Winter 2021/Spring 2022

Proposed Garryhinch Wind Farm

Bord na Móna

Frequently Asked Questions

1. **How many turbines are proposed for the development?**
   As the project is at an early stage the number and location of turbines has not yet been determined.

2. **Where will the power from the proposed wind farm go?**
   The electricity generated by the turbines would be transmitted directly onto Ireland's National Grid which is managed by EirGrid for distribution around the country. The proposed development will also make a significant contribution to Irelands Climate Action Plan 2019, which has a set a target of 8.2GW of onshore wind capacity by 2030.

3. **What works are the project team currently undertaking?**
   Over the coming months, in order to determine the extent of the proposed development Bord na Móna will undertake a number of on-site surveys on Garryhinch Bog, such as ecology surveys, ornithology surveys, aquatic surveys, heritage surveys and site investigation works. Additionally the company will also commence a series of off-site surveys, such as noise monitoring at sensitive receptors around the site and topographical surveys of the proposed grid connection and proposed haul routes.

4. **What Information will be provided at the next stage of public consultation which is planned for Spring 2022?**
   The draft wind turbine layout will be available at the 2nd round of public consultations and will provide detail on the setback distance, location, height and number of proposed turbines. The project team will also have a subset of Photomontages available that will show what the proposed development may look like from the local area. For more information on Photomontages please refer to page 10.

Introduction

Bord na Móna is an Irish, semi-state climate solutions company helping lead Ireland towards a climate neutral future.

Bord na Móna has been serving communities for over 90 years, always rising to meet the needs of the day. It was founded in 1934 as The Turf Development Board to enhance national energy security through peat harvesting and became Bord na Móna in 1946.

Today, we have radically changed our approach to face an even greater challenge: climate change. We've ended peat harvesting and now focus on developing climate solutions in renewable energy, sustainable waste management, carbon storage, and biodiversity conservation.

Ireland has committed to ambitious climate goals and Bord na Móna's climate solutions are helping to achieve them. Our vision is to help Ireland reach net zero greenhouse gas emissions by 2050. This means helping to remove the same amount of greenhouse gases from the atmosphere that are released.

To power a net zero future, we are expanding our renewable energy infrastructure. We have been constructing and maintaining large-scale infrastructure for decades. Today, we are using that experience to build renewable energy developments across the country. These developments are transforming the way we generate and consume energy.

Ireland has committed to generating 80% of electricity from renewable sources by 2030. We are working across wind, solar, biomass and biogas to help achieve this target and to provide energy security for future generations.

The Proposed Development - Garryhinch Wind Farm

The Development Study Area (as shown in Figure 1 below) for the proposed wind farm is Garryhinch Bog, located in Counties Laois and Offaly. Garryhinch bog is adjacent to the communities of Clonygowan and Mountmellick. As the project is at an early stage the number and location of turbines has not yet been determined.

Figure 1: Study Area for proposed Garryhinch Wind Farm

The development of a wind farm on this bog would continue the long tradition of energy production in a new increasingly sustainable form and underpin Bord na Móna's move away from its traditional 'brown' generation to a more sustainable 'green' future. The electricity generated by the turbines would be transmitted directly onto Ireland's National Grid which is managed by EirGrid for distribution around the country.

Bord na Móna's peatlands offer a number of advantages for the development of onshore wind farms, which include:

- Significant scale, and are present in large blocks
- Industrial, brown-field sites, suitable for redevelopment
- Open, unenclosed landscapes with good wind characteristics
- Linked by rail or road passageways, suitable for cable connection
- Generally flat and well drained, with minimal dangers of land slippage
- Proven delivery of this type of development, as demonstrated by Bruckana, Mountlucas and Oweninny Wind Farms.

Irish Government Policy on Renewable Energy

Successive Governments have been developing policy to chart a course towards ambitious decarbonisation targets for Electricity, Transport, Built Environment, Industry and Agriculture.

In March 2019, the Joint Oireachtas Committee on Climate Action published its cross-party report entitled, Climate Change: A Cross-Party Consensus for Action, which set out 42 priority recommendations in the area of climate action, including a target for 70 percent renewable electricity.

