

Ballyfeeny Green Energy Project



Environmental Impact Assessment Report Volume II

Chapter 17 – Interrelated Effects

September 2025

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Acronyms

Term	Meaning
EIAR	Environmental Impact Assessment Report
GCR	Grid Connection Route
TDR	Turbine Delivery Route
EPA	Environmental Protection Agency
DECLG	Department of Environment, Community and Local Government
EC	European Commission
EIA	Environmental Impact Report
CEMP	Construction Environmental Management Plan
SWMP	Surface Water Management Plan
ECoW	Ecological Clerk of Works
WEDGs 2006	Wind Energy Development Guidelines 2006
Draft WEDG 2019	Draft Wind Energy Development Guidelines 2019
NIS	Natura Impact Statement

17 Inter-related Effects

17.1 Introduction

This Chapter considers the potential for effects across the environmental topics in **Chapters 5-15**, to interact and create an inter-related effect on a receptor group. Potential inter-related effects have been considered for the construction, operational and decommissioning phases of the proposed Project.

The proposed Project includes six no. turbines and all associated infrastructure including Turbine Foundations, Turbine Hardstands, Site Access Tracks, Wind Farm Internal Cabling, Grid Connection Route (GCR), Relay Tower, Onsite Substation and works required along the public road network for the two Turbine Delivery Route (TDR) options to facilitate the delivery of turbine components. A full description of the proposed Project is provided in **Chapter 2 – Project Description**.

The Applicant is in receipt of a notification of opinion by the Local Authority on design flexibility. The notification is provided in **Appendix 1.5 – DFR-25-1 Notification of Opinion by Local Authority**. This opinion from the Local Authority confirmed that it was *‘appropriate that the proposed application be made and decided before the prospective applicant has confirmed certain details of the application’*.

Chapter 1 – Introduction, Section 1.6 Approach to Design Flexibility, outlines with respect to the notification of opinion by the Local Authority, the Applicant in this EIAR, assesses three distinct Technology Options within the range outlined by the Local Authority and in accordance with the design flexibility parameters sought. **Chapter 1 – Introduction Table 1-3**, outlines the options and associated parameters that are used in the EIAR, comprising three potential turbines classified as Technology Option 1, 2 and 3.

Table 17-1 outlines the different environmental topics which have the potential to interact as a result of the proposed Project. Where interactions are identified, there are discussed in **Sections 17.4 to 17.15**.

17.1.1 Statement of Authority

This Chapter of the EIAR has been prepared by Rowan Engineering Consultants Ltd., (Rowan). Rowan has been providing environmental, ecological and planning services since the company was founded in 1998 to a broad range of clients.

Jessica Boyd is a Senior Environmental Consultant, having joined Rowan Engineering Consultants Ltd., in February 2024 with over 6 years' experience in Environmental Impact Assessment, in relation to Pharmaceutical, Aggregate Industry and Onshore Wind Developments. Additionally, Jessica's experience includes Environment and Planning preparation for Onshore Wind, Solar and Battery Energy Storage Systems across Ireland. Jessica holds a BSc in Environmental Management and MSc in Spatial Planning: Cities, Water & Climate Change.

Denise Meade has reviewed this Chapter. Denise has over 20 years' experience working on both public and private sector developments. Her experience lies in the environmental co-ordination of large infrastructure projects across a range of industries including renewable energy, roads, water and wastewater. She has managed all aspects of planning applications, with a focus on the technical review and delivery of EIARs. She is a Chartered Environmentalist (CEnv) and Chartered Water and Environmental Manager (C.WEM) and hold an MSc in Applied Environmental Science and AdvDip in Planning & Environmental Law.

17.2 Guidance

Relevant guidance taken into consideration in the preparation of this Chapter includes:

- European Commission (1999) Guidelines for the Assessment of Indirect and Cumulative Effects as well as Impact Interactions, (Office for Official Publications of the European Communities 1999);
- EPA (2015) revised Guidelines on the information to be contained in Environmental Impact Statements, draft, 2015;
- EPA (2015) Advice Notes on Current Practice in the Preparation of Environmental Impact Statements, Draft, 2015;
- Guidelines on the information to be contained in Environmental Impact Assessment Reports (hereafter referred to as the Environmental Protection Agency (EPA) Guidelines) (EPA, 2022);
- Guidelines for Planning Authorities and An Bord Pleanála on Carrying Out Environmental Impact Assessment (Department of Environment, Community and Local Government (DECLG), August 2018); and
- Environmental Impact Assessment of Projects – Guidance on the Preparation of the Environmental Impact Assessment Report (European Commission (EC), 2017).

