

Ballinagree Wind Farm







INTRODUCTION

An update on the project developers

As Ireland's largest landowner, Coillte has the capacity, and with that the responsibility, to contribute significantly to Ireland's efforts to combat climate change and reduce carbon emissions.

Coillte's forestry business sequesters 1.1m tonnes of carbon annually. With a land asset suitable for wind farm development, Coillte is in a strong position to help the Government deliver on targets set out in its Climate Action Plan (2019), which include generating 70% of Ireland's electricity from renewable sources by 2030.

Coillte is in the process of creating a new Joint Venture company with ESB specifically focused on the development of renewable energy projects in Ireland.

Until now, Coillte's co-development partner for this project has been Brookfield Renewable Ireland, one of the largest owners and developers of renewable assets in Ireland. It holds 10% of the operating wind farms in Ireland, employing around 100 people in Cork and across their Irish wind farms.

Ørsted recently signed an agreement to acquire Brookfield's Irish and UK renewable platform and pipeline projects, including the Ballinagree project. Its development pipeline will continue to bring new renewable energy onto the system, further contributing to decarbonisation of the Irish economy.

Both companies will shortly begin operating under their new names, however the team involved in the Ballinagree project remains unchanged, and so do our contact details.

Our commitment to you

From the outset of our engagements, we have strived to carry out the design process in a different way to previous projects of this type. Our dedicated Community Liaison Officers and Project Managers are doing this by placing a fundamental focus on inclusion and partnership with stakeholders.

Engagement with the community started in mid-2019 via door-to-door conversations with those who live closest to the project study area and prior to the start of any detailed design work. These conversations highlighted opinions and questions and helped to inform the second project newsletter, which was distributed door to door from the end of 2019. Both the project managers and community liaison officers have undertaken this to ensure that accurate information is shared, and that local residents and stakeholders have an opportunity to raise queries with the project team. We have also made arrangements to talk with local residents on Saturdays and in the evenings to get opinion and feedback from as much of the community as possible.

Government restrictions to combat the Covid-19 pandemic have led us to curtail our face-to-face visits for a while. However, we are committed to continuing our approach of involvement and inclusiveness in all our engagement and we have varied our communications plan to keep the community updated.

The project information contained within this, the fifth newsletter, has been prepared to:

- Describe the constraints-led design process we have undertaken in order to develop this project.
- Present the final design that will be submitted for assessment within the planning system.
- Outline the many ways in which this project could bring positive benefit to the local area.
- Explain the steps that the project will follow in the planning process and how to engage with this process.
- Provide details of the next steps that the project will be working on over the coming months.

We have focused in detail on the Constraints-Led Design Process in this booklet because it gives a clear picture of how the proposed wind farm design has evolved. This information is supported and supplemented by an online virtual tour of the project, including further information under the different chapter headings of the Environmental Impact Assessment Report, which can both be found at www.ballinagreewindfarm.ie.



THE CONTEXT

The Government declared in May 2019 that Ireland was in the midst of a climate and biodiversity emergency. The Environmental Protection Agency has stated that mean annual temperatures in Ireland have risen by 0.7°C over the past century and are likely to rise by 1.4°C to 1.8°C by the 2050s and by more than 2°C by the end of the century due to climate change. Climate change refers to the change in climate that is attributable to human activity arising from the release of greenhouse gases, in particular from the burning of fossil fuels (coal, oil, peat) for transport and electricity generation, and from emissions associated with agriculture.

Renewable energy generation is central to the Government's energy policy. The latest Programme for Government (2020), 'Our Shared Future', presents strong climate governance in rapidly reducing climate change to protect and improve public health and quality of life. The Government is committed to rapid decarbonisation of the energy sector with an aim of providing the necessary actions to deliver national renewable electricity targets. These government ambitions support and encourage the generation of renewable energy from onshore wind sources.

Irish Government policy and legislation on Climate Action has formed a mandate for renewable energy generation going forward in Ireland. Key objectives include:

- A target of net zero greenhouse gas emissions by 2050 (Climate Action and Low Carbon Development Bill 2021).
- Provision for five-yearly carbon budgets, consistent with the emissions reduction pathway to 2030 and 2050 (Climate Action and Low Carbon Development Bill 2021).
- A target for the renewable share of electricity generation of 70% by 2030 (Climate Action Plan 2019).

