Ballinagree
Wind farm

NEWSLETTER 3 SPRING 2020

Ballinagree Wind Farm

Project

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1. INTRODUCTION

The proposed Ballinagree Wind Farm project is a co-development between Coillte Renewable Energy (Coillte) and Brookfield Renewable Ireland. This is the third Newsletter released on the proposed project. From the outset of our engagements on this project, we have strived to carry out the design process in a different way to previous projects of this type. The dedicated project Community Liaison Officers, David and John and Project Managers, Edwina and Michael, are doing this by actively placing a fundamental focus on inclusion and partnership with stakeholders. We started this process 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 different opinions and questions and helped to inform the content for the second Newsletter on the proposed project distributed door to door from the end of 2019. Both the Project Managers and Community Liaison Officers have undertaken this to ensure that accurate project information is shared and that stakeholders have a forum where queries can be addressed. We have also called to talk with local residents on Saturdays and in the evening time in order to get opinion and feedback from as much of the community as possible.

The recent nationwide concerns around the Covid 19 epidemic has led us to curtail our face-to-face visits for a while in order to comply with health guidelines. However, we are committed to continuing our approach of involvement and inclusiveness in our engagement and we are working hard on innovative solutions which will still enable the design team to keep the community updated. As our face to face conversations have had to be paused this, the third project Newsletter, is being issued to provide a detailed update on how work on the proposed Ballinagree Wind Farm project is progressing and a forum for further community involvement.

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

- Describe some of the ongoing technical and environmental studies for the project's design and environmental assessment process currently underway;
- Outline the steps to be taken prior, during and after the planning application to be submitted to the Consenting Authority;
- Present all current information and invite feedback from local residents and stakeholders, given the restrictions currently in place inhibiting face to face engagement. The project team would encourage and welcome anyone with questions or comments to get in contact.
- Explore possible collaboration opportunities that the project may present for local communities and initiatives;
- Set out information on next steps and project timeline.

Why Onshore Wind?

Onshore wind energy makes sense for Ireland for many reasons. It's a clean fuel source which does not pollute the air like power plants that rely on combustion of fossil fuels, such as coal or natural gas. Unlike conventional power plants, wind turbines don't produce atmospheric emissions that cause acid rain or greenhouse gasses. Wind energy is a free domestic natural resource, produced in abundance in Ireland. As an operating wind farm occupies such 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.

The Government declared in May 2019 that Ireland was in the midst of a climate and biodiversity emergency. The Environmental Protection Agency (EPA) has stated that mean annual temperatures in Ireland have risen by 0.7° Celsius (C) over the past century and are likely to rise by 1.4°C to 1.8°C by the 2050's 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, electricity generation and agriculture.

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, this puts Coillte at the forefront of being able to deliver on the Government's Climate Action Plan (June 2019) announcing a target of 70% of Ireland's electricity from renewable sources by 2030.

Brookfield Renewable Ireland is one of the largest owners and developers of renewable assets in Ireland holding 10 % of the operating wind farms in Ireland, employing approximately 100 people in Cork and across their Irish wind farms. Brookfield's

Sliabh Bawn Wind Farm, Co. Roscommon

development pipeline will continue to bring new renewable energy onto the system further contributing to decarbonisation of the Irish economy.

This firm commitment from the Irish Government on Climate Action is forming part of climate change legislation currently being publicised by our policy makers;

- A target of net zero economy-wide greenhouse gas, GHG, emissions by 2050.
- A target for the renewable share of electricity generation of 70% by 2030.
- Provision for five-yearly carbon budgets, consistent with the emissions reduction pathway to 2030 and 2050.

The amount of wind energy installed in Ireland has reached 4100 MW generated by 350 wind farms and the Irish Government has recently published 'Project Ireland 2040: National Development Plan 2018 – 2027', which outlines the need for an additional 3,000 - 4,500 MW of renewable energy as an investment priority. The further development of renewable energy sources is a vital component of Ireland's strategy to tackle the challenges of combating climate change and ensuring a secure supply of our future energy needs. The proposed Ballinagree Wind Farm project is being brought forward, in part, as a response to these challenges and we feel it has the potential to contribute greatly to this global cause.

Why This Site?