A summary of the general environmental interactions is presented in **Table 17-1**.

17.3 Approach to Project Design

This Chapter summaries the assessment of interactions from the individual topic Chapters.

The individual Chapters have each established a respective approach in terms of assessing the three Technology Options and therefore the identification of an assessment approach is not considered applicable for this Chapter.

Refer to the EIAR Chapters (**Chapter 5-15**) for details on the assessment of the three Technology Options.

Table 17-1: Potential Interactions (Where C= Construction; D=Decommissioning and O= Operational;)

Inter-relationship Matrix	Population & Human Health	Biodiversity	Land, Soil and Geology	Water, Hydrology (Flood Risk Assessment) & Hydrology	Air Quality & Climate	Noise and Vibration	Landscape and Visual	Traffic and Transport	Archaeology, Architectural & Cultural Heritage	Material Assets	Shadow Flicker
Population & Human Health					O	O	O			O	C
Biodiversity				O							
Land, Soil and Geology	C/D	C/D				O					
Water, Hydrology (Flood Risk Assessment) & Hydrology	C/D	C/D	C/D								
Air Quality & Climate	C/D		C/D								
Noise and Vibration	C/D		C/D					O			
Landscape and Visual	C/D								O		
Traffic and Transport	C/D				C/D	C/D					
Archaeology, Architectural & Cultural Heritage			C/D				C/D				
Material Assets	C/ D			C/D	C/D						
Shadow Flicker											
C/D	Construction and/or Decommissioning Phase Interrelated Effect										
O	Operational Phase Interrelated Effect										

17.4 Discussion of Interactions

The interaction of effects relevant to the environmental topics have been addressed in the respective Chapters. This Chapter summarises the assessment of the interactions between the environmental topics in **Chapters 5-15**.

17.5 Population and Human Health Interactions

17.5.1 Population and Human Health, Land, Soils and Geology, Water, Hydrology (Flood Risk Assessment) & Hydrology and Air Quality and Climate

Construction Phase

During the construction phase, there is potential for interactions between Population and Human Health, Land and Soils, Water and Air Quality. The key interactions are associated with dust emissions, exhaust emissions from construction vehicles and plant and the potential for suspended solids, spills or leakages to result in water contamination. These aspects have the potential to impact on population (amenity) and human health. These potential effects and mitigation measures have been considered in **Chapter 7 – Land & Soils, Chapter 8 – Water, Hydrology (Flood Risk Assessment) & Hydrology** and **Chapter 9 – Air Quality and Climate**. The outcomes of each assessment are **Not Significant** in EIA Terms.

With the adoption of the mitigation measures detailed in **Chapters 7, 8 and 9**, the significance of any inter-related effects between Population and Human Health, Land and Soils, Water and Air Quality are considered **Not Significant** in EIA terms. There are no additional interrelated effects to those already considered in the chapters.

Operational Phase

There is no potential effects or interaction between Population and Human Health, Land and Soils and Water, Hydrology (Flood Risk Assessment) & Hydrology during the operational phase.

The operational phase of the proposed Project will provide long term, clean, renewable electricity, which will also support a decrease in electricity generated from fossil fuels. The proposed Project is aligned with current energy and climate policy and this was considered a **Long-Term, Positive and Significant** benefit to the climate and human health. In EIA terms, the effect is considered as **Significant**.

Decommissioning Phase

During the decommissioning phase, there will be some effects similar to those of the construction phase. **Chapter 7– Land & Soils, Chapter 8 – Water, Hydrology (Flood Risk Assessment) & Hydrology** and **Chapter 9 – Air Quality and Climate** detailed that the mitigation measures for decommissioning activities are the same as those proposed for the construction phase of the proposed Project. The significance of any inter-related effects on Population and Human Health during the decommissioning phase were considered to be **Not Significant** in EIA terms. There are no additional interrelated effects to those already considered in the chapters.

17.5.2 Population and Human Health and Noise and Vibration

Construction Phase

Chapter 10 – Noise and Vibration concluded that noise & vibration effects during the construction phase would range from **Significant** to **Imperceptible**. It was noted that any Significant effects would be **Brief** in duration and that the assessment considered a ‘worst case’ assessment, with all plant operating simultaneously (which is not expected to occur). The assessment describes a range of mitigation measures as detailed in *BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise* and that will be implemented during the construction phase. These measures are also detailed in **Appendix 2.1 – CEMP**.