In 2020, the amount of wind energy installed in Ireland reached 4,235 MW generated by more than 300 wind farms. The Irish Government's 'Project Ireland 2040: National Development Plan 2018-2027' outlines the need for an additional 3,000 MW to 4,500 MW of renewable onshore wind as an investment priority, while the Climate Action Plan (2019) also aims to almost double Ireland's onshore wind energy capacity to 8,200 MW by 2030.

The further development of renewable energy sources is a vital component of Ireland's strategy to tackle climate change and ensure a secure supply for our future energy needs. The proposed Ballinagree Wind Farm project is being proposed, in part, as a response to these challenges and we feel it has the potential to contribute greatly to this global cause.

Why onshore wind?

Wind energy is the largest contributing resource of renewable energy in Ireland. It is both Ireland's largest and cheapest renewable electricity resource. Wind generation accounted for 32% of all electricity generated in Ireland in 2019, avoiding 3.9 million tonnes of CO2 emissions.

Onshore wind energy is a clean fuel source. Unlike conventional power plants that burn combustible fossil fuels such as coal or gas, wind turbines do not produce atmospheric emissions that cause acid rain or greenhouse gases. Wind energy is a free, inexhaustible domestic natural resource, produced in abundance in Ireland. As an operating wind farm occupies a relatively small proportion of an overall site area — approximately a 3% footprint — many other land uses can co-exist such as commercial forestry, farming, recreation and biodiversity management.



Other renewable energy technologies such as offshore wind and solar are also required in order to meet national renewable energy targets. As well as increasing onshore wind-generating capacity to 8.2 GW, the 2019 Climate Action Plan calls for 1.5 GW of grid-scale solar and more than 3.5 GW of offshore renewable energy by 2030.

Why this project?

Identifying a site suitable for a wind farm takes into consideration many different inputs. The suitability of the site for this project can be attributed, in part, to the following characteristics:

 The site is located in an area designated as 'Open to Consideration' for wind energy in the Cork County Development Plan.

- The site is not located within a designated Natura 2000 site. It is not within a Special Area of Conservation (SAC) or a Special Protection Area (SPA), although some of these areas are located nearby.
- The site is in an accessible location for connection to the National Electricity Grid via existing electrical substations in the local area.
- There are good annual average wind speeds in the area.
- Setback distances from houses can be achieved to align with the latest government guidance.
 The project team has committed to a minimum setback of 750 metres between a dwelling and a proposed turbine location.

- There is a network of existing forestry and farm roads within the site that can be upgraded and utilised for the wind farm.
- Much of the land use on the site can continue and co-exist with an operational wind farm, including forestry, agriculture and recreational activities.

The project team

The team directly involved in the proposed Ballinagree Wind Farm project includes a Coillte Project Manager (Kieran O'Malley), a Project Manager from Ørsted Ireland (Fiona Maxwell), two Community Liaison Officers (John Lyons and David Eves), as well as a number of specialists in the areas of grid, planning and policy, and wind resource.

Fehily Timoney and Company (FT) is a leading Irish engineering, environmental science and planning consultancy with offices in Cork, Dublin and Carlow. FT leads a multidisciplinary team appointed in January 2020 to carry out studies, design and preparation of the planning application and an Environmental Impact Assessment Report (EIAR) for the proposed Ballinagree Wind Farm. FT has wideranging experience in all aspects of the feasibility

assessment, environmental impact assessment, planning, design and construction of wind farms and other energy-related projects. The practice was established in Cork in 1990 and has around 70 staff, including engineers, scientists, planners and technical support. FT delivers projects in Ireland and internationally in its core competency areas of environment and energy, waste management, civil infrastructure, planning and Geographical Information Sytems, and data management.

