Environmental Impact Assessment Report (EIAR)

Killoshulan Wind Farm

Chapter 19 - Summary of Significance of Effects

Table of Contents

19. SUMMARY OF SIGNIFICANCE OF EFFECTS 19-1

19.1 Introduction 19-1
19.2 EIA Classification 19-1
19.2.1 Population and Human Health 19-1
19.2.2 Biodiversity 19-4
19.2.3 Ornithology 19-6
19.2.4 Land, Soils and Geology 19-16
19.2.5 Hydrology and Hydrogeology 19-17
19.2.6 Air Quality 19-20
19.2.7 Climate 19-21
19.2.8 Noise and Vibration 19-23
19.2.9 Landscape and Visual 19-23
19.2.10 Cultural Heritage 19-25
19.2.11 Material Assets 19-26
19.2.12 Major Accidents and Natural Disasters 19-28

19. SUMMARY OF SIGNIFICANCE OF EFFECTS

19.1 Introduction

The preceding Chapters 5 to 16 of this EIAR identify the potential significant environmental effects that may occur in terms of Population and Human Health, Biodiversity (Flora and Fauna), Birds (Ornithology), Land, Soils and Geology, Water (Hydrology and Hydrogeology), Air Quality, Climate, Noise and Vibration, Landscape and Visual, Cultural Heritage (Archaeological, Architectural and Cultural Heritage), Material Assets (Roads and Traffic, Telecommunications, Utilities and Waste Management) and Vulnerability to/from Major Accidents and Natural Disasters as a result of the Proposed Project, as described in Chapter 4 (Description of the Proposed Project) of this EIAR. All of the environmental topics which have a potential for impact as a result of the Proposed Project have been outlined below in terms of their relevant Topic, the Pre-Mitigation Effect, the Mitigation Section Reference, the Residual Effect and finally the Significance of the effect. The purpose of this chapter is to clearly outline the effects discussed in chapters 5 to 16 and identify the clear pathways of mitigation and how the effect is reduced.

Each chapter is presented in its own individual table below to identify the effects. Where there is no effect or no mitigation applicable/ required N/A will be stated in the cell.

The potential for interaction of effects has been assessed, throughout this EIAR, as part of the Impact Assessment process. Work on all parts of the Environmental Impact Assessment Report (EIAR) was carried out by a multidisciplinary team, the entire project and all the work of the sub-consultants was managed and coordinated by MKO. The EIAR was edited and collated by MKO as an integrated report of findings from the impact assessment process, by all relevant experts, and effects that potentially interact have been assessed in detail in the individual chapters of the EIAR and summarised in the relevant tables below.

Where any potential negative effects have been identified during the assessment process, these impacts have been avoided or reduced by design and the proposed mitigation measures which are discussed in EIAR Chapters 5 to 16.

19.2 EIA Classification

19.2.1 Population and Human Health

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Population Trends	No identified effects	Section 5.10.2.1.1 – No mitigation required	No identified effects	Not Significant
Employment and Investment	Short-term, slight, Positive	Section 5.10.2.1.2 – No mitigation required	Short-term, moderate, Positive	Not Significant
Land Use Patterns & Activities	Short-Term, Slight, Negative	Section 5.10.2.1.3 – No mitigation required	Short-Term, Slight, Negative	Not Significant
Property Values	Short-Term, Slight, Negative	Section 5.10.2.1.4	Short-Term, Imperceptible, Negative	Not Significant
Tourism	Short-Term, Not Significant, Negative	Section 5.10.2.1.5 – No mitigation required	Short-term, Not Significant, Negative	Not Significant
Residential Amenity	Short-Term, Slight, Negative	Section 5.10.2.1.6	Short-Term, Slight, Negative	Not Significant
Health and Safety	Short-Term, Significant, Negative	Section 5.10.2.2.1	Short-Term, Slight, Negative	Not Significant
Water Quality	Temporary, Slight, Indirect, Unlikely, Negative	Section 5.10.2.2.2	Temporary, Imperceptible, Indirect, Unlikely, Negative	Not Significant
Air Quality: Dust and	Short-Term, Slight, Negative	Section 5.10.2.2.3	Short-Term, Slight, Negative	Not Significant

Exhaust Emissions				
Noise and Vibration	Short-term, Not Significant, Negative	Section 5.10.2.2.4	Short-Term, Slight, Negative	Not Significant
Traffic and Transport	Short-term, moderate, Negative	Section 5.10.2.2.5	Temporary, Slight, Negative	Not Significant
Major Accidents and Natural Disasters	Highest Risk is identified as 'Contamination', 'Fire/Explosion' and 'Karst Risk'.	Section 5.10.2.2.6	Low	Not Significant
Shadow Flicker	N/A	N/A	N/A	N/A
Operational Phase				
Population Levels	No identified effects	Section 5.10.3.1.1 – no mitigation required	No identified effects	Not Significant
Employment and Investment	Long-term, Slight, Positive	Section 5.10.3.1.2 – no mitigation required	Long-Term, Slight Positive	Not Significant
Land Use Patterns and Activities	Long-term, Slight, Positive	Section 5.10.3.1.3 - no mitigation required	Long-term, Slight, Positive	Not Significant
Property Values	Short-term, Slight, Negative	Section 5.10.3.1.4	Short-term, Not Significant, Negative	Not Significant
Tourism	No identified effects	Section 5.10.3.1.5- no mitigation required	No identified effects	Not Significant
Residential Amenity	Long-term, Moderate, Negative	Section 5.10.3.1.6	Long-term, Slight, Negative	Not Significant