On this basis, the significance of any inter-related effects on Population and Human Health associated with noise and vibration during the construction phase were considered to be **Not Significant** in EIA terms. There are no additional interrelated effects to those already considered in the Noise and Vibration Chapter.

Operational Phase

Once operational, there will be an interrelated effect between Noise and Human Health as the turbines and the Onsite Substation will generate noise which will propagate into the receiving environment. Noise modelling for the three Technology Options was undertaken within **Chapter 10 – Noise and Vibration**. The closest dwelling is located 599m from T02. In line with the WEDG 2006 and Draft WEDG 2019, all identified receptors are located more than 500 metres from the proposed turbines. The noise modelling determined that the proposed Project will operate within the established noise criteria. Interactions and associated mitigation have been considered in the respective chapters. On this basis, inter-related effects on

population and human health during the operational phase were considered **Not Significant** in EIA terms. There are no additional interrelated effects to those already considered in the Chapters.

Decommissioning Phase

During the decommissioning phase, there will be interactions between population and human and health, similar to overall noise levels as those calculated for the construction phase would be expected. **Chapter 10 – Noise and Vibration** concluded that any effects would be **Imperceptible**, which is **Not Significant** in EIA terms.

The mitigation measures that will be implemented in relation to any decommissioning activities are the same as those proposed for the construction phase of the proposed Project, and have been considered in the respective Chapters. The significance of any inter-related effects on Population and Human Health associated with noise and vibration during the decommissioning phase were considered to be **Not Significant** in EIA terms. There are no additional interrelated effects to those already considered in the respective Chapters.

17.5.3 Population and Human Health and Landscape and Visual

Construction Phase

The construction phase of the proposed Project will involve the temporary establishment of construction machinery, along with alterations to the landscape due to the erection of wind turbines. The presence of wind turbines will effectively change the landscape in the immediate area, thus, posing an interaction between Population and Human Health and Landscape and Visual. Additionally, there will be construction related visibility from public and residential receptors. Nonetheless, construction works are expected to take place over a short period of time (c. 18 months). As a result, construction works are considered short term in nature.

The aforementioned interactions between Population and Human Health and Landscape and Visual have been considered in the respective Chapters. The outcomes of these assessments are **Not Significant** in EIA Terms. There are no additional interrelated effects to those already considered in the respective Chapters.

Operational Phase

Public perception on wind turbines is detailed in **Chapter 5 – Population & Human Health**, which states that public perception to wind turbines in Ireland is largely positive in Ireland.

The operational phase is not expected to have perceptible visual impacts from receptors in proximity. Nonetheless, there remains a potential interaction between Population and Human Health and Landscape and Visual.

There were no perceptible operational phase visual effects noted at selected Viewpoints. However, there were some adverse, long-term effects noted prior to the deployment of mitigation. The interactions between Population and Human Health and associated mitigation has been considered within the respective Chapters. The outcome of those assessments is **Not Significant** in EIA Terms. There are no additional interrelated effects to those already considered in the respective Chapters.

Decommissioning Phase

Visual impacts at the decommissioning phase will be akin to the construction phase and will arise from frequent heavy vehicle movements and worker vehicles travelling to and from the site and using the site entrance, thus posing an interaction between Population and Human Health and Landscape and Visual.

The interaction and associated mitigation has been considered in the respective Chapters, which, for landscape and visual includes mitigation by buffering of residential receptors in consideration with the Draft WEDG 2019 minimum setback of 500m and greater than the setback distance of 4 times the tip height of the turbines.

Visual effects at the decommissioning phase are assessed as **Not Significant**, in EIA terms.

There are no additional interrelated effects to those already considered in the Chapters.

17.5.4 Population and Human Health and Traffic and Transport

Construction Phase

Potential effects of the proposed Project on the local road network are examined in detail in **Chapter 12 – Traffic and Transport**. During the construction phase, increased vehicle movements may give rise to indirect effects on human health and well-being, primarily through dust and noise emissions, thus posing an interaction between Human Health and Traffic.

However, mitigation measures detailed in respective Chapters, and additionally those stipulated within **Chapter 9 – Air Quality and Climate**, have been designed to minimise any effects and reduce the potential for concerns to nearby receptors.

Additionally, a **Construction Environmental Management Plan (CEMP)** (Appendix 2.1) along with a **Traffic Management Plan (TMP)** (Appendix 2.1.3) will be enforced once construction works commence onsite to control any potential effects on the surrounding road network are controlled and reduced where necessary.