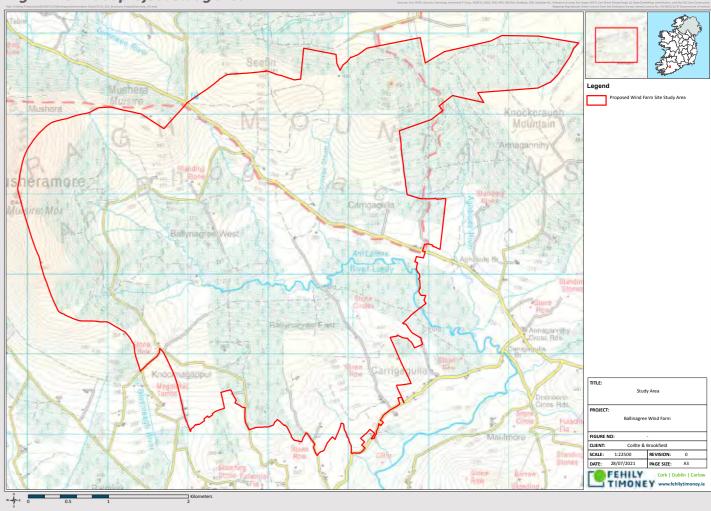
A Constraints-Led Design Approach

Constraints-led design is a commonly used, best practice approach employed in wind farm design. In this method, environmental sensitivities within the project study area are identified by the design team with a view to pinpointing suitable areas in which wind turbines may be located. The resulting area is known as the 'developable area'. Lands outside the developable area are no longer considered for the placement of wind turbines because they are deemed unsuitable.

The site study area will already have been chosen based on its viability in terms of wind resource, land size, planning policy and the availability of a suitable connection to the national grid (see Figure 1).







1. GATHERING INFORMATION

The first step of the constraints identification process is the gathering of information through detailed desk-based assessments, field surveys and consultation. Key environmentally sensitive features (also known as sensitive receptors) are mapped and the process of applying design constraints can begin. These mainly include:

- Private dwellings;
- Protected sites such as Special Areas of Conservation, Special Protection Areas or Natural Heritage Areas;

- Hydrological features such as rivers and streams;
- Areas prone to flooding;
- Sensitive ecological habitats;
- · Known nesting sites of protected bird species;
- Areas of steep terrain or areas which may be potentially susceptible to landslides;
- Designated sensitive views or scenic routes;
- Places of archaeological or cultural heritage significance.

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2. APPLYING SETBACK BUFFERS

Once all known sensitive receptors within the study area are accurately mapped, suitable setback buffers are applied. The size of this setback buffer is related to the sensitivity of the individual receptor as set out in wind energy design guidelines and scientific best practice. The design is fully compliant with the current 2006 Wind Energy Development Guidelines (WEDGs) and the project team has committed to the setback recommendations in the new draft Wind Energy Development Guidelines (draft WEDGs), published in 2019. The draft WEDGs are currently being debated and reviewed by the Government.

In the case of Ballinagree Wind Farm, the setback buffer applied from dwellings is 750 metres. This exceeds the requirements of both the current WEDGs and the draft WEDGs. Figure 2 shows what the application of this setback buffer does to the developable area within the site study area. As the map shows, with the areas highlighted in light green, a significant portion of the land has been removed from consideration due to this design constraint. Any lands within these setback buffers are no longer considered for the placement of wind turbines and are excluded from the developable area.

The potential developable area is reduced to the white land within the red study area outline

Environmental sensitivities will dictate a large proportion of design constraints. However, other considerations such as proximity to neighbouring properties, existing third-party infrastructure and feedback from the community also influenced the identification of the final developable area. Additionally, setback buffers are applied to existing roads, high voltage electrical lines, public roads and neighbouring properties.

Figure 3 shows what happens to the developable area when setback buffers are applied to rivers and streams and neighbouring designated protected areas.

There are further constraints associated with landscape and visuals. The particular constraints mapped include reverse zone of theoretical visibility (ZTV) from two specific viewpoints. This technique allows the designers to understand from where particular wind turbines (or parts of them) may be visible based on ground topography and indicates the potential visual impact at these locations.

From this information, 3D models and photomontages are prepared to further inform the layout of the wind farm and optimise turbine positioning in the context of landscape and visual impact. This is a key technique employed in the development of the wind farm design.