The Programme for Government 2020 details how energy will play a central role in the creation of a strong and sustainable economy over the next decade. The reliable supply of safe, secure and clean energy is essential in order to deliver a phase-out of fossil fuels. We need to facilitate the increased electrification of heat and transport. This will create rapid growth in demand for electricity which must be planned and delivered in a cost-effective way.

The Irish Government supports the use of Ireland's wind resources to meet our renewable energy targets. Outlined below is some of the most recent relevant Irish Government Policy:

National legislation

- Energy White Paper entitled Ireland's Transition to a Low Carbon Energy Future 2015–2030.
- Climate Action and Low Carbon Development Act 2015: The purpose of this act is pursuing the transition to a low carbon, climate resilient and environmentally sustainable economy.
- The Climate Action Plan 2019: This plan identifies how Ireland will achieve its 2030 targets for carbon emissions and puts the country on a trajectory to achieve net zero carbon emissions by 2050. The plan outlines that Ireland will move to 70% renewable electricity by 2030. The Government will be bringing forward the Climate Action (Amendment) Bill, this will ensure the Climate Action Plan is made into law.
- Department of Housing, Planning and Local Government is currently preparing an update to the 2006 Wind Energy Development Guidelines and in December 2019 published revised draft Wind Energy Development Guidelines for consultation.
- Department of Communication, Climate Action and Environment is preparing a Renewable Electricity Policy and Development Framework to guide the development of renewable electricity projects in line with the objectives of Irish energy policy.
- Climate Action and Low Carbon Development (Amendment) Bill 2021. Legislation designed to put Ireland on a path to net zero emissions, no later than 2050 and a 51% reduction in emissions by the end of the decade.

Project 2040/National Development Plans

- National Development Plan 2018 – 2027 outlines an additional 4,500 MW of renewable energy as an investment priority as part of strategic pillar No. 8 - Transition to a Low Carbon and Climate Resilient Society.
- Renewable Electricity Support Scheme to contribute to Ireland's 2020 renewable electricity targets and to deliver Ireland's renewable energy ambitions out to 2030.
- The National Development Plan 2021 – 2030 includes commitments to increase the share of renewable electricity up to 80% by 2030. Regular Renewable Electricity Support Scheme (RESS) auctions will deliver competitive levels of onshore wind and solar electricity generation.

Need for Wind Energy

Wind farms produce renewable electricity and assist in the offset of carbon emissions including those arising from other sectors, such as agriculture. The proposed project will contribute to both Ireland's and the European Union's renewable energy targets. It will also contribute to increasing the security of Ireland's energy supply and will facilitate a higher level of energy generation and self-sufficiency.

The National Development Plan 2021 – 2030 includes commitments to increase the share of renewable electricity up to 80% by 2030. It is acknowledged that wind energy will provide the main component of Ireland's renewable electricity at that time The proposed development is likely to be operational before 2030 and would therefore contribute to this 2030 target.

The Climate Action Plan 2019 (CAP) was published on the 1st of August 2019 by the Department of Communications, Climate Action and Environment. The CAP sets out an ambitious course of action over the coming years to address the impacts which climate may have on Ireland's environment, society, economic and natural resources. This Plan clearly recognises that Ireland must significantly step up its commitments to tackle climate disruption. The CAP identifies a need for 8.2GW of onshore wind generation. The CAP presents clear and unequivocal support for the provision of additional renewable energy generation and presents yet further policy support for increased wind energy.

Site Selection

In selecting a site for a wind farm development there are a number of criteria that must be considered. Based on these criteria some sites are more suitable for wind farms than others. The main criteria that we consider include:

- Aviation
- Grid Access
- Flooding Risk
- Proximity to Dwellings
- Cumulative Visual Impact
- Supporting Infrastructure
- County Development Plan
- Telecommunications Links
- Environmental and Ecological Sensitivities

Draft Revised Wind Energy Development Guidelines in Ireland

In 2019, Revised Wind Energy Development Draft Guidelines were issued for public consultation. Key aspects of these Draft Guidelines included:

1. **Noise Limits**
   Noise restriction limits consistent with World Health Organisation standards are proposed. The noise limits will apply to outdoor locations at any residential or noise sensitive properties.