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

- The Study Area is located in an area designated as 'Open to Consideration' for wind energy in the current Cork County Development Plan.
- The Study Area is not designated as a Natura 2000 site. It is not within a Special Area of Conservation (SAC), a Special Protection Area (SPA) nor a Natural Heritage Area (NHA), although some of these areas do exist nearby.
- The Study Area 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 Study Area.
- Setback distances from houses can be achieved to align with the latest government guidance. The project team has already committed to a minimum setback of 750 m between a dwelling and a proposed turbine location.
- There is a limited network of existing forestry and farm roads within the Study Area that can be utilised.

The Project Team

The project team directly involved in the proposed Ballinagree Wind Farm project includes a Coillte Project Manager (Michael O'Connor), a Project Manager from Brookfield Renewable Ireland, (Edwina White), 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 Environmental Impact Assessment Report (EIAR) on behalf of the project. FT has wide ranging experience in all aspects of the feasibility assessment, environmental impact assessment, planning, design and construction of wind farm and other energy related projects. The practice was established in 1990 and currently has c.70 members of staff, including engineers, scientists, planners and technical support staff. FT delivers projects in Ireland and internationally in their core competency areas of Waste Management, Environment and Energy, Civils Infrastructure, Planning and GIS and Data Management.

About The Project Study Area

The Study Area for the project is located within both forested Coillte and privately owned lands in an area south-east of Mushermore mountain and just north, north/east of Ballinagree village between the towns of Macroom and Millstreet. The Millstreet to Rylane road (The Butter Road) runs through the Study Area and The Duhallow Way also traverses the northern part of the Study Area in an east/west direction.

The Study Area is located east of the Mullaghanish to Musheramore Mountains Special Protection Area designated for the protection of breeding Hen Harrier. The site has an upland hilly/undulating topography. The River Laney flows through the Study Area, which is dominated by varying aged conifer plantation, agricultural grassland and wet grassland.

The following environmentally designated areas occur within 15 kilometres of the Study Area:

- Mullaghanish to Musheramore Mountains SPA (004162), west of the Study Area:
  - This is a Natura 2000 site selected for the ''protection of hen harrier''.
- Gearagh SPA (004109), approximately 13 km to the south of the Study Area:
  - This is a Natura 2000 site selected for "the protection of wigeon, teal, mallard and coot".
- The Gearagh SAC (000108) approximately 15 km to the south of the Study Area:
  - This Natura 2000 site was selected for the presence of the following habitats and species: Floating River Vegetation, Old Oak Woodlands, Alluvial Forests and Otter.
  - Mullaghanish Bog SAC (001890) approximately 15 km to the west of the Study Area:
  - This is a Natura 2000 site selected for the protection of Blanket Bogs.
- The Gearagh (Ramsar site no. 472) approximately 13 km to the south of the Study Area:
  - Wetlands selected to support a ''*nationally important population of whooper swan''.*
- Natural Heritage Area (NHA – 002447) Immediately north of the Study Area;
  - Peatlands – Selected for upland blanket bog habitat.

The Study Area and surrounding landscape also contains a high concentration of Bronze-aged features. Some of these have historical ritual and visual alignments across the wider landscape.

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Turbine towers arrive in several parts and are assembled on site.

2. PROPOSED DEVELOPMENT

Currently the project team is considering the Study Area under the following parameters:

- Capacity for up to 24 wind turbines;
- Associated internal underground cabling and grid connection cabling;
- Proposed overall turbine envelope height (when a turbine blade is pointing skyward) of up to 185 metres and associated foundations and hard-standing areas;
- An electrical substation with a control building and associated electrical equipment;
- Borrow pits to source construction stone on-site for road upgrade and construction;
- A permanent anemometry mast up to a height of 100 metres to measure wind speed and direction;
- Upgrade of existing and provision of new site access roads and associated drainage;
- Construction compounds; and
- Biodiversity enhancement and conservation areas.

The project team are continuously receiving feedback from Eirgrid and at this stage, it is proposed that the project will connect to the national electrical grid at either the existing 220kV Clashavoon substation, which is located approximately 5km north-east of Macroom, or the 220kV Ballyvouskill substation, which is located approximately 6.5km south of Millstreet. The project team are currently in the process of assessing the different route options for connecting the proposed project to the Clashavoon or Ballyvouskil substations via an underground cable.

3. PROJECT DESIGN PROCESS

The Study Area, set out in the second project newsletter and available on the project website, www.ballinagreewindfarm.ie, is currently being assessed by the project team. This detailed assessment has been underway since January 2020. Some general seasonal dependent ecology work has also been underway since 2017/2018. All field work, with the exception of limited and seasonal dependent ecology surveys, is paused at this time in line with the Government and HSE protocols surrounding the Covid-19 pandemic until further updates and/or restrictions are lifted.

