

## FREQUENTLY ASKED QUESTIONS

Please find below responses to the most common questions raised during one-to-one consultations within the local community.

### 1. Health

***What impact will the wind farm have on health of all neighbours (including animals)?***

#### Answer

A detailed and systematic assessment of the potential impacts on Population and Human Health as a result of the proposal has been undertaken as part of the Environmental Impact Assessment (EIAR) for the proposed Development at Lyrenacarriga . The findings of this assessment and details of related measures proposed in order to protect the surrounding environment from any potentially negative effects on Human Health will be available for review within the EIAR which will be submitted as part of the Planning Application.

There is no empirical evidence to suggest that the existence of a wind farm has an impact on human health (*Common Concerns about Wind Power - 2<sup>nd</sup>ed Centre for sustainable Energy, June 2017*). RWE has designed a windfarm that optimizes location of turbines so that they both capture the maximum energy possible whilst also following best practice guidelines. See also responses to FAQs on Shadow flicker, Noise and Ecology .

### 2. Shadow Flicker

***What is shadow flicker? How does this impact on health?***

#### Answer

Shadow flicker is the name given to a phenomenon caused when the sun is behind the turbine blades as it rises or sets, casting a moving shadow over a small opening in a building such as a window, creating a flickering effect within the building.

The ‘*Wind Energy Development Guidelines for Planning Authorities*’ (Department of the Environment, Heritage and Local Government, 2006) set out limits for the control of shadow flicker from wind energy developments to prevent any nuisance and to prevent any impacts on health. Current guidance limits allow shadow flicker to 30 minutes per day for a maximum of 30 hours per year. The Lyre Wind Farm has been designed to utilise advancements in turbine technology to ensure that the effect of shadow flicker is eliminated and will not affect any inhabited properties.

The Department of Housing, Planning and Local Government (DHPLG) published “*Draft Revised Wind Energy Development Guidelines*” in December 2019 and these draft guidelines were under public consultation until 19<sup>th</sup> February 2020. The draft guidelines take account of a previous “*Targeted Review*” consultation undertaken in by the DHPLG 2013 and subsequent detailed engagement between the relevant Government Departments culminating in a “*Preferred Draft Approach*” , which was announced in June 2017 to inform and advance the conclusion of the review.

The design of the proposed development at Lyrenacarriga has taken account of the 2017 “*Preferred Draft Approach*” and has also taken account of the provisions of the 2019 “*Draft Revised Wind Energy Development Guidelines*”. At time of writing, the 2019 *Draft Revised Wind Energy Development Guidelines* are not yet in force may be subject to further change on foot of completion of the public consultation process, so the relevant guidelines remain those published in 2006.

Should the revised Wind Energy Development Guidelines be finalised in advance of a planning decision being made on the proposed development, with current shadow flicker thresholds being amended, if necessary, the proposed development can comply with any revised shadow flicker requirements by implementing mitigation by design (as detailed in the EIAR) through turbine selection and use of the flexible built-in turbine control systems.

### 3. Noise

***What level of noise will come from these turbines?***

#### Answer

The 'Wind Energy Development Guidelines for Planning Authorities' (Department of the Environment, Heritage and Local Government, 2006) set out strict limits for the control of noise from wind energy developments to prevent undue noise pollution and to prevent any impacts on health.

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The design of the proposed development at Lyrenacarriga has taken account of the 2017 "Preferred Draft Approach" and has also taken account of the provisions of the 2019 "Draft Revised Wind Energy Development Guidelines". At time of writing, the 2019 Draft Revised Wind Energy Development Guidelines are not yet in force may be subject to further change on foot of completion of the public consultation process, so the relevant guidelines remain those published in 2006.

Should the revised Wind Energy Development Guidelines be finalised in advance of a planning decision being made on the proposed development, with current noise thresholds being amended, if necessary, the proposed development can comply with any revised noise requirements by implementing mitigation by design (as detailed in the EIAR) through turbine selection and use of the flexible built-in turbine control systems.

