

14. MATERIAL ASSETS

14.1 Introduction

Material Assets are defined in the *Advice Notes for Preparing Environmental Impact Statements* (EPA, Draft 2015) as “resources that are valued and that are intrinsic to specific places” and in the *Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (EPA, Draft 2017) as “built services and infrastructure. Traffic is included because in effect traffic consumes roads infrastructure.” They may be either of human or natural origin. The cultural assets of Archaeology and Cultural Heritage are addressed in Chapter 12 of this Environmental Impact Assessment Report (EIAR). Economic assets of natural heritage include non-renewable resources such as minerals or soils, and renewable resources such as wind and water. These assets are addressed in Chapter 8: Land, Soils and Geology, Chapter 9: Water, and Chapter 10: Air and Climate. Tourism and amenity resources, which are also considered material assets, are addressed in Chapter 5: Population and Human Health.

This chapter of the EIAR addresses the likely significant effects of the Proposed Development on transportation infrastructure (Section 14.2) and on telecommunications and aviation (Section 14.3), which are economic assets of human origin. This chapter of the EIAR has been prepared in accordance with the requirements of the EIA legislation and guidance outlined in Chapter 1: Introduction.

14.1.1 Statement of Authority

This section of the EIAR has been prepared by Thomas Blackwell, a Senior Environmental Consultant with MKO with over 15 years of progressive experience in environmental consulting and in the assessment of environmental documents for renewable energy developments, including the assessment of likely significant effects on material assets. Thomas holds a BA (Hons) in Geography from Trinity College Dublin and a M.Sc. in Environmental Resource Management from University College Dublin.

14.1.2 Guidance and Legislation

This section of the EIAR has been completed in accordance with the guidance set out in Chapter 1: Introduction. The assessment uses standard terminology to describe the likely significant effects associated with the Proposed Development. Further information on the classification of effects used in this assessment is presented in Section 1.7.2.

14.1.3 Scoping and Consultation

The scope for this assessment has been informed by consultation with statutory consultees, bodies with environmental responsibility and other interested parties as summarised in Section 2.6.2 of Chapter 2 of the EIAR. The relevant consultee responses are detailed below:

Broadcasting Authority of Ireland

The Broadcasting Authority of Ireland (BAI) responded to Scoping on the 6th May 2021 stating that they are not aware of any issues from existing wind farms to existing FM (Frequency Modulation) networks. Also, the Proposed Development at Carnsore Point is not located close to any existing or planned FM transmission sites.

Transport Infrastructure Ireland

Transport Infrastructure Ireland (TII) responded to Scoping on the 18th May 2021. Their response provided a list of recommendations to be followed when preparing the EIAR. All relevant TII

guidelines and policies, primarily in relation to the environment and planning, have been taken into account in the preparation of this assessment.

14.2 Traffic and Transport

The purpose of this section is to assess the effects, on roads and traffic, of the proposed extension of life of the existing Carnsore Wind Farm.

For the development of new wind farms, the construction phase is the critical period with respect to the traffic effects experienced on the surrounding road network in terms of both the additional traffic volumes that will be generated on the road network, and the geometric requirements of the abnormally large loads associated with the wind turbine plant. However, since the Proposed Development does not involve any construction work, any potential traffic and transport impacts are limited to the operational and decommissioning phases of the project.

14.2.1 Receiving Environment

14.2.1.1 Site Location

The location of the existing Carnsore Wind Farm in the townlands of Bunarge, Burrow, Bush, Nethertown, Shilmore, St. Vogue's and Summerstown, County Wexford is shown in the context of the national and local highway networks in Figure 14-1.

The closest settlement to the site is Lady's Island which is located approximately 3 kilometres (km) to the north. The closest town is Rosslare which is located approximately 10km to the northwest of the site.



Map Legend

EIAR Study Area

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Drawing Title	
Site Access Map	
Project Title	
Carnsore Wind Farm	
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14.2.1.2 Site Access

The existing wind farm is accessed from the north, via the existing site entrance from the Nethertown Lane L71061 local road. Vehicles turn onto the L71061 from the L7106 local road located to the east of the site.

Since the Carnsore Wind Farm is currently operational, and since no changes to the wind farm are proposed, there is no construction phase associated with the proposed extension of life of the wind farm. There will therefore be no new traffic generated by the Proposed Development.

During the operational phase, the wind farm will continue to be unmanned during operation and will be remotely monitored. Traffic associated with the operational phase of the wind farm will be from ESB personnel visiting the substation, and maintenance personnel who will visit individual turbines.

It is estimated that the traffic volumes that will be generated by the development during its continued operation will be minimal. The site will generate maintenance trips, with approximately two maintenance staff travelling to site at any one time. The impact on the network of these trips during the operational stage is discussed in Section 14.2.2.