Fig. 2: Setback buffer from dwellings applied (green areas)

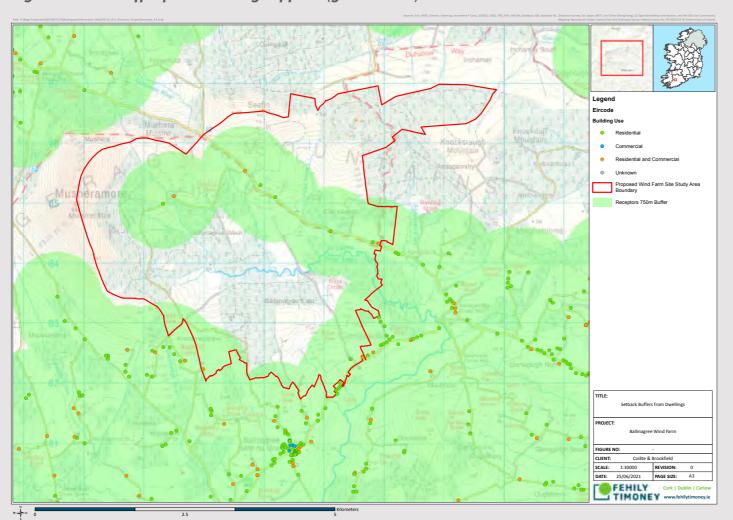
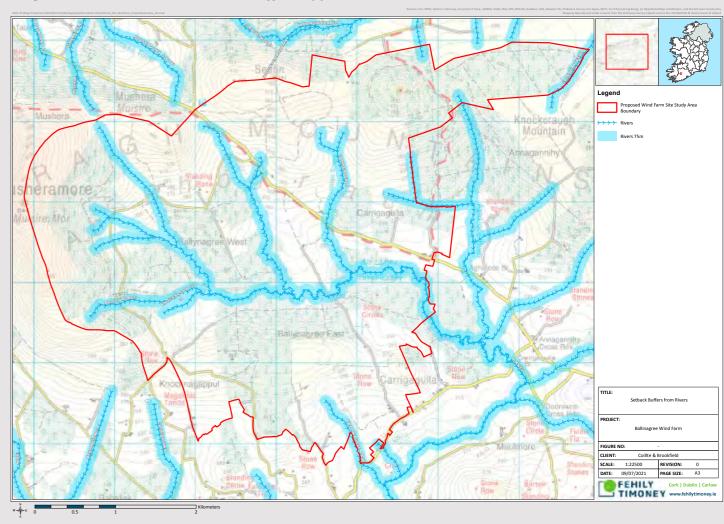


Fig 3: Rivers on site with setback buffers applied



3. MAPPING THE DEVELOPABLE AREA

Once all of the constraints are layered on top of one another, the true area available for wind energy development begins to become apparent. This is significantly smaller than the original study area.

Following the application of all known constraints, the developable area is mapped. This is the area in which wind turbines can now be sited. Figure 4 highlights the extent of this.

After placing wind turbines within the developable area, allowing for required spacing between the turbines, the resulting wind turbine layout then

forms the basis for the first design version for the wind farm (Figure 5).

Other elements of the wind farm design can now commence such as onsite access tracks, turbine hardstandings, the onsite substation and temporary compounds.

New constraints are added as they become known following the completion of more detailed environmental studies, field surveys and consultation, and this may change the developable area somewhat as the project progresses. In the case of Ballinagree, the potential developable area identified in the western edge of the site study area was removed from the design plans following detailed habitat surveys, topographical mapping, community feedback and preliminary reviews of photomontages.

This approach has also been applied for the siting of other wind farm infrastructure such as internal access tracks, hardstandings and the onsite electrical substation.

In our virtual tour, you will find a full suite of photomontage imagery that clearly shows what the wind farm would look like, alongside existing turbines, from different viewpoints. This is available on the project website www.ballinagreewindfarm.ie.

The current layout of turbines and other wind farm infrastructure is shown in the Site Layout drawing overleaf. It is expected that this represents the layout that will be submitted for planning permission except for any potential late changes.

Fig. 4: Development site study area (red) and potential developable areas (pink)