2. **Visual Amenity Setback**
   A visual amenity setback distance, of 4 times the tip height, between a wind turbine and the nearest residential property is proposed, subject to a mandatory minimum setback of 500 metres.

3. **Shadow Flicker**
   It is proposed that technology and appropriate modelling at design stage is adopted to eradicate the occurrence of shadow flicker and must be confirmed in all planning applications for wind energy development.

4. **Consultation Obligations**
   Planning applications must contain a 'Community Report' prepared by the applicant which will specify how the final proposal reflects community consultation and the steps taken to ensure that the proposed development will be of enduring economic benefit to the communities concerned and demonstrate adherence to community engagement codes of practice.

5. **Grid Connection**
   From a visual amenity aspect, undergrounding of cable connections from wind farms to the transmission and distribution system is the most appropriate solution, except where specific ground conditions or technical considerations make this impractical.

6. **Community Dividend**
   Wind farm developers will also be required to take steps to ensure that the proposed development will be of enduring economic benefit to the communities concerned.

How Wind Turbines Operate

Almost all wind turbines producing electricity consist of vertical blades which rotate around a horizontal axis. Most modern wind turbines have three blades which face into the wind when extracting the energy needed to generate electricity. The blades are attached to a hub which in turn is connected to a generator by means of a gearbox or direct drive mechanism, which are located inside a protective container called a nacelle. This is where the electricity is made. As the blades are turning, they spin the generator to create electricity. A generator is a machine that produces electrical energy from mechanical energy, whereas an electric motor does the reverse.

The nacelle is the large box at the top of the tower where all the main electrical components are located. Figure 2 shows an image which depicts the main elements of a modern wind turbine. Many of the key working parts of a wind turbine are located in the nacelle at the top of the tower and their enclosure within the nacelle reduces noise from the turbine. A schematic of a wind turbine nacelle is shown in Figure 3, with the key components labelled for easy reference.

Tubular towers, which support the nacelle and rotor, are usually made of steel and taper from their base to the top. The entire nacelle and rotor are designed to swing around, or 'yaw', in order to face the prevailing wind and extract the maximum amount of energy.

A modern wind turbine is designed to produce high quality electricity whenever enough wind is available. Wind turbines can operate continuously, unattended, and with low maintenance, with a design life of over 20 years. They are highly reliable, with operating availabilities (the proportion of the time in which they could generate if wind conditions were suitable) of up to 98%. Few other electricity generating technologies offer a higher availability.