14.2.2 Likely and Significant Effects and Associated Mitigation Measures

14.2.2.1 “Do-Nothing” Scenario

Under the Do-Nothing Scenario, the operational life of the Carnsore Wind Farm would not be extended, the wind farm would be decommissioned, and the site restored to its original use as agricultural lands following the expiration of the current planning permission in August 2022. Should this occur, the impact on traffic and transport would be slight, temporary, and negative during the decommissioning of the existing wind farm.

14.2.2.2 Construction Phase

Since the Carnsore Wind Farm is currently operational, and since no changes to the wind farm are proposed, there is no construction phase association with the proposed extension of life of the wind farm. There will therefore be no direct or indirect effects on traffic or transport.

14.2.2.3 Operational Phase

During the operational phase the majority of maintenance works on the site will be completed by a two-person team travelling in a light goods vehicle. For approximately 5-10 days per year multiple maintenance crews will be required on-site to complete major component replacements (e.g. substation maintenance). Typically, there are no more than two trips per day to the site made by car or light goods vehicle. The direct effect on the surrounding road network will be **neutral, and long-term**, given the very low volume of daily trips to the site.

Mitigation Measures

Due to the very low volumes of traffic forecast to be generated during this stage no mitigation measures are required.

Residual Impacts

Long-term, imperceptible, neutral impacts on traffic and transportation during the operational phase of the project.

Significance of the Effects

Based on the assessment above there will be **No Significant Effect** on traffic and transport as a result of the operational phase of the proposed development.

14.2.2.4 Decommissioning Phase

It is proposed to extend the life of the existing wind farm by 15 years. If the site is decommissioned following that period, cranes and heavy plant will be required on-site to disassemble each turbine tower and associated infrastructure.

Turbine infrastructure including turbine tower, nacelle, and rotor components will be separated and removed off-site for re-use, recycling and waste disposal.

Should the wind farm be decommissioned following an extension of operation, it is proposed that turbine foundations and hardstanding areas will be left in place and covered with soil/topsoil. It is proposed to leave the access roads in-situ. It is considered that leaving the turbine foundations, access tracks and hardstanding areas in-situ will cause less environmental damage than removing and recycling them. However, if removal is deemed to be required all infrastructure will be removed using appropriate construction and demolition best practice and methods. While the actual number of loads that will be required to be removed from the site in the event that the Proposed Development is decommissioned has not been determined at this stage, the impact in terms of traffic volumes will be significantly less than during the original construction stage.

Mitigation Measures

In the event that the Proposed Development is decommissioned after the 15 years extension of life, a Decommissioning Plan, including material recycling / disposal and a Traffic Management Plan, developed to minimise impacts to the local road network, will be prepared for agreement with the local authority.

Residual Impact

As stated above, in the event that the wind farm is decommissioned, a Decommissioning Plan will be prepared and implemented in order to minimise the residual impacts. The decommissioning phase of the development will likely result in a residual impact to other road users that is slight, temporary, and negative in effect.

Significance of the Effects

Based on the assessment above there will be **No Significant Effect** on traffic and transport as a result of the decommissioning phase of the proposed development.

14.2.2.5 Cumulative In-Combination Effects

The potential cumulative impacts and associated effects between the proposed development and the projects described in Section 2.7 of this EIAR, hereafter referred to as the other projects, have been considered in terms of traffic and transport.

There are no construction phase impacts associated with the proposed development.

Operational phase impacts on traffic and transport are imperceptible and therefore there are No Significant Cumulative Effects in relation to traffic and transport associated with the extended operational phase of the wind farm in combination with other projects.

14.3 Telecommunications and Aviation

14.3.1 Introduction

This section of the EIAR assesses the likely significant effects of the proposed extension of life of the existing wind farm on telecommunications and aviation. Section 14.3.2 describes the way in which wind turbines can potentially interfere with telecommunications signals or aviation activities. Likely significant effects are assessed (and mitigation measures proposed) in Section 14.3.3.

14.3.2 Background

14.3.2.1 Broadcast Communications

Wind turbines, like all large structures, have the potential to interfere with broadcast signals, by acting as a physical barrier or causing a degree of scattering to microwave links. The most significant effect at a domestic level relates to a possible flicker effect caused by the moving rotor, affecting, for example, radio signals. The most significant potential effect occurs where the wind farm is directly in line with the transmitter radio path.

14.3.2.2 Domestic Receivers

Depending on local topography, a domestic receiver may receive broadcast signals from more than one location. The strength of the signals varies with distance from the transmitter, and the receiver's antenna is generally always directed towards the most local, and usually strongest, broadcasting station.

