

Proposed Ballynagare Project

Project Newsletter 2 – September 2021

EMPower



Introduction

This is the second public newsletter which has been released for the proposed Ballynagare Wind Farm project. The proposed project is now at a stage where all the environmental assessment data has been gathered and collated in order to inform the final proposed project layout.

This newsletter sets out an overview of all aspects of the proposed Ballynagare Wind Farm project and we look forward to addressing any question or queries you may have prior to the project submitting a planning application. We can address any queries by phone call and email at a time that suits you. Also in person meetings may be possible subject to current Covid-19 Government guidelines and restrictions.

To supplement the detail in this project newsletter we have also put together an interactive virtual tour of the proposed Ballynagare Wind Farm project with added detail on topics such as interactive landscape and visual displays, environmental impact assessment, transport and grid routes and layout maps. You will also be able to view some recorded material prepared by members of the projects design team in this interactive virtual platform.

The projects interactive virtual tour material will be launched in the coming weeks and will be accessible from the home page of the project website at (www.ballynagarewindfarm.ie).

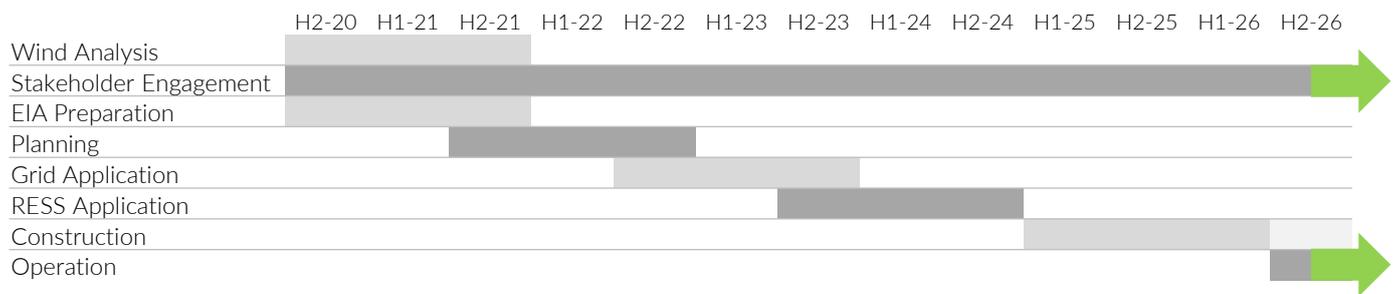
Please be assured that we will continue to make every effort to ensure that we provide you with all the information you need in order to fully understand the details of this proposed project. We are also committed to making available the necessary resources within our design team to support any engagement type which suits you best.

Once you have had a chance to look through the proposed project details contained in this newsletter and you have any areas of the proposed project you wish to discuss further, please make contact with the project team using the contact details located on the back page of this newsletter or on the project website (www.ballynagarewindfarm.ie).



Picture 1: View of the proposed Ballynagare Study Area

Proposed Project Schedule



The Proposed Development

The proposed Ballynagare Wind Farm project is located approximately 2km north of the village of Lixnaw and approximately 8.8km southwest of the town of Listowel, Co. Kerry on lands contained within the townlands of Ballynagare, Dysert Marshes, Dysert, Curraghcraheen, Farrandeen, and Monument.