Through this assessment, the Study Area of the proposed Ballinagree Wind Farm project is reduced down into a working area from which a layout design, including preliminary wind turbine locations, is arrived at. Many sections of the initial Study Area have now been excluded from the Working Area.

The areas include:

- setback distance from both the Mullaghanish to Musheramore Mountains Special Protection Area (SPA) and the Natural Heritage Area to the north of the Study Area.
- Setback from dwellings – 750 m minimum
- Avoidance of areas of steep ground slope
- Setback from watercourses – 75 m
- Avoidance of Coillte designated biodiversity areas
- Avoidance of areas with excessive deep peat
- Optimisation of design for visual impact
- Setback from public roads
- Setback from overhead powerlines
- Setback from, and alignment with, archaeological/ cultural heritage features

After all these constraints and their associated setbacks are taken into account, the Working Area for the project is then arrived at.

In addition to the above, the locations of the proposed wind turbines and all other proposed infrastructure is informed by rigorous site investigations and assessments which include:

- Ecological Surveys
- Ornithological Surveys
- Geotechnical, Hydrological and Geological Site Investigations
- Shadow Flicker Modelling
- Noise Modelling
- Archaeological Surveys
- Landscape and Visual Assessment
- Wind Resource Modelling

The Working Area is continuously updated throughout the design process. We are currently at Design Iteration One. There are still two more design stages to be undertaken based on the findings of further site investigations and based on stakeholder feedback. Future design stages are likely to reduce the Working Area further as additional constraints are taken into consideration.

Design Iteration One is now available to view on the project website, **www.ballinagreewindfarm.ie**

4. THE PLANNING PROCESS

Development projects, such as wind farms, require a detailed Environmental Impact Assessment Report (EIAR) to be submitted with the planning application. In order to ensure that the environmental assessment process is appropriate to the project and locality, project specific information will be prepared by the project team and circulated to statutory and non-statutory consultees in addition to near neighbours.

Regular consultation with local residents will also continue throughout the three design stages and the environmental assessment process, focusing on those residents within up to 3 km of the project's Working Area.

We feel it is very important that open dialogue on key aspects of the proposed continues. The project team are always open to feedback both on how best to keep community members up to date on the design process and on project progress overall.

The EIAR will focus on the following areas and will accompany the planning application. The below list is not exhaustive.

Chapter 1 Introduction

Chapter 2 Description of the Proposed Development

Chapter 3 Civil Engineering

Chapter 4 Alternatives

Chapter 5 Population and Human Health

Chapter 6 Biodiversity

Chapter 7 Ornithology

Chapter 8 Water

Chapter 9 Land and Soil

Chapter 10 Noise and Vibration

Chapter 11 Shadow Flicker

Chapter 12 Landscape

Chapter 13 Cultural Heritage

Chapter 14 Air and Climate

Chapter 15 Material Assets

Chapter 16 Interaction of the Foregoing

Chapter 17 Schedule of Environmental Mitigation

Planning Application

It is currently envisaged that an application for planning permission for the proposed Ballinagree Wind Farm project will be submitted directly to An Bord Pleanála as the project is of a scale to be deemed Strategic Infrastructure development (SID). Under current legislation, a wind farm project of scale is one capable of generating electricity in excess of 50 Mega Watts (MW). The current project timeline predicts a planning application being submitted in December 2020. This date has been somewhat impacted by the Covid-19 working restrictions and could potentially be delayed as a result.

In preparation for submission of this planning application, the design team requested a pre-application consultation meeting in March 2020 with representatives of Cork County Council's Planning department and with An Bord Pleanála in order to discuss the application in relation to proper planning and sustainable development.

Along with the previously mentioned EIAR, a Natura Impact Statement (NIS) will also be prepared and submitted with the planning application. A separate website will be created as required by An Bord Pleanála to present the full application and all the supporting documents and drawings.

MAP

MAP

Supply map

5. CULTURAL HERITAGE

The Ballinagree area and the wider Macroom and Millstreet areas are rich in archaeology and some extremely interesting examples are located in the landscape within the environs of the Study Area for the proposed Ballinagree Wind Farm project. John Cronin & Associates archaeological consultancy, established in 2000 with a base in Cork City, has been commissioned to map and survey the known monuments within the Study Area and to advise the project team during the design process to ensure that all areas with sensitive archaeological and/or cultural heritage features are preserved and treated correctly. The project archaeologists are also scheduled to undertake field-walking and drone surveys in order to establish if any unrecorded monuments may exist in the area.