### 4. Infrasound

***What will the level of the infrasound be coming from these turbines? What impact will this have on health of all neighbours?***

#### Answer

Infrasound is a common term given to a specific range of low-frequency noise normally considered inaudible to the human ear. Low Frequency Noise is noise that is dominated by frequency components less than approximately 200Hz, whereas infrasound is typically described as sound at frequencies below 20Hz. As noted in the Environmental Protection Agency document 'Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3)' (2011), there is no empirical evidence that infrasound emanating from a wind farm causes ill health.

A German report entitled "Low Frequency Noise incl. Infrasound from Wind Turbines and Other Sources" presents the details of a measurement project which ran from 2013. The report was published by the State Office for the Environment, Measurement and Nature Conservation of the Federal State of Baden-Württemberg in 2016 and concluded the following in relation to infrasound from wind turbines:

*"The measured infrasound levels (G levels) at a distance of approx. 150 m from the turbine were between 55 and 80 dB(G) with the turbine running. With the turbine switched off, they were between 50 and 75 dB(G). At distances of 650 to 700 m, the G levels were between 55 and 75 dB(G) with the turbine switched on as well as off."*

*"For the measurements carried out even at close range, the infrasound levels in the vicinity of wind turbines – at distances between 150 and 300 m – were well below the threshold of what humans can perceive in accordance with DIN 45680 (2013 Draft)"*

*"The results of this measurement project comply with the results of similar investigations on a national and international level."*

## 5. Layout

***When will we see the final turbine layout?***

### **Answer**

The finalised proposed turbine layout for our planning application is now available to view on the project website [www.lyrewindfarm.com](http://www.lyrewindfarm.com)

***Why has the number reduced from 25 to 17 turbines?***

### **Answer**

At our public information event in May 2018, we presented the potential for up to 25 turbines within the viable area of the proposed site. It has been a lengthy process to get to the final turbine layout (comprising 17 turbines), during which we have undertaken extensive environmental and technical surveys as well as consultation with local residents within 2km of the site, to ensure that we have sensitively designed the most effective wind farm that will help to deliver Ireland's 2030 energy target under the Climate Action Plan. The wind farm design has been governed by national guidance on many criteria including; noise, set back distance and shadow flicker, ecology, hydrology & hydrogeology as well as comprehensive environmental impact assessments.

***Is the 700m set back distance measured from the main dwelling or the boundary of the property?***

### **Answer**

The 700m set back distance is measured from each dwelling to the base of nearest turbine. This setback distance exceeds the requirements of the *Wind Energy Development Guidelines for Planning Authorities' (Department of the Environment, Heritage and Local Government, 2006)* and also exceeds the requirements of the 2019 "Draft Revised Wind Energy Development Guidelines" which stipulate a setback distance of 4 times tip height, which in the case of the Lyrenacarriga proposal would be 600m .

## 6. Aviation & Atmospheric Interference

***What will the effects of the red lights on top of the turbines during the night be?***

### **Answer**

On successful grant of planning, RWE will consult with the Irish Aviation Authority (IAA) to establish if any turbines will require aviation warning lights.

***What are the impacts on climate and air quality?***

### **Answer**

Onshore wind farms by their very nature tackle the issue of climate change and improve air quality by reducing the use of fossil fuels. The calculations of total carbon dioxide (CO<sub>2</sub>) emission savings and payback time for the proposed development will be outlined in the EIAR and is dependent on the final turbine choice.

***Will the turbines affect drone activity & recreation?***

### **Answer**

Turbines have no effect on drone functionality. Permission to launch a drone relies on landowner consent. After construction, many of the tracks could be used for recreational walking and mountain biking.

