

15 INTERACTION OF THE FOREGOING

15.1 Introduction

The preceding Chapters 5 to 14 of this EIA identify the potential significant environmental effects that may occur in terms of Human Beings, Population and Human Health, Biodiversity, Flora and Fauna, Birds, Land, Geology and Soils, Hydrology and Hydrogeology, Air and Climate, Noise and Vibration, Landscape and Visual, Cultural Heritage and Material Assets, as a result of the proposed wind farm development ('Proposed Development'). All of the potential significant effects of the Proposed Development and the measures proposed to mitigate them have been outlined in the preceding sections of this EIA. However, for any development with the potential for significant environmental effects there is also the potential for interaction between these potential significant effects. The result of interactive effects may exacerbate the magnitude of the effects or ameliorate them, or have a neutral effect.

A matrix is presented in Table 15.1 below to identify potential interactions between the various aspects of the environment already assessed in this EIA. The matrix highlights the occurrence of potential positive or negative effects during both the construction (C) and operational (O) phases. The matrix is symmetric, with each environmental component addressed in the previous sections of this EIA being placed on both axes of a matrix, and therefore, each potential interaction is identified twice.

Table 15.1 Interaction Matrix: Potential for Interacting Impacts

	Phase	Human Beings, Population & Human Health	Biodiversity, Flora & Fauna	Biodiversity, Birds	Land, Soils & Geology	Hydrology & Hydrogeology	Air & Climate	Noise & Vibration	Landscape & Visual	Cultural Heritage	Material Assets
Human Beings, Population, Human Health	C	Black	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	O	Black	Light Blue	Light Blue	Light Blue	Light Blue	Green	Light Blue	Yellow	Light Blue	Light Blue
Biodiversity, Flora & Fauna	C	Light Blue	Black	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	O	Light Blue	Black	Light Blue	Light Blue	Light Blue	Green	Light Blue	Yellow	Light Blue	Light Blue
Biodiversity, Birds	C	Light Blue	Light Blue	Black	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	O	Light Blue	Light Blue	Black	Light Blue	Light Blue	Green	Light Blue	Light Blue	Light Blue	Light Blue
Land, Soils & Geology	C	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	O	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Hydrology & Hydrogeology	C	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	O	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Air & Climate	C	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue	Light Blue	Light Blue
	O	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue	Light Blue	Light Blue
Noise & Vibration	C	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue	Light Blue
	O	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue	Light Blue
Landscape & Visual	C	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue
	O	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue	Light Blue
Cultural Heritage	C	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue
	O	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black	Light Blue
Material Assets	C	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black
	O	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Black

Legend:

- No Interacting Effect: Light Blue
- Neutral Effect: Yellow
- Positive Effect: Green
- Negative Effect: Pink

The potential for interaction of effects has been assessed as part of the Impact Assessment process. While the work on all parts of the EIAR were not carried out by McCarthy Keville O’Sullivan, the entire project and all the work of all sub-consultants was managed and coordinated by the company. This EIAR was edited and collated by McCarthy Keville O’Sullivan. as an integrated report of findings from the impact assessment process, by all relevant experts, and effects that potentially interact have been assessed in the individual chapters of the EIAR above.

15.2 Impact Interactions

Where any potential negative impacts have been identified during the assessment process, these impacts have been avoided by design or reduced by the proposed mitigation measures.

15.2.1 Human Beings, Population and Human Health

Human Beings and Air & Climate / Noise

As identified in Chapter 5 of this EIAR, the construction phase has the potential to generate noise and dust, which could create a temporary nuisance. During the operational phase the Proposed Development has the potential to generate noise but as identified in Chapter 11, this will be at acceptable levels.

During the operational phase, the energy generated by the proposed wind farm will offset energy and the associated emission of greenhouse gases from electricity-generating stations dependent on fossil fuels, thereby having a positive effect on climate (i.e. slowing the rate of global warming). In doing so, there will likely be reduced effects from climate change on human beings over the 'do-nothing' scenario and continuing to generate energy using fossil fuels.

Human Beings and Hydrology & Hydrogeology

As described in Chapter 9 of this EIAR, the construction phase of the Proposed Development has the potential to give rise to some water pollution as a result of site activities, and any water pollution could have a potential significant effect on other users of that water within the catchment. Mitigation measures are presented in Chapter 8 to minimise the risk of any such issues.

