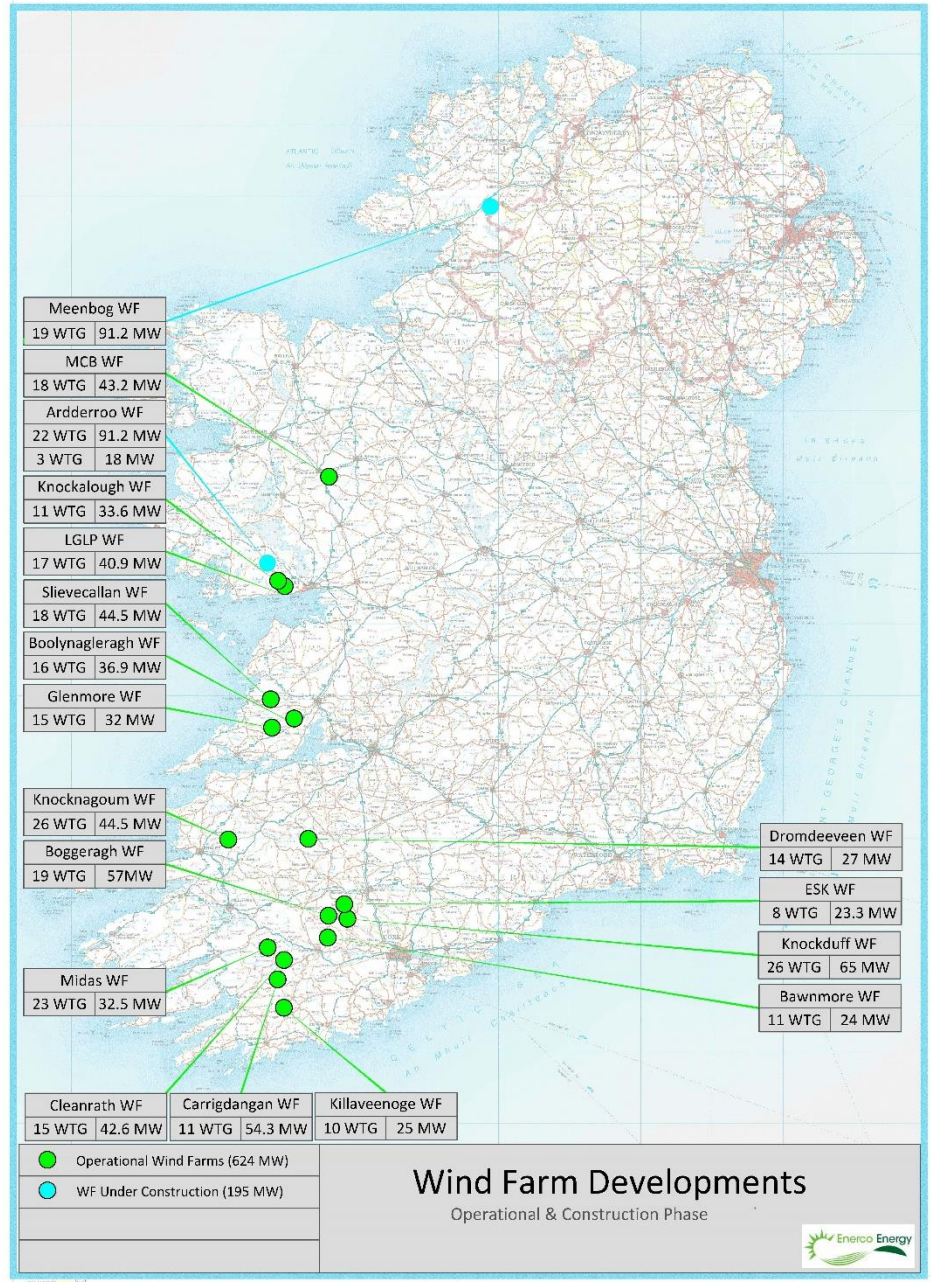
Increased activity in the locality benefits the local hospitality and service sector. Contractors and wind farm employees use shops, restaurants, hotels and B&Bs in the wind farm proximity throughout a project lifecycle.

Security of Energy Supply

Ireland imported 67% of its energy requirement in 2018, 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.