

**MWP**

**Scoping Report for Environmental  
Impact Assessment Report  
Carrownagowan 110 kV Grid Connection**

**FuturEnergy Carrownagowan DAC**

**November 2022**

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## **1. Introduction**

MWP has been commissioned by FuturEnergy Carrowmagowan DAC, to prepare an Environmental Impact Assessment Report (EIAR) to accompany the planning application to An Bord Pleanála (ABP) for a 25.16km underground 110kV grid connection (herein referred to as the ‘proposed development’) which will provide a connection to the national grid from the consented Carrowmagowan Wind Farm in Co. Clare.

MWP commenced pre-application consultation for this Application with ABP on the 20th of October 2022 (under Section 182A of the Planning and Development Act 2000 (as amended)). At the conclusion of the pre-application consultation meeting the board’s representatives indicated a preliminary view that the proposed development was strategic infrastructure but that a final determination will be made by the ABP in due course. On this basis we anticipate the application for the proposed development will be made directly to ABP.

### **1.1 Scope of The Report**

This Scoping Report defines the scope of the proposed development EIAR and outlines the approach and the relevant inclusions in both the EIA process and the resultant EIAR.

The Report provides information about the proposed development and sets out the proposed subject matter of the EIAR identified as relevant at this stage of the EIA process.

### **1.2 Purpose of the Report**

The purpose of this Report is to set out the scope and inclusions of the EIA and EIAR. This document has been prepared on behalf of FuturEnergy Carrowmagowan DAC and may be useful when liaising with the Planning Authority and other Statutory Consultees about the proposed development and the scope and content of the EIAR being prepared for the Proposed Development. This will ensure that the EIAR addresses concerns of all Relevant Stakeholders, that the necessary studies will be undertaken and that the EIA is appropriate to particular local circumstances and the scale of the proposed project.

## **2. The Applicant**

FuturEnergy Ireland is a joint venture company owned by Coillte and ESB that launched in November 2021. For the purposes of this application, a dedicated company and a subsidiary of FutureEnergy Ireland in the name of FuturEnergy Carrowmagowan DAC was established.

Combining the nation’s strongest assets and expertise in renewable energy development, FuturEnergy Ireland’s mission is to maximise the potential of our unique wind and land resources and accelerate Ireland’s transformation to a low carbon energy economy.

FuturEnergy Ireland’s ambition is to develop more than 1GW of renewable energy capacity by 2030 and to make a significant contribution to Ireland’s commitment to produce 80% of electricity from renewable sources by the end of the decade. FuturEnergy Ireland want to do this by driving the development of the highest quality, locally supported green energy projects in Ireland.

## **2.1 Background**

Planning permission was granted by ABP for the Carrownagowan Wind Farm on 29/09/2022 and the Applicant is now seeking permission under section 182A of the Planning and Development Act 2000, as amended, for the proposed development. (As discussed above, a final determination under Section 182(E) is pending from ABP but a preliminary view has been provided).

As the project assessed within the 2020 Carrownagowan Wind Farm EIAR included both the wind farm development and the proposed development, this is being used as the as a reference point for the assessments undertaken for this EIAR. Baseline conditions and previous assessments are being updated where deemed necessary to account for any changes since the 2020 wind farm EIAR was completed.

## **3. Description of Proposed Development**

### **3.1 Site Location and Description**

The proposed developed begins at the consented Carrownagowan wind farm substation within the townland of Caherhurly. Once the proposed development leaves the wind farm lands, the 25.16km grid connection infrastructure will be installed within the body of the public road network to Ardnacrusha substation along the proposed development site illustrated in Figure 3-1.