There are two types of potential electromagnetic interference to domestic receivers, depending on the location of the receiver in relation to a wind farm. 'Shadowed' houses are located directly behind a wind farm, relative to the location from where the signal is being received. In this case, the main signal passes through the wind farm and the rotating blades can create a degree of signal scattering. In the case of viewers located beside the wind farm (relative to the broadcast signal direction), the effects are likely to be due to periodic reflections from the blade, giving rise to a delayed signal.

In both cases, i.e., shadowed houses located behind the wind farm and those located to the side of it, the effects of electromagnetic interference may depend to some degree on the wind direction, since the plane of rotation of the rotor will affect both the line-of-sight blockage to viewers located behind the wind farm and the degree of reflection to receivers located to the side.

14.3.2.3 Other Signal Types

Wind turbines have the potential to affect other signal types used for communication and navigational systems, for example tower-to-tower microwave communication links, and airborne and ground radar systems. Interference with radar systems occurs when wind turbines are located close to an airport or directly in line with the instrument landing approach. These effects are generally easily dealt with by detailed micro-siting of turbines in order to avoid alignment with signal paths or by the use of repeater relay links out of line with the wind farm.

14.3.3 Likely Significant Effects and Associated Mitigation Measures

14.3.3.1 ‘Do-Nothing’ Scenario

The Do-Nothing alternative to extending the life of the existing wind farm would be to decommission the wind farm once its current planning permission expires in 2022. The existing grid connection would also be decommissioned in this alternative. Should this occur, the impact would be **neutral** in the context of this EIAR.

14.3.3.2 Construction Phase

Since the Carnsore Wind Farm is currently operational, and since no changes to the wind farm are proposed, there is no construction phase associated with the proposed extension of life of the wind farm. There will therefore be no direct or indirect effects on telecommunications or aviation.

14.3.3.3 Operational Phase

14.3.3.3.1 Telecommunications

Pre-Mitigation Impact

The existing Carnsore Wind Farm has been operational for nearly 20 years. To date the ESB are aware of no complaints from telecommunications service providers regarding interference to service associated with the wind farm. In an email dated 6th May 2021 the Broadcasting Authority of Ireland (BAI) stated “...we are not aware of any issues from existing wind farms into existing FM networks. Also, the proposed wind farms are not located close to any existing or planned FM transmission sites”.

Mitigation Measures

In the event of further scoping responses being received from the EIA consultees or from other telecommunication service providers, the comments of the consultees and any proposed mitigation measures will be considered in the continued operation of the wind farm, subject to a grant of planning permission.

Residual Impact

The continued operation of the Proposed Development will have no residual impact on the telecommunications signals of any other operator, as no changes to the existing wind farm are proposed.

Significance of Effects

There will be **no significant direct or indirect effect** on telecommunications from the proposed development.

14.3.3.3.2 Aviation

Pre-Mitigation Impact

To date no scoping response has been received from the Irish Aviation Authority (IAA). However, Carnsore Wind Farm has been operational for nearly 20 years and no aviation issues have arisen in that time. No changes to the existing wind farm layout or dimensions are proposed.

Mitigation Measures

The developer will coordinate with the IAA directly should a grant of planning permission be issued, to ensure that the development remains in compliance with all IAA requirements including lighting requirements. Any further details will be agreed with the Department of Defence, Air Corps and the IAA. The coordinates and elevations for the existing turbines has been supplied to the IAA, as is standard practice for wind farm developments.

Residual Impact

The Proposed Development will have no residual impact on aviation as all lighting and other requirements will continue to be met by the Applicant.

Significance of Effects

There will be **no significant direct or indirect effects** on aviation operations due to the proposed development.

14.3.3.4 Cumulative In-Combination Effects

The potential cumulative impacts and associated effects between the proposed development and the projects described in Section 2.7 of this EIAR, hereafter referred to as the other projects, have been considered in terms of aviation and telecommunications.

During the development of any large project that holds the potential to effect telecoms or aviation, the Developer is responsible for engaging with all relevant telecoms operators and aviation authorities to ensure that the proposals will not interfere with television or radio signals by acting as a physical barrier. In the event of any potential impact, the developer for each individual project is responsible for ensuring that the necessary mitigation measures are in place. Therefore, as each project is designed and built to avoid impacts arising, a cumulative impact cannot arise.

The Carnsore Wind Farm has been operational for nearly 20 years and no changes to the existing wind farm are proposed. Therefore, no operational phase impacts on telecommunications and aviation are anticipated. There will be no significant cumulative effects in relation to telecommunications and aviation associated with the extended operational phase of the wind farm in combination with other projects.