There a number of stone circles, stone rows and wedge tombs located within the Study Area of the project. These consist of monument types associated with ritual activity dating to the Bronze Age (2400-500 BC).

Stone circles comprise rings of free-standing upright stones, symmetrically arranged so that one stone set on its side (the axial stone) is set directly opposite the two tallest stones which form an entrance into the structure. The stone rows within the project Study Area form part of a distinctive Cork and Kerry group that contain up to six upright stones, typically about 2m in height, and are often aligned on a northeast to southwest alignment.

Standing stones viewed in the Study Area comprise single upright stones and may have functioned as prehistoric burial markers, commemorative monuments or indicators of route ways or boundaries.

Wedge tombs surveyed in the Study Area comprise stone-built megalithic tombs containing a burial gallery, sometimes with a small end-chamber, and there is a notable concentration of these monuments in County Cork. The low structures are generally broader and higher at the front and typically face in a westerly direction. Evidence from the small number of excavated examples suggests that they were constructed between 2,500 and 2,000 BC and represent the last phase of megalithic tomb building.

Other monuments within the Study Area of the project include Bronze Age cooking sites known as fulacht fiadh as well as later sites such as holy wells and enclosed Early Medieval farmsteads, known as ringforts, some of which may contain associated underground structures known as souterrains.

Carrigagulla House, in the southern portion of the Study Area, is a late 18th-century country house which has been designated a recorded archaeological monument. There is potential also for the presence of unrecorded archaeological sites and features to exist within the Study Area such as stone hut remains and historical field systems. The locations of such features will be carefully considered during the assessment and design of the project. This consideration will include review of historical maps and field surveys. Potential for facilitating greater public access to the locations of some of these monuments within the Study Area can also be considered as part of the design process. The cultural heritage of the area extends beyond known monuments and can include local folklore and traditions that may form an oral record of historical and archaeological activities not otherwise recorded. **Any information on local traditions associated with the lands in the environs of the proposed wind farm would be most welcome and will be shared with the project archaeologists to ensure that they are included in the studies.**

Stone circle at Carrigagulla

Stone circle in projects study area

6. NOISE

The 2006 Wind Energy Development Guidelines (2006 WEGs) provide details on noise limits for wind farm developments in Ireland. These guidelines are currently under review and the draft Wind Energy Development Guidelines (draft WEGs) were published in December 2019. These guidelines have been consulted on by the public and professionals in the noise industry alike. This is a welcome development as the 2006 WEGs are often criticised as not being up to date with current technology used by wind farm developers today. The noise limits in the new draft WEGs afford greater protection to residents living in the vicinity of proposed wind farms than the 2006 WEGs do. Furthermore, the draft WEGs also consider special audible characteristics. The draft WEGs are currently being debated, reviewed and refined following input from all interested parties. Further information can be obtained on the Department's website as follows: www.housing.gov.ie

The main sources of noise from a wind turbine include aerodynamic noise (rotating blades in the air) and mechanical noise (gearbox and generator).

From the outset, the project team have committed to using the noise impact assessment procedure in the new draft WEGs as well as the Institute of Acoustics 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (2013).

ENVIRONMENTAL NOISE IMPACT ASSESSMENT PROCEDURE BEING UTILISED FOR THE PROPOSED BALLINAGREE WIND FARM PROJECT

As we are currently at the first of three design iterations, initial noise modelling is underway. The noise assessment process generally follows the below points.

Task	Status
Define Study Area using computer modelling Preliminary Noise Model (includes existing and proposed developments in the general area)	Complete
Identify areas in the Study Area to establish baseline/ background noise monitoring locations	19 Locations identified. The deployment of monitoring data has been delayed due to the COVID 19 concerns and restrictions.
Measure Background Noise Levels concurrently with wind speed and direction	Delayed due to COVID 19 concerns and restrictions.
Use Background noise data to derive noise limits	This will commence once permission is received from residents and COVID 19 restrictions are lifted or permission is provided in line with Government guidance.
Use computer modelling to predict noise from development • International Standard • Input parameters in keeping with IOA Guidelines • Turbine noise data supplied by turbine manufacturer • Cumulative impacts	Complete for Design iteration 1 (DI1)
Compare predicted noise levels against noise limits • Compliance demonstrated (√) • Non-Compliance (x) » Mitigation » Update or change wind turbine layout or wind turbine technology	Complete for Design Iteration 3 (DI3)
Depending on the findings of the full noise study as well as other environmental considerations, the layout of the proposed wind farm can change.	Complete for Design Iteration 3
Once the layout has been finalised: In addition to operational noise predictions, construction noise predictions will also be undertaken and the Noise chapter of the Environmental Impact Assessment Report will be prepared.	Complete prior to Planning Submission