With regards to Air Quality and Noise & Vibration which could potentially emanate from additional vehicles onsite during proposed works, it has previously been established in **Chapter 9 – Air Quality and Climate** and **Chapter 10 – Noise and Vibration**, that impacts on Air Quality and from Noise and Vibration will be short term and **Not Significant** in EIA terms.

There are no additional interrelated effects to those already considered within the respective Chapters.

Operational Phase

For Operations there are minimal traffic movements and imperceptible impacts. Therefore, there is no interaction with Human Health and Traffic during the operational phase.

Decommissioning Phase

Decommissioning interactions between Human Health and Traffic are expected to be comparable with the construction phase, but to a lesser extent as Turbine Foundations and Turbine Hardstands are to be left in situ and covered over so there will be no demolition, excavation and removal from the Site and in turn, no resultant haulage traffic generation. In EIA terms, the effect between Traffic and Human Health during the decommissioning phase is considered as **Not Significant**. Potential interactions and associated mitigation have been considered in the respective Chapters.

There are no additional interrelated effects to those already considered in the Chapters.

17.5.5 Population and Human Health and Material Assets

Construction Phase

During the construction phase, the proposed Project has the potential to interact with material assets, comprising of built services and infrastructure. This included Waste Infrastructure, Utilities Infrastructure (gas, water, electricity and broadband), telecommunication and aviation infrastructure. Land Use and Quarry activities although are considered a material asset are assessed in **Chapter 7 – Land, Soils & Geology**. The national, regional and local road

networks are also considered a material asset and are assessed in **Chapter 12 – Traffic and Transport**.

The interactions and associated mitigation has been considered in the respective Chapters, and the outcome following mitigation has been deemed **Not Significant** in EIA Terms.

There are no additional interrelated effects during the construction phase to those already considered in the respective Chapters.

Operational Phase

The proposed Project has potential to impact the aforementioned built services and Infrastructure during the operation phase. Interactions and associated and associated mitigation has been considered in the respective Chapters. **Chapter 14 – Material Assets** outlines following deployment of mitigation measures for the operation a phase of the proposed Project, the effect on material assets is considered to be **Not Significant** in EIA Terms.

There are no additional interrelated effects during the operational phase to those already considered in the respective Chapters.

Decommissioning Phase

During the decommissioning phase of the Project, the impacts are expected to be similar to those identified for the construction phase. Interactions between Human Health and Material Assets during the decommissioning phase have been considered in the respective Chapters, and the outcome following mitigation has been deemed **Not Significant** in EIA Terms.

There are no additional interrelated effects during the decommissioning phase to those already considered in the respective Chapters.

17.5.6 Population and Human Health and Shadow Flicker

Construction Phase

There is no potential effects or interaction between shadow flicker and human health during the construction phase.

Operational Phase

The proposed Project has the potential to impact and pose an interaction between population and human health during the operational phase, due to the shadow flicker effect from the proposed turbines.

Chapter 15 – Shadow Flicker presents an assessment of the likely significant shadow flicker effects for the proposed Project. The assessment identified the potential for significant effects as a result of shadow flicker on nearby receptors. Mitigation measures proposed in the chapter, include the implementation of an automatic shadow detection system during turbine manufacturing which will then shut down the turbine during periods where shadow flicker is predicted at any of the identified receptors, until the potential for shadow flicker ceases. Upon implementation of the proposed mitigation measures, it is assessed that there would be no residual adverse shadow flicker effects as a result of the proposed Project. The proposed Project would align with the Draft WEDG 2019 and would be well below the WEDG 2006 thresholds.

With the deployment of appropriate mitigation, as detailed within the respective Chapters, shadow flicker effects are considered to be **Not Significant** in EIA terms.

There are no additional interrelated effects during the operational phase to those already considered in the respective Chapters.

Decommissioning Phase

There is no potential effects or interaction between shadow flicker and human health during the decommissioning phase.

17.6 Biodiversity Interactions

17.6.1 Biodiversity and Water, Hydrology (Flood Risk Assessment) & Hydrogeology

Construction Phase

Watercourses serve as valuable ecological corridors, providing habitats for a number of significant and protected species. Impacts on waterbodies within such networks can affect aquatic habitats and the species they support.

Key potential impacts during the construction phase include accidental sediment release, pollution from spills or leaks, and disruption to habitats caused by instream or bank-side activities.