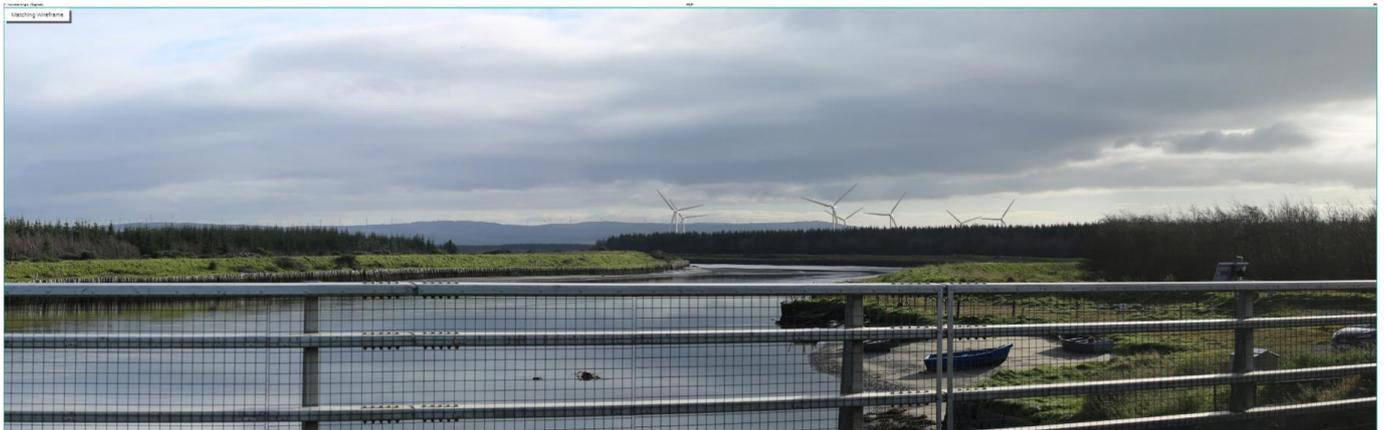
It is proposed to connect the project to the national grid via a 38kV underground cable via the existing Clahane electricity substation in the townland of Pallas located approximately 7 kilometers southeast. The projects' turbine component delivery route is proposed between the R557 and the proposed new development entrance. You will find a layout map highlighting the proposed project particulars on the second last page of this newsletter.

EMPower are requesting a 10-year planning permission for a project with an operational life span of 35 years. The proposed wind farm project's final design proposal includes the following:

- Construction of 7 no. wind turbines with the following maximum and minimum parameters:
 - Overall ground to blade tip height in the range of 170m maximum to 169m minimum
 - Hub height of 95m
 - Rotor diameter in the range of 150m maximum to 149m minimum
- Turbine hardstand areas and 1 material borrow pit
- Provision of 1 no. permanent meteorological mast with a maximum height of 110 metres;
- Upgrade of existing roads and access junctions and provision of new entrances;
- 2 peat storage areas and 2 temporary construction compounds and all site drainage works;
- 1 no. onsite 38kV substation, control building and plant, associated security fencing and wastewater holding tank
- All associated underground electrical and communication cabling connecting the turbines to the proposed on-site substation
- All ancillary site and ground works, apparatus and signage

Photo Montage Illustrating Final Design

Photo montages identified the visual impact of this proposed project by simulating the proposed operational turbines in situ from 29 locations surrounding the Study Area. These illustrations are used to inform the final design and turbine selection. One such Illustration is shown below. This representation of the final proposed design looks south at the 7 proposed Ballynagare wind turbines from Derryco on the R551. All 29 view points will be made publicly available on our dedicated Community Consultation Room located on the projects website before a submission is made to the consenting planning authority.



Picture 2: Looking south across the Ballynagare project study area from Derryco – R551

Project Design Process

The design process for the proposed Ballynagare wind farm started with a review of existing information to avoid or minimize potential impacts. This included limiting the angle of slope of the ground where development can occur, including a setback distance from watercourses and residences, as well as a setback distance from any nearby European designated habitat sites.

As detailed in previous correspondence and webinars, a final turbine layout was developed taking into account all design considerations including the separation distance required between the turbines. The location and alignment of the associated infrastructure, such as roads, crane hard stands and substation, was then developed following confirmation of the proposed turbine layout. The locations of the proposed wind turbines and all other proposed infrastructure locations have been informed by rigorous site investigations and assessments carried out over a three-year period including:

- Ecological Surveys
- Ornithological Surveys
- Geotechnical/Hydrological Site Investigations
- Shadow Flicker Modelling
- Noise Modelling
- Archaeological Surveys
- Landscape and Visual Assessment

The proposed development layout map's have been continuously updated throughout the development's design process based on the findings of each of the site investigations and assessments that have been completed. All these map's will be available to view on the project website and will be included in the projects application for planning permission.