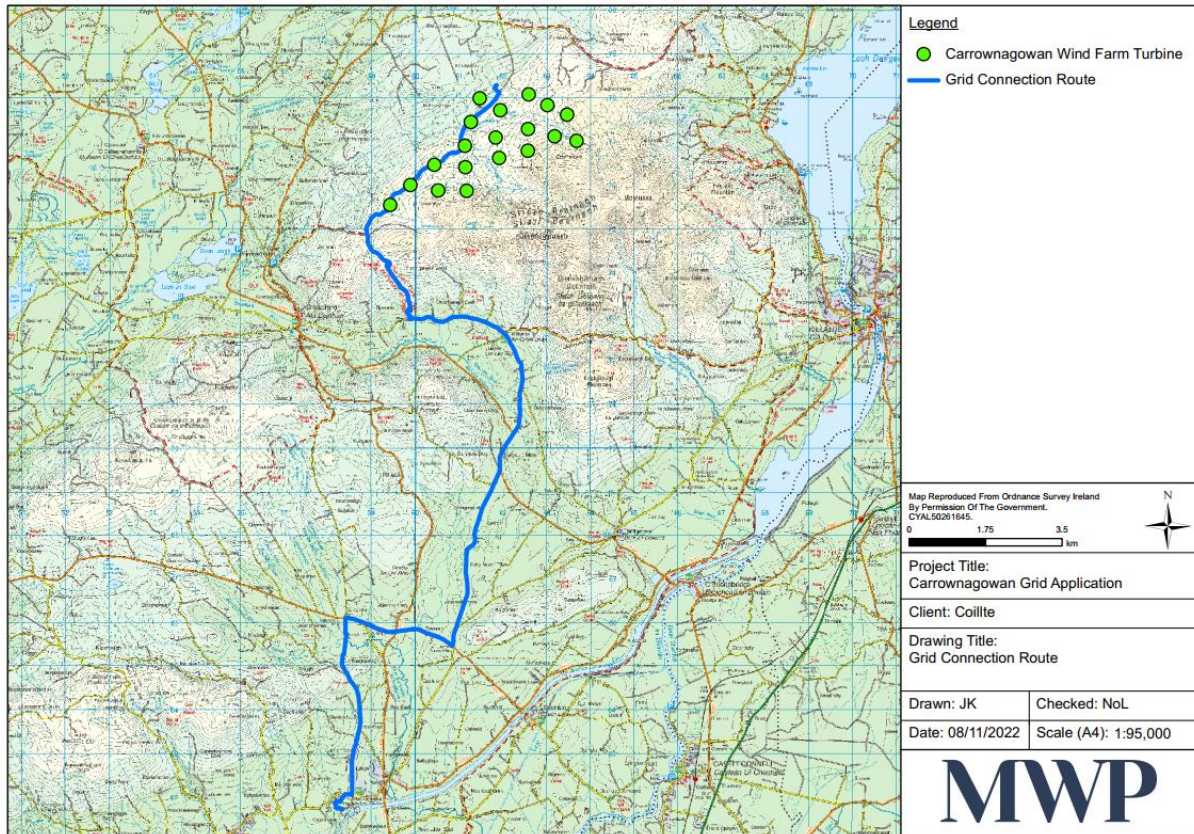


Figure 3-1 Site Location

### 3.2 Overview of Proposed Development

As shown in Figure 3.1, the individual turbines within the consented Carrownagowan Wind Farm will be connected electrically by underground cables to a new 110kV substation to be constructed within the wind farm site. The Carrownagowan Wind Farm substation will in turn be connected via an underground grid connection cable to the existing ESB owned 110kV substation at Ardnacrusha, County Clare which will allow the electrical energy generated from the wind farm to be exported onto the national grid.

The underground grid cable between the Carrownagowan Wind Farm and the existing 110kV substation in Ardnacrusha is almost entirely confined to the existing road network, diverging slightly from it at water course crossings and at some joint bay locations. The full length of the Carrownagowan Wind Farm grid connection route is 25.16km.