Through implementation of mitigation measures outlined in the **Chapter 8 – Water, Hydrology (Flood Risk Assessment) & Hydrogeology** and this **Chapter 6 – Biodiversity**, the potential effect through interaction is reduced to **Imperceptible, Short-Term, Adverse**. In EIA terms, this is **Not Significant**.

Operational Phase

Similar impacts are associated with the operational phase including potential for accidental spills or leaks during maintenance works and uncontrolled run-off from hardstanding areas.

Through implementation of mitigation measures outlined in the **Chapter 8 – Water, Hydrology (Flood Risk Assessment) & Hydrogeology** and this **Chapter 6 – Biodiversity**, the potential effect through interaction is reduced to imperceptible, Short-Term, Adverse. In EIA terms, this is Not Significant.

Decommissioning Phase

During the decommissioning phase of the Project, the impacts are expected to be similar to those identified for the construction phase. Key potential impacts during the decommissioning phases include accidental sediment release, pollution from spills or leaks, and disruption to habitats caused by instream or bank-side activities.

Through implementation of mitigation measures outlined in the **Chapter 8 – Water, Hydrology (Flood Risk Assessment) & Hydrogeology** and this Chapter, the potential effect through interaction is reduced to **imperceptible, Short-Term, Adverse**. In EIA terms, this is **Not Significant**.

17.6.2 Biodiversity and Land Soils and Geology

Construction Phase

There are potential interactions between biodiversity and land soils and geology during the construction phase of the proposed Project, hydrogeology is linked with surface water networks. surface water run-off can directly affect soil quality and condition through deposition or withdrawal of chemicals, suspended solids, and nutrients. During construction eroded material can enter surface water causing an influx of sediments. This has the potential to increase suspended sediments. Through implementation of mitigation measures outlined in

the **Chapter 7 – Land, Soils and Geology, Chapter 8 – Water, Hydrology (Flood Risk Assessment) and Hydrogeology** and this Chapter, the effect through interaction is reduced to **Short-Term, Slight, Adverse**. In EIA terms, this is **Not Significant**.

Operational Phase

There are no interactions between biodiversity and land, soils and geology during the operational phase of the Project.

Decommissioning Phase

During the decommissioning phase of the Project, the impacts are expected to be similar to those identified for the construction phase. Interactions between Biodiversity and Lands, Soils and Geology of the Site during the decommissioning phase have been considered in the respective Chapters, and the outcome following mitigation has been deemed **Not Significant** in EIA terms.

There are no additional interrelated effects during the decommissioning phase to those already considered in the respective Chapters.

17.6.3 Biodiversity and Noise and Vibration

Construction Phase

Works during the construction phases have the potential to cause disturbance to sensitive breeding birds and bats through the generation of noise from plant, vehicles and equipment. With the implementation of mitigation measures in **Chapter 6 – Biodiversity** and **Chapter 10 – Noise & Vibration**, the potential residual effects through interaction were determined to be **Short-Term, Adverse** and ranging from **Moderate to Slight** (depending on the species). In EIA terms, this is **Not Significant**.

Operational Phase

There are no interactions between biodiversity and noise and vibration during the operational phase of the Project.

Decommissioning Phase

Similarly, works during the decommissioning phases have the potential to cause disturbance to sensitive breeding birds and bats through the generation of noise from plant, vehicles and equipment. With the implementation of mitigation measures in **Chapter 6 – Biodiversity** and **Chapter 10 – Noise & Vibration**, the potential residual effects through interaction were

determined to be **Short-Term, Adverse** and ranging from **Moderate to Slight** (depending on the species). In EIA terms, this is **Not Significant**.

17.7 Land, Soil and Geology Interactions

17.7.1 Land, Soils and Geology and Water, Hydrology (Flood Risk Assessment) & Hydrology

Construction Phase

As identified in **Chapter 7 – Land, Soils and Geology** impacts can give rise to the potential sources of contamination spread by water run-off during the construction phase. For example, removal of soil and rock during construction phase of the Project could produce spoil that lacks the competence and stability it had prior to removal. Such spoil is a hazard to the wider environment where it has potential to become a contaminant, causing siltation of watercourses or a landslide hazard where earthworks are not managed appropriately.

Furthermore, the movement of construction traffic throughout the site has the potential to effect soils by causing soil compaction, which consequently may impact the hydrological context of the site, thus posing an interrelated effect. Mitigation measures outlined in the respective Chapters outline measures to lessen and circumvent any potential impacts on Land, Soils and Geology and Hydrology, respectively. The outcomes of these assessments are deemed **Not Significant** in EIA terms.