## 7. Ecology

### ***What are the impacts on flora and fauna?***

#### **Answer**

A detailed and systematic assessment of potential impacts on Ecology as a result of the proposal has been undertaken as part of the Environmental Impact Assessment (EIA) for the proposed Development at Lyrenacarriga . The potential effects of the proposed development on avifauna, terrestrial and aquatic and flora and fauna during the construction, operation and decommissioning phases have been assessed. The findings of this assessment and details of mitigation measures proposed in order to protect the surrounding environment from any potentially negative impacts on Ecology will be available for public within the EIAR which will be submitted as part of the Planning Application.

Under the European Habitats Directive, the proposed development is subject to the Article 6(3) Appropriate Assessment (AA) Process. An AA Screening and a Natura Impact Statement, have been prepared in accordance with the European Commission guidance document Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001) and the Department of the Environment's Guidance on the Appropriate Assessment of Plans and Projects in Ireland (December 2009, amended February 2010).

### ***What effect will this development have on local equine enterprise and agriculture enterprise?***

#### **Answer**

On foot of a number of queries we received during our initial consultation, we engaged with agricultural and equine businesses located in close proximity to existing operational wind farms in a number of different parts of the country to ask them what their experience has been in this regard. Following this engagement, offers have been made to a number of business owners local to the Lyrenacarriga proposal to facilitate meetings between them and the business owners we approached for feedback. These offers remain open and if anyone with concerns or queries wishes to avail of such a meeting please get in contact with a member of the project team.

## 8. Environmental Impact Assessment Report (EIAR)

### ***When will the EIAR be available?***

#### **Answer**

The EIAR will accompany the planning application and will be available to the public to read from the start of the public consultation process, which begins after the planning application is submitted. The information gathered during our community consultation will also be fed directly back into the EIAR to further inform the final design of the windfarm. These surveys are nearly completed and include the topics listed below:

|  |                          |                        |
|--|--------------------------|------------------------|
| Population & Human Health                        | Hydrology & Hydrogeology | Biodiversity Birds     |
| Shadow Flicker                                   | Air and Climate          | Landscape & Visual     |
| Biodiversity Flora & Fauna                       | Noise and Vibration      | Lands, Soils & Geology |
| Archaeological, Architecture & Cultural Heritage | Material Assets          |                        |

## 9. Drinking Water & Aquatic Ecology Impacts

### ***What will be the impacts on water and sources of our water supply?***

#### **Answer**

As part of the EIA process, a hydrological and hydrogeological consultant has carried out a comprehensive investigation and evaluation of the surface and ground water systems specific to the site and surrounding catchments. Irish Water have additionally been engaged to ascertain any necessary additional information in relation to the water treatment facilities at both Youghal and Tallow.

Information pertaining to these treatment plants, the feed-in sources and associated facilities have been inspected and traced. From this, mitigation strategies have been formulated to protect water quality. In general, irrespective of the direction of groundwater flow, the hydrological assessment for the EIAR assumes that all properties located around the Lyre site have a groundwater well and the appropriate measures against any potential effects on these or any water supply have been proposed to be employed on this basis.

***What are the impacts if peat bog areas get “sealed” to provide foundation for the turbines?***

**Answer**

From a water management point of view, this site is considered by the project team, hydrologists and engineers, as relatively benign particularly due to the fact that there is no peat present.

***Are there provisions to prevent water getting heavily silted?***

**Answer**

As part of the EIA process, baseline silt levels have been established relative to the appropriate catchments. A proposed Construction Environmental Management Plan (CEMP) has been prepared and will form part of the EIAR. During the construction phase, a robust Construction Environmental Management Plan (CEMP) will be implemented, including detailed design implementation and monitoring programme to prevent siltation. The detailed CEMP will be reviewed, and approved, by the relevant authorities including Inland Fisheries Ireland (IFI) in advance of the commencement of construction.

***What are the impacts to aquatic life?***

**Answer**

As part of the EIA process any sensitive aquatic ecosystems within, adjacent to and down gradient of the proposed project study area have been assessed. The findings of this assessment and details of mitigation measures proposed in order to protect the surrounding environment from any potentially negative impacts on aquatic ecology will be available for public within the EIAR which will be submitted as part of the Planning Application.