Some of the areas of this design process where we have had the most conversations with interested stakeholders and local residents are listed hereafter:



Scoping and Consultation

Development projects such as wind farms require a detailed Environmental Impact Assessment Report (EIAR). In order to ensure that the Environmental Impact Assessment (EIA) process was appropriate to the project and locality, an information document was prepared and circulated to a list of statutory and non-statutory consultees including, among others, National Parks and Wildlife, Inland Fisheries Ireland, area telecommunication providers, Transport Infrastructure Ireland, Kerry County Council, The Aviation Authority and Fáilte Ireland plus many more. This is done to ensure that the EIAR addresses all relevant, location specific, topics. The project team are currently coordinating the final compilation of the EIAR and it will accompany the planning submission for this project. The final EIAR will be available for viewing on the following website www.ballynagarewindfarm.ie

Land, Soils and Geology

The geology of the projects Study Area consists of narrow peat fields and peat bog historically subject to peat harvesting which is surrounded by agricultural grasslands. Detailed investigations including site walkovers, peat stability assessments, trial pit excavations and bore holes were undertaken to access the geology of the Study Area. If this project is consented, construction of the wind farm infrastructure will require the removal of subsoils and possibly rock to create solid foundations. Excavation of bedrock from proposed on-site borrow pits and suitable off-site aggregate sources will provide appropriate construction material for access roads, turbine bases and general hard-standing foundations. The removal and the reuse of subsoils and bedrock does not represent a significant impact on the geology of the site. No significant impacts or cumulative impacts on the soil and geological environment are anticipated as a result of the proposed wind farm and its grid connection.

Human Beings and Population

The proposed project assessments examine the potential impacts of this proposed project (both beneficial and adverse) on the local and regional community. The key issues examined fully in the Environmental Impact Assessment Report include:

- Economic and Employment Activity;
- Construction activities dust / noise emissions
- Visual impacts during operation
- Existing land Use;
- Shadow flicker during operation
- Traffic nuisance during construction
- Human Health and Safety;
- Population, tourism and recreational trends



Noise

Noise is generated by wind turbines as they rotate to generate power. This only occurs above the 'cut-in' wind speed and below the 'cut-out' wind speed. Below the cut-in wind speed there is insufficient strength in the wind to rotate the blades and above the cut-out wind speed the turbine is automatically shut down to prevent any malfunctions from occurring. The cut-in speed at the turbine hub-height is approximately 3 meters per second (11 kph) and the cut-out wind speed is approximately 25 meters per second (90 kmh).

The principal sources of noise are from the blades rotating in the air (aerodynamic noise) and from internal machinery, normally the gearbox and, to a lesser extent, the generator (mechanical noise). The blades are carefully designed with a view to minimising noise whilst optimising power transfer from the wind.

Vibration is generated by construction activities such as rock breaking and passing heavy goods vehicles. Construction noise will occur during excavation and earth moving, laying of roads and hard standings, transportation of materials and erection of the wind turbines if this project is consented. The construction phase will be phased and temporary.

Noise and vibration assessments were undertaken for the operational, construction and decommission phases of the proposed development. Baseline noise monitoring was undertaken at receptor locations surrounding the proposed Ballynagare Wind Farm's Study Area to establish the existing background noise levels. These measurement locations were chosen as they represent some of the closest locations and represent different noise environments in the vicinity of the proposed development.

Following the establishment of the existing noise levels prior to any development, appropriate noise level limits were then determined in line with Government policy and guidance. The noise limits seek to strike a balance between the noise restrictions placed on a wind farm, the protection of amenity and the national and global benefits of renewable energy development. The predicted noise emissions from the wind farm are then compared against these limits. The wind farm will be designed and operated in a manner that ensures the prescribed limits won't be exceeded and will be validated by post construction noise monitoring if this project is consented.