There are no additional interrelated effects during the construction phase to those already considered in the respective Chapters.

Operational Phase

There are no interactions between hydrology and land, soils and geology during the operational phase of the Project.

Decommissioning Phase

During the decommissioning phase of the Project, the impacts are expected to be similar to those identified for the construction phase. Interactions between Biodiversity and Lands, Soils and Geology of the Site during the decommissioning phase have been considered in the respective Chapters, and the outcome following mitigation has been deemed **Not Significant** in EIA terms.

There are no additional interrelated effects during the decommissioning phase to those already considered in the respective Chapters.

17.7.2 Land Soils and Geology and Air Quality and Climate

Construction Phase

The construction phase of the proposed Project will involve the excavation of soils, which has the potential to impact air quality due to increased dust emissions. However, given the short duration of the construction and decommissioning phase, the potential for significant air quality impacts or concern to dust is considered limited. Furthermore, dust minimisation measures, together with mitigation measures are outlined within the respective Chapters, along with the **CEMP (Appendix 2.1)**

Given the controls to be implemented, the likely significant direct and indirect interrelated effects between Land, Soils and Geology and Air and Climate are considered **Not Significant**.

There are no additional interrelated effects during the construction phase to those already considered in the respective Chapters.

Operational Phase

There are no interactions between hydrology and land, soils and geology during the operational phase of the Project.

Decommissioning Phase

During the decommissioning phase of the Project, the impacts are expected to be similar to those identified for the construction phase. Interactions between Air Quality and Climate and Soils and Geology of the Site during the decommissioning phase have been considered in the respective Chapters, and the outcome following mitigation has been deemed **Not Significant** in EIA terms.

There are no additional interrelated effects during the decommissioning phase to those already considered in the respective Chapters.

17.7.3 Land, Soils and Geology and Archaeology, Architectural & Cultural Heritage

Construction Phase

Excavation and material removal associated with the proposed Project may give rise to interactions between land, soils, geology, and archaeological or cultural heritage resources. While the archaeological assessment and geophysical survey conducted for the site did not identify any direct evidence of previously unknown subsurface archaeological remains, the potential for such material to exist cannot be entirely excluded.

Interactions and associated mitigation have been considered in the respective Chapters. Following the deployment of mitigation, interrelated effects are deemed as **Not Significant** in EIA terms.

Operational Phase

There are no interactions between land, soils and geology and Archaeology during the operational phase of the Project.

Decommissioning Phase

During the decommissioning phase of the Project, the impacts are expected to be similar to those identified for the construction phase. Interactions between Land, Soils and Geology and Archaeology at the Site during the decommissioning phase have been considered in the respective Chapters, and the outcome following mitigation has been deemed **Not Significant** in EIA terms.

There are no additional interrelated effects during the decommissioning phase to those already considered in the respective Chapters.

17.8 Water, Hydrology (Flood Risk Assessment) & Hydrogeology Interactions

Water, Hydrology (Flood Risk Assessment) and Hydrogeology interactions with **Chapter 6 – Biodiversity** and **Chapter 7 – Land, Soils and Geology**, have been discussed under **Sections 17.6.1**, and **17.7.1** in this chapter, respectively.

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17.9 Air Quality and Climate Interactions

17.9.1 Air Quality and Climate and Traffic and Transport

Construction Phase

During the construction phase, there is potential for interaction between climate and traffic, primarily through vehicle emissions. Vehicles accessing the site will emit carbon dioxide (CO₂), a greenhouse gas that contributes to climate change.

Transport of material to the proposed Project may lead to an increase of Greenhouse gases (GHG) and particulate matter however increased traffic associated with the proposed Project during the construction phase are considered to be short term. Due to the small number of construction vehicles combined with the short duration of works, together with the deployment of mitigation measures outlined in the respective Chapters, the likely significant direct and indirect interrelated effects on air quality and climate interaction with Traffic and Transport from the proposed Project is considered to be **Not Significant**.

There are no additional interrelated effects during the decommissioning phase to those already considered in the respective Chapters.

Operational Phase

There are no interactions between Air Quality and Climate and Traffic during the operational phase of the Project.

Decommissioning Phase

Decommissioning vehicle movements are anticipated to be comparable to construction. Operationally, there are very vehicle movements a month anticipated, and these are from car or van vehicles only (with the exception of occasional maintenance) and so are insignificant.