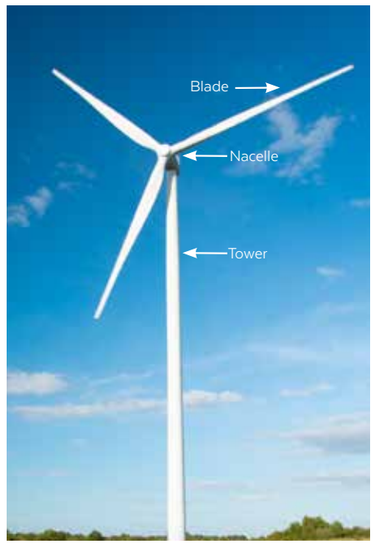


Figure 2 – Image of a Typical Wind Turbine

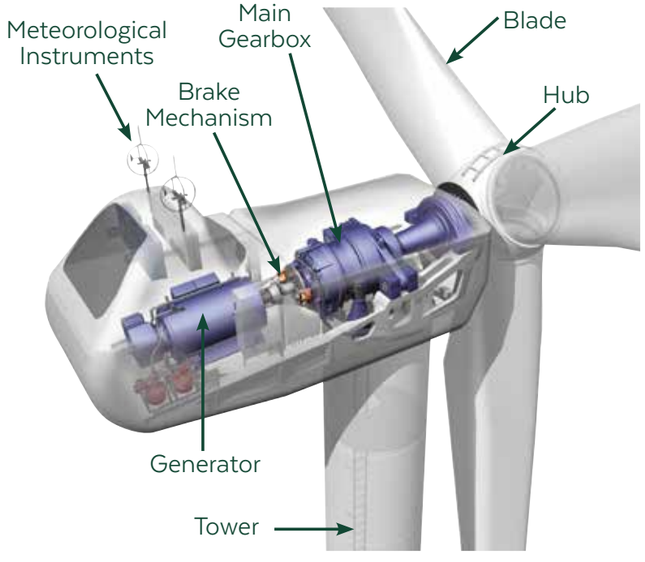


Figure 3 - Schematic of a typical Wind Turbine nacelle

Strategic Infrastructure Development Planning Process Explained

For most large-scale projects, a key consideration is whether a development is Strategic Infrastructure Development (SID) or not? Energy infrastructure which is considered SID* includes:

"An installation for the harnessing of wind power for energy production (a wind farm) with more than 25 turbines or having a total output greater than 50 megawatts" *(as outlined in the Seventh Schedule, Section 1 of the Planning and Development (Strategic Infrastructure) Act 2006).

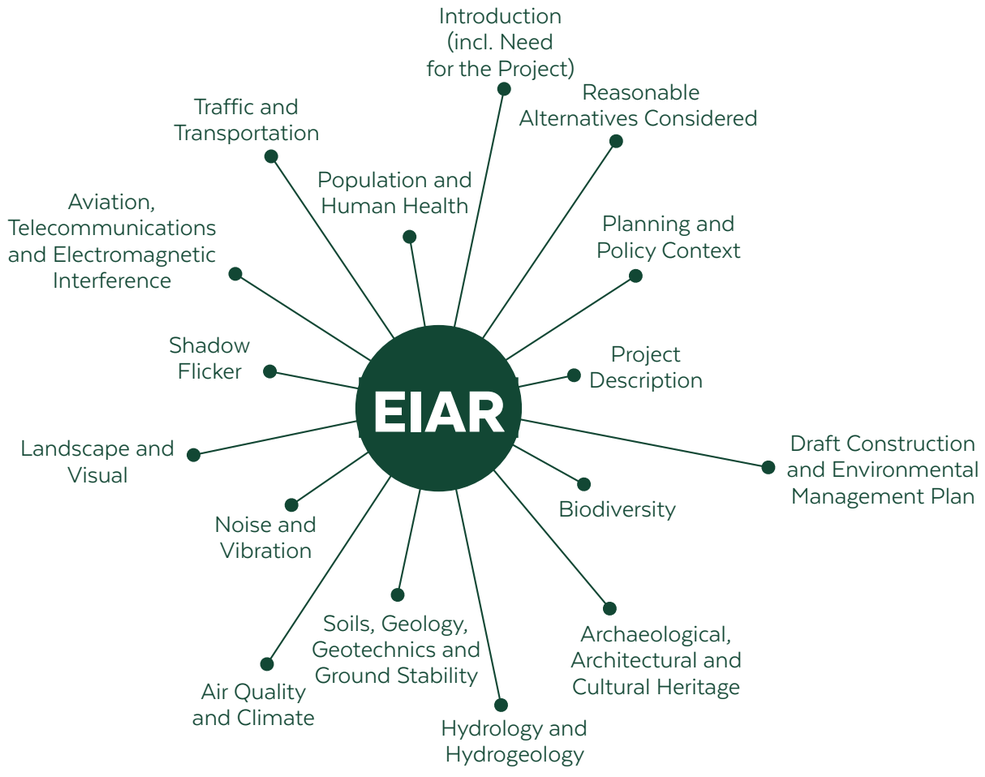
SID Projects	Non-SID Projects
Planning Application to An Bord Pleanála	Planning Application to Local County Council
Environmental Impact Assessment Mandatory	Environmental Impact Assessment Mandatory in some cases

Bord na Móna will need to go through a pre-planning consultation process with An Bord Pleanála to determine with certainty who the consenting authority will be. Irrespective of the Consenting Authority it is our view that an Environmental Impact Assessment Report will be required as supporting documentation to the planning application. To learn more about the SID process please visit: www.pleanala.ie/sid

What is included in an Environmental Impact Assessment Report (EIAR)?