Biodiversity

As part of the projects Environmental Impact Assessment, extensive desktop studies and field surveys have been carried out over several years for the proposed Ballynagare Wind Farm project. These surveys analysed the different habitats, mammals, bats, birds as well as aquatic ecology throughout the project's Study Area and associated proposed grid connection and turbine delivery routes.

The proposed projects Study Area comprises 15 habitat types predominately cut-over bog which remains in use turbarry activity and improved agricultural grassland. Some areas of the habitat have little vegetation, however other areas are regenerating with Reed and large sedge swamp vegetation, Purple-moor grass, heather, Cross leaved Heath, Bog Myrtle and Bog Asphodel and also areas with common scrub.

Species such as the Marsh Fritillary butterfly, bats, Otter and Badger were also identified following analysis. Many bird species activities were also considered during the proposed projects design including the Hooper Swan, Golden Plover, Hen Harrier and Goose to name a few.

Following this environmental analysis, the proposed development is not considered to significantly affect any of the key ecological receptors identified.



Water

Topography at the proposed project study area is generally flat and low-lying with ground elevations ranging from 0-5m OD. The proposed project is located in the Tralee Bay Feale Catchment and is bordered by the Brick river to the west and the River Feale to the east. These two watercourses confluence to the north of the proposed project, forming the Cashen River Estuary. The Lower River Shannon SAC is located immediately to the west, north and east of the proposed project while the Cashen River Estuary pNHA is also located to the northeast along the upper tidal reaches of the Feale River. Flood embankments have been installed along the Brick and Feale Rivers. The proposed project is not situated within any environmentally designated areas.

If this project is consented a drainage management and surface water monitoring program will be employed to control water during construction activities. This will ensure that surface runoff from the project areas will not decrease the current water quality. Impacts on water during the construction phase of the project will be imperceptible to none. Based on proposed mitigation measures integrated into the proposed projects design, there is no potential for significant impacts on the hydrology and groundwater as a result of the proposed project development.

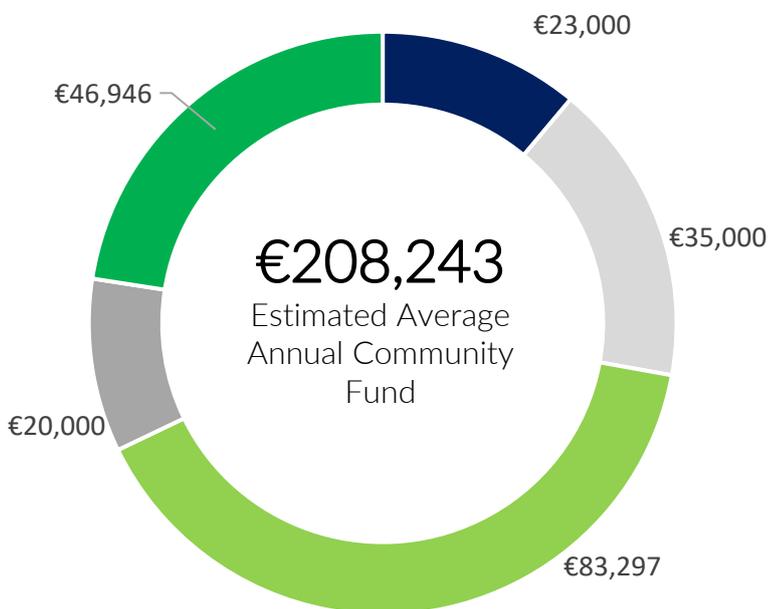
Community Benefit

The proposed Ballynagare wind farm will require approximately a €46.2 million investment and will provide sustainable, low carbon energy generation infrastructure to meet Ireland's growing demand. The development benefits to the local community include significant investment in local infrastructure such as roads and electrical systems, local job creation, and a contribution of €8.6 million in County Council rates over the project lifetime.