With the deployment of mitigation measures outlined in the respective Chapters, the likely significant direct and indirect interrelated effects on air quality and climate interaction with Traffic and Transport from the proposed Project during the decommissioning phase is considered to be **Not Significant**.

There are no additional interrelated effects during the decommissioning phase to those already considered in the respective Chapters.

17.9.2 Air Quality and Climate and Material Assets

Construction Phase

Telecommunications mitigation measures include the diversion of links and the construction of a new Relay Tower as part of the proposed Project, posing an interaction with Air Quality and Climate.

During construction, waste management measures will adhere to the waste hierarchy, thus minimising the amount of waste entering landfill or the waste chain, which has higher associated embodied carbon emissions than other waste management such as recycling. The proposed reuse of the majority of excavated material within the Site minimises transport requirements and prevents materials entering the waste chain, thus eliminating the effect of the interactions between waste and climate. Any requirements for construction and for decommissioning phases are direct, and short-term. The mitigation in relation this interaction is outlined in the respective Chapters and within **Appendix 2.1.2 – Waste Management Plan**. With mitigation controls in place, the likely significant direct and indirect interrelated effects between Air Quality and Climate and Material Assets is considered to be **Not Significant** in EIA terms.

There are no additional interrelated effects during the construction phase to those already considered in the respective Chapters.

Operational Phase

There are no interactions between Air Quality and Climate and Material Assets during the operational phase of the Project.

Decommissioning Phase

During the decommissioning phase of the Project, the impacts are expected to be similar to those identified for the construction phase. Turbine foundation plinths will be removed to a depth below the existing ground level and restoration of this area to agricultural land or suitable for forestry replanting. Numerous elements of the proposed Project will remain in situ and thus decommissioning is not necessary.

With the deployment of mitigation measures outlined in the respective Chapters, the likely significant direct and indirect interrelated effects on air quality and climate interaction with material assets the decommissioning phase is considered to be **Not Significant**.

There are no additional interrelated effects during the decommissioning phase to those already considered in the respective Chapters.

17.10 Noise and Vibration Interactions

Noise and Vibration and **Chapter 5 – Population and Human Health**, has been discussed under **Sections 17.5.2** this chapter.

17.10.1 Noise and Vibration and Traffic and Transportation

Construction Phase

During the construction phase, traffic movements are likely to interact with noise levels due to increased vehicle activity along access routes generating additional noise. Waste management measures will be put in place to minimise the amount of waste entering landfill or the waste chain, which has higher associated embodied carbon emissions than other waste management such as recycling. The proposed reuse of the majority of excavated material within the site minimised transport requirements and use of local suppliers for aggregate and concrete supply, minimising the effect of the interactions between transport and site traffic and noise. Site contractors will be required to implement best practice measures to reduce noise emissions from plant, machinery and Site works as outlined within the respective Chapters together with **Appendix 2.1.3 –Traffic Management Plan**.

As such, the likely significant direct and indirect interrelated effects, between noise and vibration and Traffic and Transport, from the proposed Project is considered to be **Not Significant** in EIA terms.

There are no additional interrelated effects during the construction phase to those already considered in the respective Chapters.

Operational Phase

There are no interactions between Noise and Vibration and Traffic and Transport during the operational phase of the Project.

Decommissioning Phase

During the decommissioning phase of the Project, the interrelated effects are expected to be similar to those identified for the construction phase.

With the deployment of mitigation measures outlined in the respective Chapters, the likely significant direct and indirect interrelated effects on air quality and climate interaction with material assets the decommissioning phase is considered to be **Not Significant**.

There are no additional interrelated effects during the decommissioning phase to those already considered in the respective Chapters.

17.10.2 Noise and Vibration and Soils and Geology

Construction Phase

The adjacent Ballyfeeny Rock Quarry carries out monthly blasting activities. This activity can have the potential to affect both the integrity of the works and the safety of the site users / workers. Such works could potentially cause interactions with the soils and geological context of the development via adverse seismic energy, in the form of vibration and air over pressure, causing soil pressure and/or in the form of vibration experienced at structures, thus affecting structural integrity. Blasting Activity at the adjacent Ballyfeeny Rock Quarry has been assessed in **Chapter 10 – Noise and Vibration**.

In respect to Ground Vibration and Air Overpressure Blast, the assessment indicates that the max. vibration level predicted to occur at structures will be below the threshold at which we would reasonably anticipate minor structural damage to occur to the foundations (BS 5228 1.2009+A1.2014). Air overburden pressure is within the operational range for the wind farm infrastructure and will have imperceptible effect on soil stability. **Table 7-25 of Chapter 7 – Soils and Geology** summarise these likely significant effects.