The proposed development begins at the proposed wind farm substation within the townland of Caherhurly. It will travel underground along the L-8218 Local road for a distance of 0.7km and along proposed internal wind farm roads within the townlands of Killokennedy and Cloongaheen West before emerging onto the L-30302 Local road. From here the grid connection cable will travel in a southern direction along the L-30302 Local road through the townland of Cloongaheen West for a distance of 2.5km until it reaches the L-7004 Local road. At this point the route will travel east along the L-7004 Local road through the townlands of Cloongaheen East and Kilbane for a distance of 2.3km until it reaches the village of Kilbane. The route will continue past the village of Kilbane along the L-3022 Local road through the townlands of Killeagy (Goonan), Ballymoloney, Cloonygonry Beg and Ballyquin More for a distance of 2.4km until it reaches the R466 Regional road. After this point the grid connection route will travel in a southwest direction along the R466 Regional road for a distance of 0.9km until it reaches the L-3044 Local road. From here the proposed development will travel along the L-3044 Local road through the

townlands of Springmount, Leitrim, Fahy More (South), Aharinaghmore and Ballybrack for a distance of 4.2km until it reaches Harols Cross Roads which is located on the R471 Regional road.

At Harols Cross Roads the proposed development will travel west along the R471 Regional road through the townlands of Tooreen, Aharinaghbeg and Cloghera for a distance of 2.6km before turning south onto the L-70661 Local road. The route will travel in a southern direction along the L-70661 Local road for a distance of 1.3km through the townlands of Cloghera and Trough until it reaches the L-7066 Local road. From here the grid connection route travels along the L-7066 Local road for a distance of 0.7km through the townlands of Knockdonagh and Roo West until it reaches the L-3054 Local road. At this point the proposed development continues to travel in a southern direction along the L-3054 Local road for a distance of 2.1km through the townlands of Lakyle and Glenlon South until it reaches the L-3056 Local road. Upon reaching this point the proposed development will travel west for a short distance of 0.2km along the L-3056 Local road before turning south into the ESB owned Ardnacrusha 110kV Substation located within the townlands of Castlebank and Ardnacrusha. Within the Ardnacrusha facility the underground grid cable will continue along existing internal roads and tracks and will connect into the existing GIS Substation building.

A full description of the proposed development will be provided in Chapter 2 of the EIA.

### **3.2.1 Construction Phase**

The active construction area will generally be only along a 100-200m stretch of any roadway at any one time. This daily rate and programme acceleration can be implemented by running 2 ducting crews at the same time at different parts of the Grid route subject to approval from local authority consent within the Traffic management plan. The construction works are estimated to take approximately 6-8 months and will overlap with the wind farm works. During the first 4 months the cable trenches will be constructed. The second 4 months will involve sequentially opening up all joint bays (these are pre-cast concrete chambers that will be required along the grid connection route over its entire length) and pulling electrical cables pulled through ducts and then joining each cable together. There is anticipated to be 35 joint bays with 2-3 days' work involved at each.

#### **3.2.1.1 Grid Route Components and Construction Approach**

This section provides a brief overview of the components and construction approach of the proposed development. Further detail will be fully set out in the Outline Construction Methodology - 110kV Underground Cable Connection report included in the Grid Connection Package in Volume III of the EIA.

##### **Excavation and Duct Installation**

The proposed development will be carried within a single cable trench which will be 1.315m in depth and 0.825m in width.

##### **Water Crossings**

There are a total of nine (9) no. major watercourse crossings along the proposed development, seven (7) by means of underground horizontal directional drill which will require a service trench (launch pit) for the drill in the road either side of the watercourse; and two (2) of the watercourse crossings by means of over-bridge solutions.

There will be no interactions with any watercourse.

##### **Joint Bays and Communication Chambers**

Joint bays are pre-cast concrete chambers will be required along the grid connection route over its entire length. They are required to join cables together to form one continuous cable. They will be located at various points along the proposed development approximately every 700 - 850 metres depending on gradients, bends etc. It is



proposed to install approximately 35 no. joint bays and communication chambers along the proposed development.