The proposed Ballynagare Wind Farm will also provide a community fund calculated in accordance with the Renewable Electricity Support Scheme (RESS) Terms and Conditions at €2 per MWh of electricity produced by the project. This is to be made available to the local community for the duration of the RESS (15 years). The average capacity factor of wind energy projects in Ireland is 28.3% (SEAI, 2019). Assuming this efficiency, and a capacity of 42 MW, the community benefit fund would amount to an average of €208,243 per annum over the 15 RESS period. The actual fund will vary around the average from year to year, depending on wind conditions. Onsite wind measurement suggest that the proposed Ballynagare wind farm will be capable of achieving an above average capacity factor, and therefore a larger community fund.

This fund is proposed to be divided as per the illustration in the chart below. An annual minimum payment of €1,000 will be provided to each household within 1km of any Ballynagare Wind Farm turbine. An annual minimum payment of €500 will be provided to each household located between 1km and 1.5km of a turbine. These payments will be fixed and will not fluctuate. 40% of the fund, amounting to approximately €83,297 per year in this example, will be allocated to not-for-profit community enterprises, with an emphasis on low-carbon initiatives. The remainder of the fund will be directed towards local clubs, societies and initiatives. We welcome any suggestions from the community on suitable local projects that could be supported under this initiative.

Ballynagare Indicative Community Fund Allocation



- Combined Fund for Households <1km distance
- Combined Fund for Households >1km, <2km distance
- Not-for-profit community enterprises
- Fund administration
- Local initiatives, clubs and societies