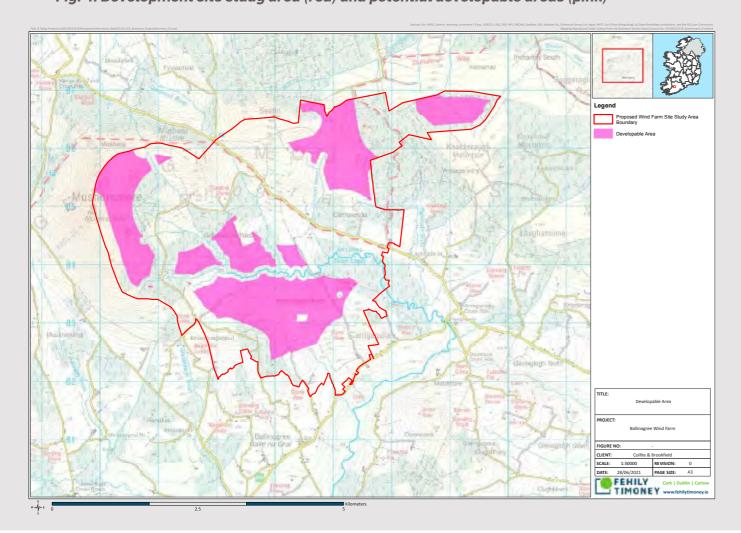
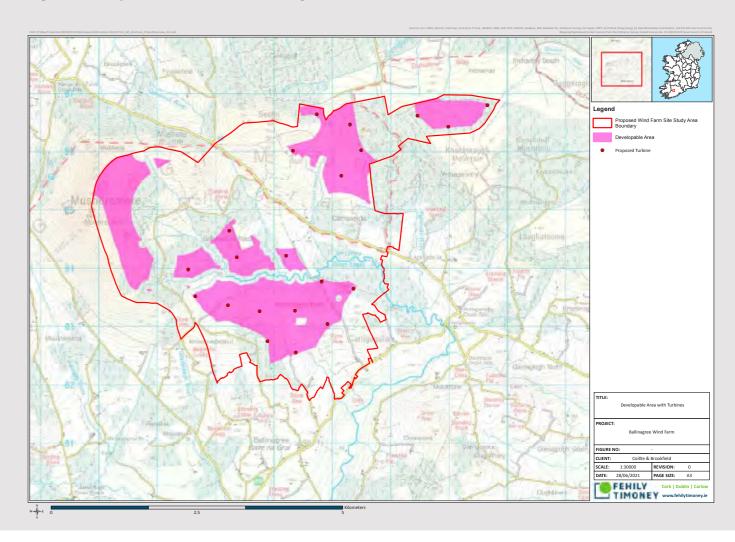
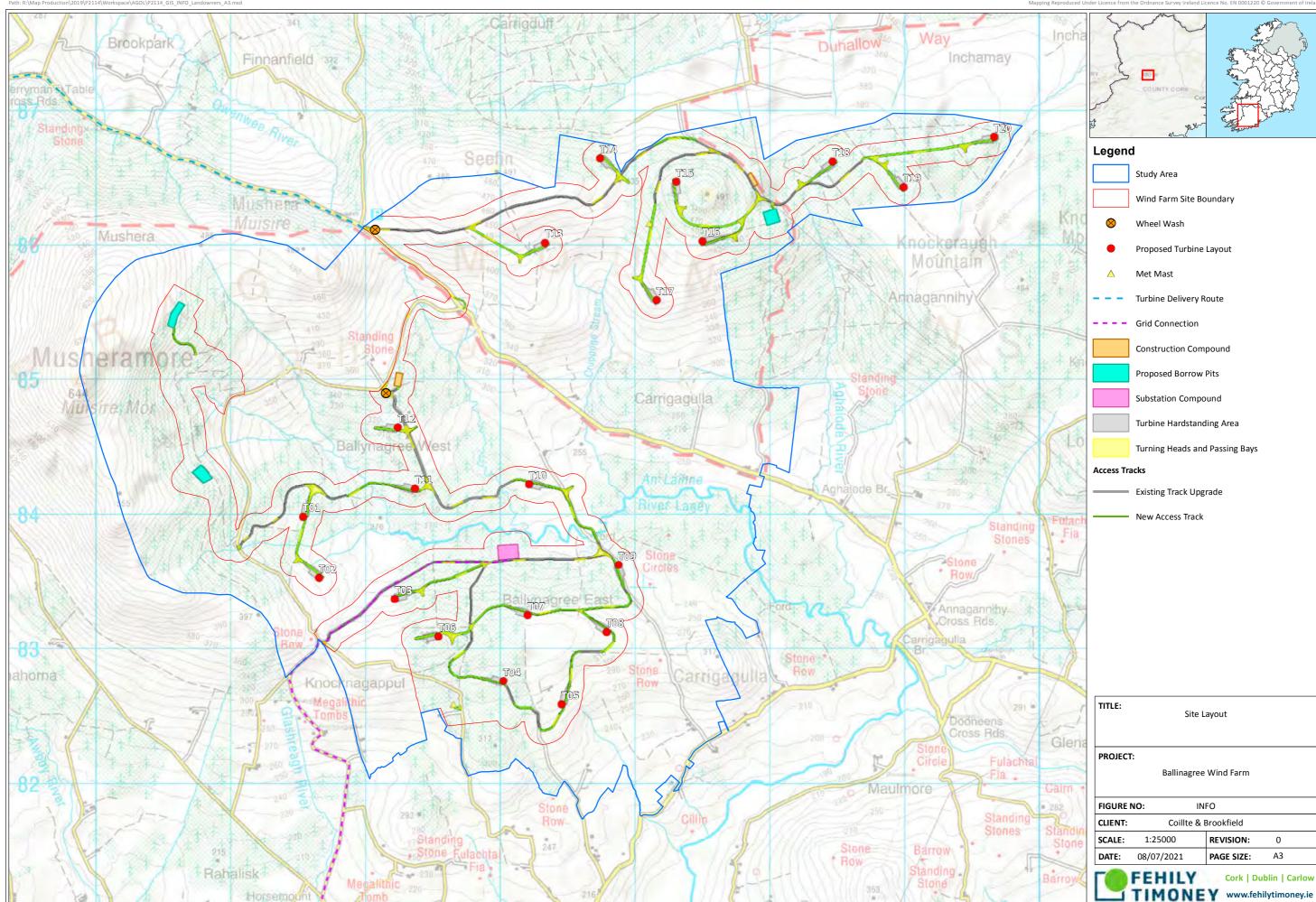