### 3.2.2 Operational Phase

#### 3.2.2.1 Grid Maintenance

It is unlikely that the proposed development will require much maintenance during its operation. The proposed development will be under the control of Eirgrid and any operational or maintenance aspects will be completed by them. In the event that the alternative underground cable route connection is utilised, no ongoing maintenance will be required. Any interaction with the underground cable route connection would relate to upgrading or replacement or dealing with a localised integrity issue. The proposed development will ultimately be an Eirgrid transmission asset and as such will managed by them.

## 4. Characteristics of Potential Impacts

A brief description of the likely impacts of the proposed development on the existing environment are outlined in Table 3-2.

Table 4-1 Potential Impacts

Environmental Factor	Potential Construction Phase Impacts	Potential Operational Phase Impacts
<b>Population and Human Health</b>	<p>The main construction phase impacts would be associated with the potential nuisance and disturbance caused by construction activities; for example:</p> <ul style="list-style-type: none"> <li>• Dust emissions from construction activities</li> <li>• Noise emissions during construction activities</li> <li>• Traffic nuisance during construction</li> </ul> <p>There may also be beneficial impacts to the local economy during construction with some increases in local economic activity and the generation of jobs.</p> <p>A Construction and Environmental Management Plan and Traffic Management Plan will be implemented during the construction phase will be reduce the likelihood and significance of potential impacts on residents within close proximity to the construction works.</p>	<p>Given the type of development, no impacts on population and human health are anticipated during operation.</p>
<b>Biodiversity</b>	<p>Potential impacts during the construction phase include:</p> <ul style="list-style-type: none"> <li>• Habitat loss and alteration during the installation of ducting.</li> <li>• Disturbance, and or displacement as a result of construction activities, and human presence.</li> <li>• Pollution of rivers and streams.</li> <li>• Spread of invasive species.</li> </ul> <p>The proposed development will be mainly confined to the public road network. A Construction and Environmental Management Plan will be implemented during the construction phase will be reduce the likelihood and significance of potential impacts on sensitive ecological receptors within close proximity to the construction works.</p>	<p>Given the type of development, no impacts on biodiversity are anticipated during operation.</p>
<b>Water</b>	<p>Potential impacts during the construction phase include:</p> <ul style="list-style-type: none"> <li>• Earthworks (Removal of Vegetation Cover, Excavations and Stock Piling) Resulting in Suspended Solids Entrapment in Surface Waters</li> </ul>	<p>Potential impacts on the water environment during operation are limited by virtue of the fact that the proposed development site is located underground and relatively static during the operational phase, with all construction works</p>