## **10. Traffic Management Plan, Local Infrastructure & Services Provider**

***What will be the impacts on local infrastructure and use of local roads?***

**Answer**

The nature of the proposed development is that it would result in increased traffic movements during its construction phase, but negligible increases in traffic during its operational phases. A traffic impact assessment has been completed and a proposed traffic management plan (TMP) has been prepared and will form part of the EIAR. Should this project attain planning permission, further consultation with local authorities and roads engineers will be completed. Once consultation with local authorities is completed a finalised TMP will be established including designated delivery routes, monitoring and inspection programmes and design upgrade of roads as required. Advance notice of traffic disruption and diversions will be advertised and communicated locally ahead of commencement of construction works. Primary commuting routes should not be impacted as part of the TMP.

***What are the impacts on mobile phone / mobile broadband / TV reception?***

**Answer**

Scoping and consultation with national and regional broadcasters has been undertaken as part of the EIA process. This consultation together with a robust assessment completed as part of the EIA has confirmed that the current layout has no turbines within areas requested to be left clear by consulted telecoms utilities and broadcasters. Subject to planning approval and prior to the

commencement of construction , a follow up pre-construction telecommunications survey would be conducted to assess communication infrastructure in further detail , including reception and coverage locally. This will ensure that any necessary mitigation measures as identified and proposed in the EIAR as part of the assessment are in put in place to avoid any potentially negative impacts on telecommunications .

The ‘*Wind Energy Development Guidelines for Planning Authorities*’ (Department of the Environment, Heritage and Local Government, 2006) states that interference with broadcast communications can be overcome for example by the installation of deflectors or repeaters mounted on mitigation masts if required.

## 11. Tourism

***What will the impacts on tourism be?***

### Answer

There is no evidence that wind farms negatively affect tourism. With regard to recreation and tourism assets in the area, no direct or indirect negative effects are expected during the construction or operation of the proposed development.

BiGGAR Economics undertook an independent study in Scotland in 2016, entitled ‘*Wind Farms and Tourism Trends in Scotland*’. Overall, the study stated that there is no negative relationship between the development of onshore wind farms and tourism employment within the Scottish economy, at local authority level, or areas immediately surrounding wind farm development.

A Fáilte Ireland survey found that of 1,000 domestic and foreign tourists who holidayed in Ireland during 2012, over half of tourists said that they had seen a wind turbine while travelling around the country. Of this number of tourists, 21% claimed wind turbines had a negative impact on the landscape. However, 32% said that it enhanced the surrounding landscape, while 47% said that it made no difference to the landscape. Almost 75% of respondents claim that potentially greater numbers of wind farms would either have no impact on their likelihood to visit or have a strong or fairly strong positive impact on future visits to the island of Ireland. (*Fáilte Ireland Newsletter 2012/No.1 ‘Visitor Attitudes on the Environment: Wind Farms – Update on 2007 Research’*).

## 12. Carbon footprint of turbine manufacture & construction

***What amount of energy and CO<sub>2</sub> is involved in making the turbines?***

### Answer

The EIAR for the proposed development includes a detailed analysis of the Carbon Dioxide (CO<sub>2</sub>) losses and savings associated with the proposed development. The model used for calculating CO<sub>2</sub> losses is based on the ‘*Calculating carbon savings from wind farms on Scottish peat lands*’ methodology, established in 2008 (and updated in 2011) by scientists at the University of Aberdeen and the Macaulay Institute, with support from the Rural and Environment Research and Analysis Directorate of the Scottish Government, Science Policy and Co-ordination Division. While there is no peat present at the proposed development site, the Macaulay Institute model can be used to calculate all potential CO<sub>2</sub> expected to be generated by proposed wind farm, associated with the manufacture, transportation and erection of turbines, including felling of forestry and the removal of vegetation.