Did you know:

The noise consultant has to discount the noise emitted by existing turbines in the area in order to establish true back ground noise. Wind Farms are limited in the amount of noise they can emit above this lower background level.

Typical noise monitor used to measure background noise levels during the design process

7. COMMUNITY BENEFIT AND INVESTMENT PROPOSAL

Wind Farms and the local Community

Both Coillte Renewable Energy and Brookfield Renewable Ireland recognise that any wind farm development means there will be change for an area and that this change is experienced mostly by those living in that local area. For this reason, we commit to ensuring that local communities can benefit from having a wind farm in their locality and that opportunities for local community investment in any successful project are also explored.

From our door to door conversations to-date we understand that not everyone is open to the prospect of exploring what benefits a project like the proposed Ballinagree Wind Farm could offer. However, the project does have the potential to bring significant positive benefit to the local community. The project will contribute annual rates to the local authority and will provide avenues to explore the opportunity for local community investment. As with all wind farm projects which Coillte Renewable Energy and Brookfield Renewable develop, a community benefit fund will be put in place for the lifetime of the project to provide direct funding to those nearest neighbours and local communities.

What will the community benefit fund look like?

There are currently two very important areas of Government policy and market support being developed which are nearing completion and which will have a bearing on the establishment of future community benefit funds. These are the updated Wind Energy Guidelines and the new Renewable Energy Support Scheme (RESS). Both sets of policy are expected to be finalised during Q2/Q3 2020 and will provide clarity on the Government requirements on future community benefit funds for renewable energy projects.

We will fully take into account these two important polices as we present our community benefit proposal for the proposed Ballinagree Wind Farm.

Based on RESS guidelines, the project team expect that for each megawatt hour (MWh) of electricity produced by any future wind farm, the project owners will contribute €2 into a community fund for the RESS contract period i.e. first 15 years of operation and €1 per MWh for the remaining lifetime of the wind farm.

If the project does not enter into or qualify under a future RESS process, both Coillte Renewable Energy and Brookfield Renewables remain fully committed to facilitating an equivalent annual Community Benefit Fund.

The total fund per annum will depend on the final power output of a successful project.

How the fund will be used and administered?

For any Community Benefit Fund to be truly successful, we believe that it should be governed and belong to the local community. The aim of any benefit fund is that it should be used to bring about significant, positive change in the local area. Working together with the near neighbours of the project, the focus will remain on achieving a set of key principles for inclusion in a future planning application. We believe that these principles should be detailed enough to give some clear boundaries and commitments at this stage. We also believe these principles should not restrict community flexibility and adaptability to changing circumstances in terms of the project evolution, government policy and direction. We understand that this will take much more community engagement and hard work over the coming year. With this in mind, we aim to engage in many more meaningful conversations with local stakeholders on the possibility of exploring and developing a community benefit model that the local community are fully at the centre of.

8. ECOLOGY

Aquatic Ecology

The Study Area for the project is located almost entirely within the Lee, Cork Harbour and Youghal Bay catchment. A small northern section is contained within the Blackwater [Munster] catchment Special Area of Conservation (SAC), meaning there is a hydrological connection with the Blackwater River from the north of the Study Area. Consequently, an in-depth series of aquatic baseline surveys have been developed to examine aquatic species which may be using the streams and rivers which collect water from the Study Area. These include: freshwater pearl mussel, white-clawed crayfish, sea lamprey, brook lamprey, river lamprey, twaite shad, salmon and otter. The habitats, including Alluvial forests, in association with these rivers and streams will also be examined during the aquatic studies with findings included in the design.

A survey of each tributary in the catchment area of the Study Area is scheduled to be carried out during the summer of 2020 under a license to be issued by Inland Fisheries Ireland (IFI). Electro-fishing will also be conducted at the same locations providing a solid baseline covering the majority of the tributaries and sections of the main channel of the catchment to provide a robust fisheries baseline. All studies will be carried out in consultation with, and as advised by, Inland Fisheries Ireland.