Fig. 5: Developable area with turbine layout







PROPOSED DEVELOPMENT

The proposed project will consist of the following:

- Erection of 20 wind turbines with a tip height of up to 185 metres.
- Installation of medium voltage (20/33kV) and communication cabling underground between the proposed turbines and the proposed on-site substation and associated ancillary works.
- Installation of high voltage (up to 110kV) and communication cabling underground between the proposed on-site substation and the existing Clashavoon substation in Rusheen and associated ancillary works.

- Construction of turbine foundations and crane pad hardstanding areas.
- Construction of site tracks and associated drainage infrastructure.
- Upgrading of existing tracks and associated drainage infrastructure where necessary.
- Use of existing forestry and agricultural field accesses including upgrades as necessary.
- Construction of one onsite 110kV electrical substation to Eirgrid specifications and associated compounds.

- Temporary roadworks associated with the turbine delivery route to facilitate the delivery of turbine components.
- Two temporary construction site compounds and associated ancillary infrastructure including parking.
- · Up to three on-site borrow pits.
- Tree felling and associated replanting to facilitate construction and operation of the proposed development.
- Installation of two permanent meteorological masts to a height of 100 metres above ground level.
- Use of proposed wind farm access tracks and existing forestry and farm tracks and paths as recreational amenity trails for community use. This includes the installation of associated signage and information boards, and the repurposing of the proposed temporary construction compound as a permanent trail-head car park and picnic area including landscaping.
- Temporary roadworks along the turbine delivery route.

BENEFITS TO THE LOCAL COMMUNITY

Ballinagree Wind Farm has the potential to bring significant positive benefits to local communities. The project will support local employment, it will contribute annual rates to the local authority and it will provide opportunity for local community investment in the project in line with the new Renewable Electricity Support Scheme (RESS).

The Renewable Electricity Support Scheme (RESS) is a policy initiative to deliver on the Government's Climate Action Plan. One key emphasis is that communities should benefit directly from all the renewable electricity projects being supported by the scheme.

An important feature of RESS is that all projects must establish a Community Benefit Fund to be used for the wider environmental, social and economic wellbeing of the local community. It is accepted that those living in closest proximity to the project should be priority beneficiaries and that is why some of the fund is designated for Near Neighbour payments. However, it is important that broader community benefits apply as well.

What will the Community Benefit Fund look like?

There are two important areas of Government policy and market support being developed which are nearing completion that will have a bearing on the establishment of future Community Benefit Funds. These are the updated Wind Energy Development Guidelines (WEDGs) and the Terms and Conditions for RESS 2. The industry is awaiting the publication of WEDGs from the Department of Housing and Local Government and it is hoped that these will be announced towards the end of the year.