The CO<sub>2</sub> offset, or savings, associated to the proposed wind farm has also been calculated, based on the rated capacity of the proposal (in MW) , the capacity or load factor which takes into account the intermittent nature of the wind, the availability of wind turbines and array losses etc., the carbon load in grams per kWh (kilowatt hour) of electricity generated and distributed via the national grid. The carbon load figure is provided annually by the Sustainable Energy Authority of Ireland. This calculation shows how many tonnes of CO<sub>2</sub> will be displaced / saved per annum as a result of operation of the proposed wind farm.

Overall, for the majority of wind farms, the amount of CO<sub>2</sub> that is lost to the atmosphere as a result of their construction and operation is offset by the CO<sub>2</sub> savings made by the wind farm within approximately its first year of operation.

## 13. Cumulative Effect on the Neighbourhood & Property

***What cumulative impact will this project have on the value of the neighbourhood?***

### Answer

Evidence from operational wind farms indicates that a well-designed and implemented project, in conjunction with the community benefit fund and local business rates contribution, has indirect positive effect on the local area. Making use of new and existing tracks as sport and leisure facilities (e.g. in the form of nature trails, walking routes, cycle tracks, outdoor gyms and equine trails) can be a welcome addition to the local community see <https://www.scottishpower.co.uk/whitelee/> and <https://www.bordnamona.ie/corporate-responsibility/amenities/mount-lucas/>

Under new industry guidelines, community benefit funding underpins project proposals and approval. RWE envisage the implementation of a community benefit fund that would be set up and designed to enable the community themselves to manage and implement funding for clubs or groups, local projects, develop facility's and amenities that they would like to see.

***What impact will the project have on the property prices?***

#### **Answer**

There are no known empirical studies carried out on the impacts of wind farms on property prices in Ireland. There are however a number of studies carried out in the UK and the U.S. A research study conducted by The Scottish Climate exchange in 2016 to estimate the impact on house prices from wind farm development, suggested that there is no evidence of a consistent negative effect on house prices in the vicinity of wind farm developments (Professor Gwilym Pryce, Dr. Stephen Heblich, Dr. Dan Olnier, & Professor Chris Timmins – Sheffield University, University of Edinburgh, University of Bristol, Duke University 2016). The study included the analysis of over 500,000 property sales in Scotland between 1990 and 2014 and further develops studies conducted in England relating to the impact from wind farms on house prices (Gibbons 2014). An influencing factor mentioned in the study that had a bearing on property price was the fact that some wind farms examined provided economic or leisure benefits (e.g. community funds or increasing access to rural landscapes by providing tracks for cycling, walking or horse riding etc.)

## **14. Community Consultation**

***Can you clarify which individuals and/or groups have been consulted within the community?***

#### **Answer**

- A public information day was held 31st May 2018 in KGK Community Centre in Knockanore from 4pm – 9pm.
- A door – to – door engagement programme ran from August to October 2018, where every house within 2km of the proposed project was approached. In the event of no one being home, contact details were left to facilitate a call back.
- Members of the community continue to be invited to get in touch with queries or concerns about the project by calling **056 771-5782** or emailing [lyre@rwe.com](mailto:lyre@rwe.com). The project team will be available to discuss the final layout and results of the EIA. Also we will have useful hyperlinks to references and studies mentioned in this document on the website.
- A letter was delivered to all houses within 2km of the proposed project in November 2018. It listed the queries and concerns locally up to that point. A Frequently Asked Questions section was added to the project website in March 2019 on the basis of feedback and follow up queries received in relation to the proposal and the information provided to date.

We would like to hear from you about this proposed project. Please contact us on **056-771-5782** or at [lyre@rwe.com](mailto:lyre@rwe.com) to organise a private one to one consultation with a member of the innogy project team to discuss any points mentioned in this letter or renewable energy in general and how it can benefit your community.