Human Beings and Material Assets

Chapter 14 of this EIAR discusses how the construction phase of the project will give rise to traffic movements of abnormal loads, and is likely to create some short-term inconvenience for other road users. A Traffic Management Plan will be in place to minimise disruption insofar as possible, as described in the Construction & Environmental Management Plan (see Appendix 4.4).

Human Beings and Landscape

The construction phase of the Proposed Development will see the temporary introduction of construction machinery and the erection of wind turbines into a natural, but already highly modified landscape. The erection of the turbines in particular will change the existing landscape. Whether the long-term change in landscape created by the erection of the turbines is deemed to be positive or negative is a subjective matter. What appears to be a positive visual effect to one viewer could be deemed to be a negative effect by another viewer.

15.2.2 Biodiversity, Flora and Fauna

Biodiversity, Flora & Fauna and Soils & Geology

The extraction of rock at the borrow pit sites for use as part of the Proposed Development will give rise to habitat loss and some disturbance of fauna in the areas surrounding the proposed borrow pits. The removal of overburden peat and soils is likely to result in some disturbance of fauna in the non-designated areas surrounding the proposed works area. This overburden will be used for the reinstatement of the borrow pit post construction.

Biodiversity, Flora & Fauna and Hydrology & Hydrogeology

Site activities during the construction phase have the potential to give rise to some water pollution, and consequential indirect effects (such as disturbance and deterioration of habitat quality) on flora and fauna that use that water within the same catchment. The site activities during the construction phase, and continuing on for the operational phase, will give rise to additional localised drainage, which has the potential to have a significant effect on flora and their associated habitats. These potential impacts have been assessed, and the relevant measures will be in place to avoid any water pollution and subsequent effect on flora and fauna.

Biodiversity, Flora & Fauna and Air & Climate

During the operational phase, the Proposed Development will help offset carbon emissions from fossil fuel based electricity generation plants, which will help contribute to a slower increase in the rate of global warming and, consequently, could in combination with other renewable energy projects, contribute to preventing the loss of breeding bird species from Ireland as a result of climate change.

Biodiversity, Flora & Fauna and Noise & Vibration

Site activity during the construction phase could give rise to noise that could be a temporary nuisance for fauna.

Biodiversity, Flora & Fauna and Landscape

The removal of some vegetation within the development footprint and surrounding areas is likely to result in a change to the visual landscape during the construction phase, which will become part of the normal landscape of the wider area for the duration of the operational phase.

15.2.3 Biodiversity, Birds

Biodiversity, Birds and Hydrology & Hydrogeology

Site activities during the construction phase have the potential to give rise to some water pollution, and consequential indirect effects on birds and their prey species (such as disturbance and deterioration of habitat quality) that use that water within the same catchment.

The site activities during the construction phase, and continuing on for the operational phase, are likely to give rise to additional localised drainage, which has the potential to have an effect on the habitats of birds.

Biodiversity, Birds and Air & Climate

During the operational phase, the Proposed Development will help offset carbon emissions from fossil fuel based electricity generation plants, which will help contribute to a slower increase in the rate of global warming and, consequently, could in combination with other renewable energy projects, contribute to preventing the loss of bird species from Ireland as a result of climate change.

Biodiversity, Birds and Noise & Vibration

Site activity during the construction phase could give rise to noise that could be a nuisance for birds.

15.2.4 Land, Soils and Geology

Land, Soils & Geology and Hydrology & Hydrogeology

As identified in Chapter 8 of this EIAR, the movement and removal of soils, overburden and rock during the construction phase has the potential to have an effect on water quality. Mitigation measures are presented in Chapter 8.

Land, Soils & Geology and Air & Climate

The movement and removal of soils, overburden and rock during the construction phase has the potential to give rise to dust effects (as described in Chapter 10 of this EIA), which could in turn reduce the local air quality.

15.2.5 Air and Climate / Noise

Material Assets and Air & Climate

The movement of construction vehicles both within and to and from the site has the potential to give rise to noise and dust nuisance effects during the construction phase. This is assessed further in Chapter 10 of this EIA, and mitigation measures are presented to minimise any potential effects.

15.2.6 Landscape & Visual

Landscape & Visual and Cultural Heritage

As described in Chapter 12 of this EIA, the Proposed Development has the potential to change the landscape setting of recorded sites and monuments in the wider area.

15.3 Mitigation and Residual Impacts

Where any potential interactive negative impacts have been identified in the above, a full suite of appropriate mitigation measures has already been included in the relevant sections (Chapters 5-14) of the EIA. The implementation of these mitigation measures will reduce or remove the potential for these effects. Information on potential residual effects, and their significance, is also presented in each relevant chapter.