On July 7, 2021, Minister Eamon Ryan announced the publication of the Government's 'Good Practice Principles for Community Benefit Funds' under the Renewable Electricity Support Scheme (RESS). The development of this handbook benefited from a public consultation process that included five interactive community town hall webinars and focus groups.

Communities will be at the centre of the decision-making process, which gives them the opportunity to develop a strategy to maximise the economic and social impact of their own Community Benefit Fund. One particular focus of the funds is to support local initiatives that align with the UN Sustainable Development Goals such as home and community hall retrofits, pollinator farms, cycling paths, educational material and scholarships, and sports club activities. The handbook contains case study details of existing Community Benefit Funds in its appendices.

The scheme mandates all RESS projects to establish a Community Benefit Fund worth €2 per MWh (megawatt hour) of generated electricity for any future wind farm. Therefore, the project owners are required to contribute €2 per MWh annually into a community fund for the RESS contract period i.e. the first 15 years of operation. Further to this, the Ballinagree project developers commit to fund €1 per MWh annually for the remaining lifetime of the wind farm. The total fund per annum will depend on the final power output of a successful project.

The Ballinagree Wind Farm, if constructed as proposed, has the potential to produce more than 300,000 MWh of clean electricity a year. This means that the project could provide more than €600,000 per annum to the Community Benefit Fund for the first 15 years, and more than €300,000 per annum for the remainder of its operational life.





Guidelines for the annual distribution of this fund are as follows:

- A minimum of €1,000 shall be paid to each household located within a distance of a 1 kilometre radius from the nearest turbine.
- A minimum of 40% of the funds shall be paid to not-for-profit community enterprises whose primary focus or aim is the promotion of initiatives towards the delivery of the UN Sustainable Development Goals, in particular Goals 4, 7, 11 and 13, including education, energy efficiency, sustainable energy and climate action initiatives.
- A maximum of 10% on administration.
- The balance of the funds shall be spent on initiatives successful in the annual application process, as proposed by clubs and societies and similar not-for profit entities, and in respect of Onshore Wind RESS 1 Projects, on "near neighbour payments" for households located outside a distance of 1 kilometre, but within a distance of 2 kilometres from such RESS 1 Project.

Both Coillte Renewable Energy and Ørsted remain fully committed to facilitating an equivalent annual Community Benefit Fund if the project does not enter into or qualify under a future RESS process.

How the fund will be used and administered

The Government's 'Good Practice Principles for Community Benefit Funds' states: "The key focus across all the guidance is simple: that the local community participates in all decisions in regard to how the funding should be used. The fund is open to individuals, and not-for-profit groups such as community and voluntary groups, charities, social enterprises and clubs and societies. High quality administration, local where possible, is also a key expectation and we lay out commentary in that regard."

Further details can be found at: https://www.gov.ie/en/publication/5f12fcommunity-projects-and-benefit-funds-ress/ It is envisaged that, should the project receive a positive planning outcome, a detailed piece of work will be undertaken by the project team, together with the local community, to develop an appropriate local structure that would design the Ballinagree Wind Farm Benefit Fund. This group will make decisions with regard to funding allocations and, with the assistance of an administrator, manage the fund over its full duration ensuring transparency and good governance.

Other benefits of the project

Ballinagree Wind Farm also has the potential to benefit the local area in the following ways:

- A recreational amenity trail will be provided for community use that will consist of new and upgraded tracks. For an example of a popular and successful recreation facility, see Sliabh Bawn Wind Farm (www.sliabhbawnwindfarm.ie). The walking trail will include signage, waymarkers, a trail-head car park and a picnic area. The trail will incorporate nearby recorded monuments to highlight the area's cultural history and will provide heritage information and a trail viewing point.

- The proposed recreational amenity trail could possibly connect with the Duhallow Way walking route.
- Ecological enhancements will also be provided throughout the wind farm site that align with the All-Ireland Pollinator Plan to promote biodiversity. Local community interests will be encouraged to contribute to a range of biodiversity initiatives which it is hoped will enhance the area, such as broadleaf planting in suitable areas, and these initiatives, with appropriate signage and access, can be used as an educational resource.
- During its operation, Ballinagree Wind Farm has the potential to produce approximately 300 GWh to 350 GWh of clean electricity per annum. This would be sufficient to supply 70,000 to 80,000 Irish households with electricity per year, based on the average Irish household using 4.2 MWh of electricity. This energy will be used to offset the same amount of energy that would otherwise be generated from the burning of fossil fuels at power stations. It is estimated that this clean electricity production will prevent more than 110,000 tonnes of CO2 emissions per year, the equivalent of taking over 55,000 new cars off the road.