Due to the nature and scale of the proposed development an Environmental Impact Assessment (EIA) will need to be carried out. As part of this process, an environmental baseline for the proposed development site will be established through fieldwork and other baseline surveys.

All of this information will be described and documented in an Environmental Impact Assessment Report (EIAR) (formerly known as an Environmental Impact Statement (EIS)) which will accompany the planning application documentation submitted to the appropriate Consenting Authority for consideration. The EIAR will comprise the following chapters as a minimum:



N

Clonygowan

Portarlington

Mountmellick

Legend

- Towns
- Project Boundary

Bord na Móna

Garryhinch Wind Farm Development Study Area

DWG No.	Scale:	Drawn by:	Date:
BNM-PG-GH-01	1:30,000 @A2	RM	15/10/2021

Landscape and Visual Impact Assessment

A typical tool utilised in the assessment of the visual impact of a wind farm is a Photomontage. Photomontages are visualisations that superimpose an image of a proposed development upon a photograph or series of photographs and are used to illustrate the potential impact of a development on the existing landscape. A number of photomontages will be created as part of the Landscape and Visual Impact Assessment (LVIA) for the proposed wind farm.

Photomontages were produced as part of the LVIA for Mountlucas Wind Farm during the planning application process. A comparison of one of the photomontages generated for the LVIA, and a photograph taken from the same location post construction, is shown below. It illustrates the effectiveness and accuracy of this tool when applied to this type of development. Samples of the photomontages which will form part of the LVIA for this proposed development will be provided at the next round of Community Information Sessions.

Benefits of the Development

The proposed development will give rise to a range of benefits at different levels:

At a Local Level, benefits arising from the construction and operation of the proposed wind farm will include:

- Community Benefit Fund.
- Up to 100 jobs at peak construction.
- Substantial rates paid to the relevant Local Authority.
- Upgrading of the road infrastructure in the vicinity of the wind farm (as required).
- Payment of taxes from the project, and dividends from Bord na Móna to the State.
- Supporting a number of long term, high quality technical jobs in operations and maintenance.
- Indirect employment created through the sub-supply of a wide range of products and services.

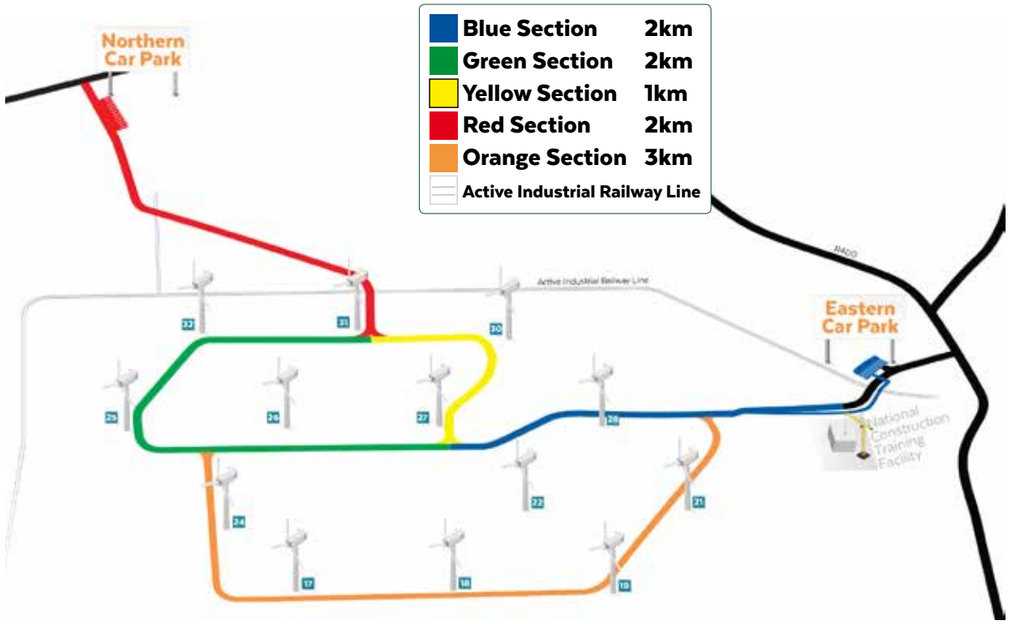
At a Regional Level, the new development will help to supply the rising demand for electricity, resulting from renewed economic growth in the Midlands region. During construction, additional employment will be created in the region through the supply of services and materials to the wind farm.