Environmental Factor	Potential Construction Phase Impacts	Potential Operational Phase Impacts
	<ul style="list-style-type: none"> <li>Excavation Dewatering and Potential Impacts on Surface Water Quality</li> <li>Potential Release of Hydrocarbons during Construction and Storage</li> <li>Release of Cement-Based Products</li> <li>Morphological Changes to Surface Watercourses &amp; Drainage Patterns by Watercourse Crossings and Culverts</li> </ul> <p>A Construction and Environmental Management Plan will be implemented during the construction phase will be reduce the likelihood and significance of potential impacts on receiving waterbodies.</p>	<p>being complete, and drainage and runoff will be clean.</p>
<b>Land and Soils</b>	<p>Potential impacts during the construction phase include:</p> <ul style="list-style-type: none"> <li>Disruption to existing traffic and access for local land owners and property owners/residents in the vicinity of the route.</li> <li>Excavation of soils, subsoils and bedrock which will result in temporary and transient disturbance of road surfaces, subsoil and bedrock.</li> </ul> <p>The proposed development will be mainly confined to the public road network which will reduce subsoil and bedrock excavation volumes.</p> <p>A Construction and Environmental Management Plan will be implemented during the construction phase will be reduce the likelihood and significance of potential impacts on receiving land and soils environment.</p>	<p>Minor excavations of replaced soils, subsoils, trench backfill material could be required along the proposed development if a fault occurred during the operational phase. These works would be temporary and short duration. Any material excavated during such works would however be reinstated back within the trench.</p>
<b>Noise and Vibration</b>	<p>Potential impacts during the construction phase include:</p> <ul style="list-style-type: none"> <li>Elevated noise levels for dwellings along the route from the excavation and road re surfacing machinery.</li> </ul> <p>A Construction and Environmental Management Plan will be implemented during the construction phase will be reduce the likelihood and significance of potential impacts on noise levels for sensitive receptors along the route.</p>	<p>Given the type of development, no noise impacts are anticipated during operation.</p>
<b>Cultural Heritage</b>	<p>No cultural heritage assets will be directly impacted by the construction of the proposed development.</p>	<p>Given the type of development, no impacts on cultural heritage assets are anticipated during operation.</p>
<b>Air and Climate</b>	<p>Potential impacts during the construction phase include:</p> <ul style="list-style-type: none"> <li>Emissions from vehicle exhausts,</li> <li>Dust generated from moving and transporting soil and materials in and around the construction site and on public roads.</li> </ul> <p>A Construction and Environmental Management Plan will be implemented during the construction phase will be reduce the likelihood and significance of potential impacts on air quality.</p>	<p>There will be no impacts associated with dust or vehicle emissions during the operational phase of the development due to the type of development.</p> <p>The underground electricity cabling has a positive effect on air quality during its operational phase as it facilitates the transmission of renewable energy, thereby reducing the emissions associated with traditional energy generation from fossil fuels.</p>
<b>Material Assets</b>	<p>Potential impacts during the construction phase include:</p> <ul style="list-style-type: none"> <li>An increase in road traffic levels due to construction related activities supplying and accessing the site using the existing road network</li> <li>Road closures</li> </ul> <p>A Traffic Management Plan will be implemented during the construction phase will be reduce the likelihood and significance of potential impacts on the existing road network.</p>	<p>During the operational phase, there will be periodic maintenance on site. This would generate a relatively low volume of vehicles, including occasional heavy vehicles.</p>

## 5. Environmental Impact Assessment Report (EIAR)

### 5.1 Scoping

The EIA Regulations require that the EIAR identifies likely significant environmental effects arising from a proposed plan or project. It is recognised in the EIA Regulations that not all environmental effects are significant. In order for environmental effects to be assessed, the key issues must be identified and included in the EIA.

The following key legislation and guidance will be consulted and adhered to:

- EU EIA Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment (2014 EIA Directive);
- Planning and Development Acts 2000 (as amended);
- Planning and Development Regulations 2001 (as amended);
- EU (Planning and Development)(Environmental Impact Assessment) Regulations 2018 (SI No. 216 of 2018);
- EPA Guidelines on Information to be Contained in Environmental Impact Assessment Reports Statements, 2022; and
- EPA Advice Notes on Current Practice in the preparation of Environmental Impact Statements, 2003 and draft Revised Notes 2015.

Under the 2014 EIA Directive and the new EIA Regulations 2018, a Scoping Opinion can be sought from the planning authority if required. It is envisaged that a formal scoping opinion will not be sought as the EIA Team are experienced in the assessment of grid connection routes and there will be engagement with the planning authorities throughout the process. However, this Scoping Report can be provided when liaising with the aforementioned Planning Authorities regarding the proposed development.

Statutory and Non-Statutory Consultations will also be carried out during the EIA and responses and input will inform the scope of the studies. Consultation will be conducted through letter and email for information sharing and phone calls and meetings as relevant.

### 5.2 EIAR Preparation and Format

The EIAR will be prepared in accordance with the requirements outlined in Schedule 6 of the Environmental Impact Assessment Regulations 2018 (S.I. No. 296 of 2018) and the aforementioned 2022 EPA Guidelines on Information to be contained in an Environmental Impact Assessment Reports.