71

Direct jobs in construction phase

17

Highly skilled jobs over project lifetime

€ 46.2 million

Investment in Irish infrastructure

€ 3.1 million

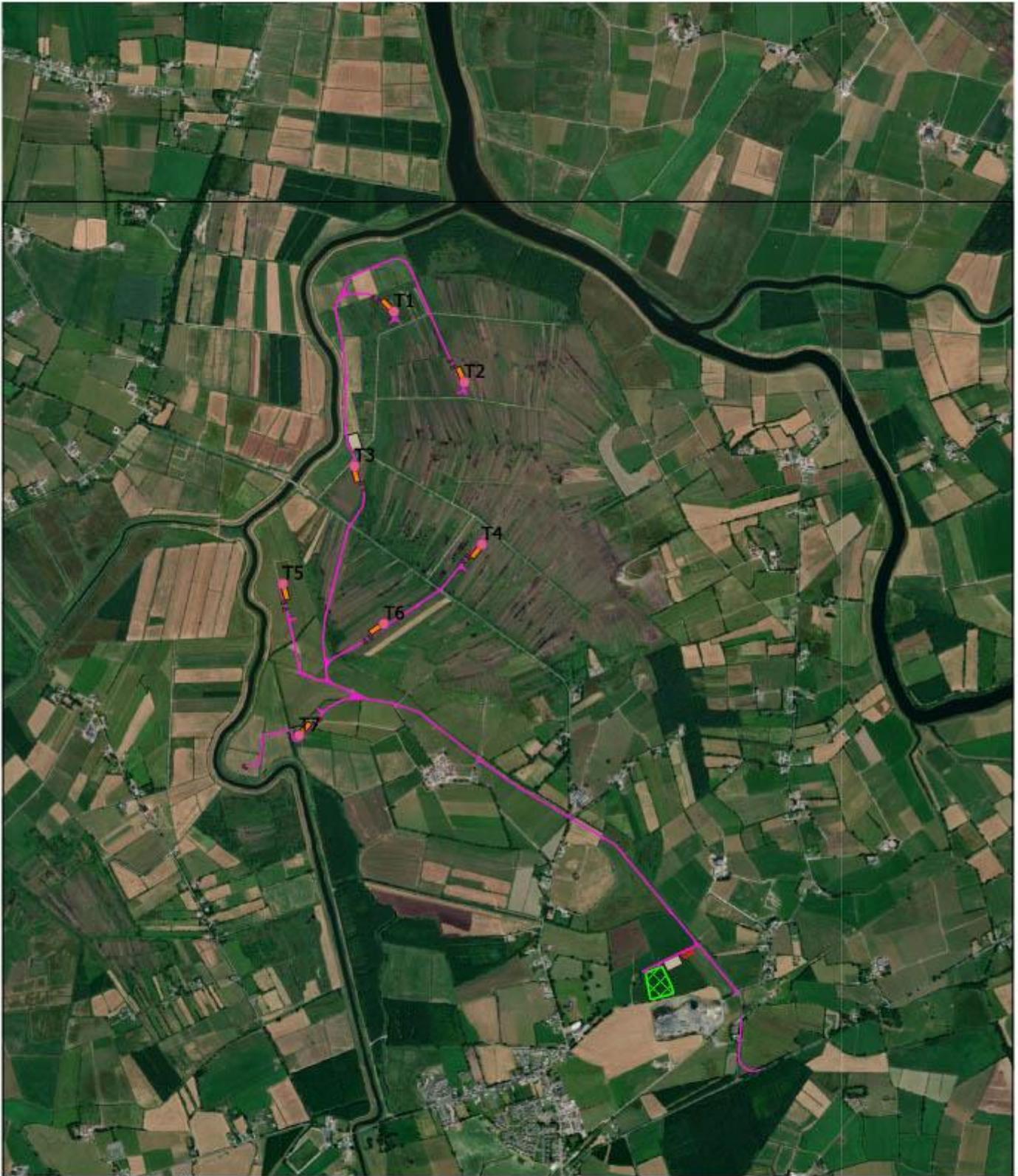
Total Community Fund Contribution

€ 10.1 million²

County Council Rates Contribution

1 – Over 15 year RESS contract

2 – Estimated €8,000 per mega watt installed for 30 year project lifespan



Map Legend

- Proposed Turbine Location
- Proposed Site Roads
- Proposed Borrow Pit
- Proposed Construction Compounds
- Proposed Hardstand
- Proposed Met Mast
- Proposed Substation



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Site Location Map	
<small>Project Title</small> Ballynagare Wind Farm	
<small>Discipline</small> TB	<small>Checked by</small> AK
<small>Project No.</small> 200512	<small>Drawing No.</small> Figure 1
<small>Scale</small> 1:25000	<small>Date</small> 15/09/2021
MKO Planning and Environmental Consultants <small>Team Road, Galway Ireland, H91, V9W4 +353 (0) 91 735611 email: info@mkiconsultants.ie Website: www.mkiconsultants.ie</small>	

Contact Us

We welcome conversation, engagement and interaction with you on any aspect of how we are progressing the Ballynagare project proposal.

As previously communicated via project webinars and newsletters, EMPower intend to submit the planning application for the proposed Ballynagare Wind Farm project over the coming weeks. We will place notice of this in the Kerryman newspaper as well as posting project updates on the project website to further inform interested stakeholders of this milestone. Following this, an opportunity for the public to comment further on this planning application will also be available via the planning process. All submitted planning documentation will be available on the Ballynagare project website for public viewing.

There will also be a dedicated On-line Project Community Consultation room launched over the coming weeks where you can view further detailed project information including an interactive photo viewer depicting the project as it would look if built out. Once launched, access will be available through our project website at www.ballynagarewindfarm.ie.

We will remain contactable through phone, email and by post throughout this planning application process. If you would like to chat about this proposed project further please contact us via any of the below means.

Website : www.ballynagarewindfarm.ie

Email : ballynagare@emp.group

Phone : 01 588 0178

Write : EMPower, 2 Dublin Landings, North Wall Quay, North Dock, Dublin 1