At a National Level, the new development will play a significant role in contributing to the country's national renewable electricity production and carbon emissions reduction targets by 2030, while also supporting a growing economy and population. During operation, the wind farm will eliminate the need to generate the equivalent amount of electricity from fossil fuels, and it will therefore help to reduce total national greenhouse gas emissions. In doing so, it will reduce our dependence on external energy sources, help improve our energy security of supply and make a major contribution to Ireland's Climate Action Plan 2019, which has set a target of 8.2GW of onshore wind capacity by 2030.

Potential Wind Farm Recreational Facilities

Public Walkway – Cycleway

Mountlucas Wind Farm consists of a 10 km walkway / cycleway around the wind farm. It is generally accessible all year round – free of charge with onsite parking facilities at both the Northern and Eastern access points. This amenity is for walking, running and cycling and it is hoped to incorporate similar amenities as part of the proposed Garryhinch Wind Farm. Since 2016, over 230,000 visits have been made to the wind farm's amenity facilities.



Community Engagement

1st Public Consultation: Winter 2021/Spring 2022 – Consultation Sessions
2nd Public Consultation: Summer/Autumn 2022 – Draft Layout Consultation Sessions

Bord na Móna will engage on an ongoing basis with the local communities regarding the development of the proposed Garryhinch Wind Farm through:

- Community Liaison Officer - House to House visits
- Community Engagement Sessions in late January 2022
- Dedicated project website – **www.garryhinchwindfarm.ie**
- Virtual Consultation Room

Please note that all activities with be carried out with regard to the latest Covid-19 restrictions in place.

Community Engagement Sessions

Subject to Covid-19 restrictions, we intend to hold a series of Community Engagement Sessions in late January in the locality of the proposed development as follows:

25th January 2022: Mountmellick Conference Centre, MDA Business Park
26th January 2022: CYMS Hall, Cloneygowan
27th January 2022: St Brigid's Community Hall, Garryhinch/Cloneyhurke

All sessions will be held from 5–9pm. Details of these sessions will be advertised via local media in mid January or alternatively, if you sign up to our project mailing list you will receive a letter via post with these details. If you would like to find out more about the Sessions and/or register your interest in attending, please contact the Project's Community Liaison Officer Niall (contact details below) or, visit the project website **(www.garryhinchwindfarm.ie)** where you can join our mailing list.

How you can Get in Touch

Our Community Liaison Officer - Niall is available to discuss residents' queries or concerns in relation to the proposed development. Please feel free to contact him via the details below to enquire about any aspect of the project.

Get in Touch

Call Us
If you wish to make a comment or require further information about the proposed wind farm please call the project's
Community Liaison Officer
Niall
+ 353 (0)87 995 1174*

Email Us
Email us any comments or queries via:
garryhinchwindfarm@bnm.ie

Write to us
Garryhinch Wind Farm Communications Team,
Bord na Móna,
Main Street,
Newbridge,
Co. Kildare.

Join our Mailing List
Keep informed of all project updates by signing up to our project mailing list. Please visit the project website to complete the sign-up form:
www.garryhinchwindfarm.ie

**9 a.m. to 5 p.m. Monday to Friday excluding bank holidays*