Heron pictured by trail camera on Laney river during ecology surveys

9. BIODIVERSITY

As the project design progresses, a key element will be the development of suitable proposals for habitat, wildlife and ecological conservation within, and possibly outside of, the Study Area. These proposals will initially be identified through the ongoing ecological studies but we would love to discuss any local knowledge or suggestions you may have which could help to enhance the ecology of the area.

Fox cub image captured by trail camera operating during the project ecology survey.

9. LANDSCAPE AND VISUAL

Macro Works have been commissioned to undertake the Landscape and Visual Impact Assessment (LVIA) for the project and have completed preliminary desk studies and fieldwork to-date. Macro Works, established in 1999, is a leading consultancy firm based in Dublin that specialises in visual impact analysis and visual impact graphics.

The view of the project from the surrounding landscape will be a key consideration as the project design progresses. A landscape and visual impact assessment will be carried out to understand the visual impact of the wind farm on the existing environment.

The desk studies completed by Macro Works to date include a detailed review of landscape and visual designations within the Cork County Development Plan, which include 'High Sensitivity' landscape zonings and designated scenic routes, such as The Butter Road, in the project's Study Area. The desk studies also include a review of recreational features within a 20 km radius of the Study Area, such as walking routes (including the Duhallow Way), cycling routes and popular tourism, heritage and amenity sites. Settlements, key transport routes and local dwelling clusters are also considered at this stage.

Having established important locations (receptors) from which the visual impact of the proposed development needs to be examined, a 'Zone of Theoretical Visibility' (ZTV) map is produced. The ZTV indicates from where in the landscape of the Study Area, views of the proposed wind farm may, or may not, be visible from based on natural occurring screening. Only locations with potential views of the proposed wind farm are relevant for further consideration in terms of the visual assessment.

Subsequent to the initial desk study phase, fieldwork was undertaken to gain an appreciation of the landscape character and key landscape elements within the Study Area and surrounds. Photography was captured at 19 key receptor locations, which represents around 60-70% of the total anticipated viewpoints likely to be used for a robust visual impact assessment. This initial modelling will be refined further at later design stages.

Using the photography captured from the initial set of these 19 viewpoints, 'photomontages' are then prepared to illustrate what the proposed wind turbines would look like from each viewpoint.

These photomontages give the project team and the public an opportunity to comment on and refine the proposed wind turbine layout in order to minimise visual impacts insofar as possible. This might mean removing/moving turbines that are visible from particularly sensitive locations or adjusting the wind turbine layout to avoid visual clutter or disharmony from other locations.

At this point in time, Macro Works have reviewed Design Iteration One using the steps outlined above and have provided constraints and design optimisation comments to the design team for consideration at the next design stage. Revised Zone of Theoretical Visibility (ZTV) maps and photomontages will then be prepared and reviewed for that next design stage in an ongoing design optimisation process.

11. NEXT STEPS

Project Milestones

Summer 2017	General ecological studies began in the wider study area.
Winter 2017	Initial landowner discussions began in the area.
Summer 2019	Engagement begins with the local communty.
Autumn 2019	Local landowner discussions to finalise Study Area concluded.
Autumn 2019	Meteorological wind measuring mast scoping studies progress.
Winter 2019	Meteorological wind measuring mast erection.
Winter 2019	Environmental impact assessment project team appointed.
Winter 2019/20	Detailed environmental and engineering studies begin.
Summer 2020	Proposed Design Iteration 1. 'Design Iteration One' to be used here with website update also.
Summer 2020	Grid route and turbine delivery route assessment progressed.
Summer 2020	Design Iteration 2.
Autumn 2020	Design Iteration 3.
Autumn 2020	Planning application amalgamation and reviews.
Winter 2020	Planning application to be submitted to the Consenting Authority.

We would encourage and welcome your input and comments on what you have read in this Newsletter. Please get in touch either by e-mail, post or by phone as follows:

Lo-call (Mon – Fri): 1890 928740

E-mail: ballinagreewindfarm@coillte.ie

Post: FAO John Lyons, Coillte Office, Hartnetts Cross, Macroom, Co. Cork. P12 XA50

Please also visit the projects website at **www.ballinagreewindfarm.ie** for further information

Musheramore Mountains as viewed from the Butter Road

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