The potential effect of vibration from Quarry Blasting is considered to be **Short-term, Adverse** and **Imperceptible**. In EIA terms, the effect is considered as **Not Significant**.

Operational Phase

The effects associated with blasting activity (vibration) during the operational phase of the proposed Project, in terms of soil movement and affects on structural integrity were considered to be **Short-term, Adverse** and **Imperceptible**. In EIA terms, the effect is considered as **Not Significant**.

Decommissioning Phase

Interactions during the decommissioning phase will be akin to those noted during the construction phase.

17.11 Landscape and Visual Interactions

Interaction of **Chapter 11 – Landscape and Visual** and **Chapter 5 – Population and Human Health** has been discussed under **Section 17.5.3** of this chapter respectively.

17.11.1 Landscape and Visual and Archaeology, Architectural & Cultural Heritage

Construction Phase

There are no interactions between Landscape and Visual and Archaeology during the construction phase of the Project.

Operational Phase

There is potential for interaction to arise between **Chapter 11 – Landscape and Visual** and **Chapter 13 – Archaeology, Architecture and Cultural Heritage** in particularly in relation to the setting and visual impact on cultural heritage features. This was assessed in **Chapter 11 – Landscape and Visual** which concluded that there would be **No Significant** effects in EIA terms. No new or additional mitigation measures would be required.

As such, the likely significant direct and indirect interrelated effects, between Landscape and Visual and Archaeology, Architectural and Cultural Heritage, from the proposed Project is considered to be **Not Significant**.

There are no additional interrelated effects during the operational phase to those already considered in the respective Chapters.

Decommissioning Phase

There are no interactions between Landscape and Visual and Archaeology during the decommissioning phase of the Project.

17.12 Traffic and Transport Interactions

Interaction of **Chapter 12 –Traffic and Transport** and **Chapter 5 - Population and Human Health**, **Chapter 9 – Air Quality and Climate** and **Chapter 10 – Noise and Vibration** has been discussed under **Section 17.6.3**, **17.9.1** and **17.10.1** of this chapter respectively.

17.13 Archaeology, Architectural & Cultural Heritage Interactions

Interaction of **Chapter 13 – Archaeology, Architectural & Cultural Heritage** and **Chapter 7 – Land Soils and Geology** and **Chapter 11 – Landscape and Visual**, has been discussed under **Section 17.7.3** and **17.11.1** of this chapter respectively.

17.14 Material Assets Interactions

Interaction of **Chapter 14 – Material Assets** and **Chapter 5 – Population and Human Health** and **Chapter 9 – Air Quality and Climate** has been discussed under **Section 17.5.5** and **17.9.2** of this chapter respectively.

17.15 Shadow Flicker Interactions

Interaction of **Chapter 15 – Shadow Flicker** and **Chapter 5 – Population and Human Health** has been discussed under **Section 17.5.6** of this chapter respectively.

17.16 Summary

A number of environmental factors are connected in some way. The most common interactions usually occurring between Population and Human Health, Land, Soil and Geology, Biodiversity, Water, Hydrology (Flood Risk Assessment) & Hydrology, Landscape and Visual, Noise and Vibration and Traffic and Transport.

In considering how these factors might affect each other during the construction, operational, and decommissioning stages of the proposed Project shows that likely significant adverse effects are not expected. No other interactions, besides the ones already discussed in this chapter, are anticipated. Monitoring is proposed during the construction, operation, and decommissioning phases of the proposed Project to capture any change. All monitoring proposals relating to the construction phases of the proposed Project were set out in various Chapters of the EIAR, and NIS. The **CEMP (Appendix 2.1)** groups together all of the monitoring proposals presented in the EIAR and NIS, which can be checked and reported on during the course of the proposed Project. These are also summarised in **Chapter 18 – Schedule of Mitigation and Monitoring**. The monitoring provides a control of detection of potential interactions or cumulative, unknown effects or unplanned events during the construction, operational period and decommissioning of the proposed Project.

Overall, the assessment of likely significant direct and indirect interrelated effects described here, has concluded that significant effects are not predicted, save for the likely effect on Air Quality and Climate where the proposed Project will be contributing to the reduction of

greenhouse gas emissions, which is assessed as **Long-Term, Positive** and **Significant** benefit to the climate and human health. In EIA terms, the effect is considered as **Significant**.

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