It is proposed that the EIAR will be presented in 3 No. Volumes as follows;

- Volume 1: Non-Technical Summary
- Volume 2: Main Report
- Volume 3: Appendices to the Main Report

#### 5.2.1 Volume 1 – Non-Technical Summary

The Non-Technical Summary will provide a short overview of the project and the EIAR in non-technical terms. The summary is presented similar to the grouped format structure which discusses each environmental topic

separately and includes the information under the required sections (Existing Environment, Impacts of the proposed development, Mitigation Measures, Residual Impacts, Cumulative Impacts and Conclusion).

### 5.2.2 Volume 2 – Main EIAR

This document will provide a detailed description of the proposed development and contains specialist reports on each of the selected study areas. This document is prepared in the ‘Grouped Format Structure’ which examines each environmental topic area as a separate Chapter. This structure was selected for the Main EIAR as it facilitates straightforward investigation of individual topics.

As the project assessed within the 2020 Carrownagowan Wind Farm EIAR included both the wind farm development and the grid connection route, it was used as the basis for the assessments undertaken for this EIAR. Baseline conditions and previous assessments were updated where deemed necessary to account for any changes since the 2020 wind farm EIAR.

The following table summarises the envisaged contents for the Main EIAR.

**Table 5-1 Contents of Main EIAR**

Chapter	Contents
Introduction	Introduction to the EIAR and describes the requirement for the EIAR, and the overall methodology adopted for the EIA.  Summary of EIA consultation / consultees. The EIA team – describing who undertook assessments and/or contributed to the EIAR.
Description of the Proposed Development	Details on the proposed works associated with the proposal. It also describes the background to and need for the proposed wind farm, the policy context of the development.
Project Design - Civil Engineering	This chapter will further describe the principal engineering aspects of the proposed development, assesses the environmental and engineering constraints and provides an account of the design approach and design solutions to overcome potential environmental and engineering issues.
Main Alternatives Considered	This chapter will describe the alternative locations considered for the connection to the National Grid and the locations of the grid connection route.
Population and Human Health	Each technical chapter will be broadly structured as follows • Introduction; • Assessment methodology and significance criteria; • Baseline conditions; Description of baseline conditions; • Prediction of likely effects including cumulative effects; • Assessment of likely effects; • Identification of appropriate mitigation measures, including design changes; and • Assessment of residual (likely) environmental effects.
Biodiversity	
Water	
Land and Soil	
Noise and Vibration	
Cultural Heritage	
Air Quality and Climate	
Material Assets	
Interaction of the foregoing	Outlines the inter-relationship between the environmental assessment topics and ensures that an understanding of the full range of impacts and mitigation measures is provided.
Schedule of Mitigation Measures	A collective summary of the proposed mitigation measures for both the construction and operational phases of the proposed development.

Volume 2 of the EIAR contains the individual sections (or chapters) of the EIAR.

### **5.2.3 Volume 3 – Appendices to the Main EIAR**

This Volume will contain documentation and information in support of the main report such as details on the consultation process, maps, drawings, any additional specialist reports or other information gathered during the impact assessment process which may render the Main Environmental Impact Assessment Report too cumbersome.

## **5.3 Study Team**

MWP Engineering and Environmental Consultants are the Environmental and Engineering Consultants to the Applicant for the Proposed Development. The study team is a combination of in-house specialists and sub-consultants. The in-house environmental and engineering team at MWP specialises in wind farm development at both the pre-planning and construction phases. Specialist sub-consultants engaged for the purposes of the grid connection project are:

- Faith Bailey – IAC for Cultural Heritage and Archaeology
- Michael Gill – HES for water and hydrology
- TLI for design of grid connection cable

The full EIA team and their competencies will be outlined in Chapter 1 of the EIAR.

## **6. References**

EPA. (2022). Guidelines on the Information to be contained in Environmental Impact Assessment Reports. Environmental Protection Agency.

EU. (2014). Directive 2014/52/EU. Directive 2014/92/EU of the European Parliament and of the Council.

EU. (2017). Environmental Impact Assessment of Projects: Guidance on Scoping. European Union.