THE PLANNING PROCESS

An application for planning permission for the proposed Ballinagree Wind Farm will be submitted directly to An Bord Pleanála. This is the regulatory process when a project is of sufficient scale to be deemed Strategic Infrastructure Development (SID); i.e. over 50 MW.

During the project design and environmental assessment, consultation was carried out with An Bord Pleanála and the local planning authority, Cork County Council. The planning application will be supported by an Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS).

Our dedicated planning documentation website

In addition to the existing project website, a separate project website has been created and will be used, as required by An Bord Pleanála, to present the full SID application and all supporting documents and drawings. This will allow the public access to documentation for review. The SID website can be found at www.ballinagreeplanning.ie

The planning application documents will also be available for viewing at the offices of An Bord Pleanála and Cork County Council.

The Environmental Impact Assessment Report

Development projects, such as wind farms, require a detailed Environmental Impact Assessment Report (EIAR) to be submitted with the planning application. The EIAR examines the potential anticipated environmental effects of the proposed project during construction, operation and decommissioning. The EIAR also presents the detailed findings of all

ecological, environmental and technical assessments undertaken over the last four years. EU Directives, national legislation as well as consultation with relevant stakeholders and consultation with the local community all determine the contents of the EIAR.

Below is a preliminary list of the EIAR chapters for the proposed Ballinagree Wind Farm Project:

Chapter 1	Introduction
Chapter 2	Need for the Development & Alternatives Considered
Chapter 3	Description of the Proposed Development
Chapter 4	Policy
Chapter 5	Scoping & Consultation
Chapter 6	Air & Climate
Chapter 7	Noise & Vibration
Chapter 8	Biodiversity
Chapter 9	Land, Soil & Geology
Chapter 10	Hydrology & Water Quality
Chapter 11	Population, Human Health & Material Assets
Chapter 12	Shadow Flicker
Chapter 13	Traffic & Transportation
Chapter 14	Archaeological, Architectural & Cultural Heritage
Chapter 15	Landscape & Visual
Chapter 16	Telecommunication & Aviation
Chapter 17	Interactions of the Foregoing



How can you engage with the planning process?

There is a very useful Frequently Asked Questions section on An Bord Pleanála's website at www.pleanala.ie/sid/sidpp.htm#q7 that provides guidance on public participation and how comments on any SID application can be made. Any person or body may make submissions on the project to the Board while the documents are available for viewing after the application has been submitted. We have also included this information on the Ballinagree Wind Farm project website.

NEXT STEPS

We would encourage members of the public who wish to discuss any aspect of the proposed project to contact the team using the details provided on the following page.

The project is aiming to submit the planning application to An Bord Pleanála in late autumn 2021. When all documentation is complete,

the intention to submit the application will be advertised in local newspapers and notices will be erected at the site.

Once all documentation has been received and validated by An Bord Pleanála, the full documentation will be made available at www.ballinagreeplanning.ie

CONTACT US

We encourage and welcome your input and comments on the content of this newsletter.

Please get in touch either by phone, e-mail or post:

Lo-call: 1890 928740 (Mon-Fri, 9am-5pm)
E-mail: ballinagreewindfarm@coillte.ie

Post: FAO John Lyons, Coillte Office,

Hartnetts Cross, Macroom,

Co. Cork P12 XA50

TO FIND OUT MORE

Please visit the Ballinagree Wind Farm project website for our latest Virtual Exhibition, which includes presentations from some of the specialists working on this project, including the ecologist, archaeologist and landscape & visual consultant.

In the absence of being able to engage in face-toface conversation due to the Covid-19 pandemic, this content is available to encourage collaboration and feedback with local residents and interested stakeholders. A webinar will also be held, the details of which will be posted on the website a couple of weeks in advance and advertised in the local press. For those who are unable to attend, a copy of the presentation can be sent out either by e-mail or in the post.

www.ballinagreewindfarm.ie