Health and Safety	Long-term, Slight, Negative	Section 5.10.3.2.1	Long-term, Imperceptible, Negative	Not Significant
Noise and Vibration	Long-term, Not Significant, Negative	Section 5.10.3.2.2	Long-term, Imperceptible, Negative	Not Significant
Air Quality: Dust and Exhaust Emissions	Long-term, Moderate, Positive	Section 5.10.3.2.3	Long-term, Moderate, Positive	Not Significant
Traffic and Transport	Long-term, Imperceptible, Negative	Section 5.10.3.2.4- no mitigation required	Long-term, Imperceptible, Negative	Not Significant
Water Quality	Long-term, Imperceptible, Negative	Section 5.10.3.2.5	Long-term, Imperceptible, Negative	Not Significant
Major Accidents and Natural Disasters	Highest Risk is identified as 'Contamination' and 'Fire/Explosion'	Section 5.10.3.2.6	unlikely, temporary, slight, negative	Not Significant
Shadow Flicker	Long-term, Moderate, Negative	Section 5.10.3.2.7	Long-term, Imperceptible, Negative	Not Significant
Decommissioning Phase				
Population and Human Health	Any impact and consequential effect that occurs during the decommissioning phase will be similar to that which occurs during the construction phase, however to a lesser extent and lesser duration, and the mitigation measures outlined	Section 5.10.2	N/A	N/A

	in Section 5.10.2 will also be implemented during the decommissioning phase			

19.2.2 Biodiversity

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
European Sites	Effects on European Sites are addressed in the NIS. The NIS finds that it can be objectively concluded that the Proposed Project, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site.			
Nationally Designated Sites	Indirect, negative, temporary, significant effect	Section 6.5.5.2.2	No significant residual effect at any geographic scale	Not Significant
Linear Habitats	Direct, negative, permanent significant effect	Section 6.5.2.1.1	No significant residual effect at any geographic scale	Not Significant
Aquatic Habitats and Related Species	Indirect, negative, temporary, significant effect	Section 6.5.2.1.2	No significant residual effect at any geographic scale	Not Significant
Bats	**Foraging and commuting habitat** Significant effect at a local scale only **Loss of, or Damage to, Roosts** No significant effect **Disturbance/Displacement** No significant effect	Section 6.5.2.2.1 **Appendix 6-2**	No significant residual effect at any geographic scale	Not Significant

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Badger	**Habitat Loss/Fragmentation** No significant effect **Disturbance/Mortality** Significant effect at a local scale only	Section 6.5.2.2.2	No significant residual effect at any geographic scale	Not Significant
Otter	**Habitat Loss/Fragmentation** No significant effect **Disturbance/Mortality** Significant effect at a International scale **Habitat Degradation:** Indirect, temporary, significant effect	Section 6.5.2.2.3 Section 6.5.2.1.2	No significant residual effect at any geographic scale	Not Significant
Reptiles and Amphibians	**Habitat Loss/Fragmentation** No significant effect **Disturbance/Mortality** Significant effect at a local scale only	Section 6.5.2.2.5	No significant residual effect at any geographic scale	Not Significant
Pine Marten and Red Squirrel	**Habitat Loss/Fragmentation** No significant effect **Disturbance/Mortality** Significant effect at a local scale only	Section 6.5.2.2.4	No significant residual effect at any geographic scale	Not Significant
Operational Phase				
European Sites	Effects on European Sites are addressed in the NIS. The NIS finds that it can be objectively concluded that the Proposed Project, individually or in combination			

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
	with other plans or projects, will not adversely affect the integrity of any European Site.			
Nationally Designated Sites	Indirect, negative, temporary, significant effect	Section 6.5.3.1.2	No significant residual effect at any geographic scale	Not Significant
Aquatic Habitats and Related Species	Indirect, negative, temporary, significant effect	Section 6.5.3.1.1	No significant residual effect at any geographic scale	Not Significant
Bats	Long-term, Negative, Significant at the local scale	Section 6.5.3.2.1	No significant residual effect at any geographic scale	Not Significant
Decommissioning Phase				
Biodiversity	The potential impacts associated with decommissioning of the Proposed Project will be similar to those associated with construction but of a reduced magnitude, due to the reduced scale of the proposed decommissioning works in comparison to construction phase works.	Section 6.5.4	No significant residual effect at any geographic scale	Not Significant

19.2.3 Ornithology

Species	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Golden Plover	**Direct Habitat Loss:** The Proposed Wind Farm site	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant

	Likely long-term constant slight negative effect. The River Nore Proposed 110kV Underground Cabling crossing No Effect. **Disturbance:** The Proposed Wind Farm site Likely short-term constant slight negative effect. The River Nore Proposed 110kV Underground Cabling crossing Likely short-term constant imperceptible negative effect.			
Kingfisher	**Direct Habitat Loss:** The Proposed Wind Farm site Likely long-term slight negative effect. The River Nore Proposed 110kV Underground Cabling crossing Likely short-term slight negative effect. **Disturbance:**	Section 7.6.1 Section 7.6.2 Section 7.6.3 Section 7.5.3	No effect greater than slight negative	Not Significant

	The Proposed Wind Farm site Likely short-term slight negative effect. The River Nore Proposed 110kV Underground Cabling crossing Likely short-term constant medium negative effect.			
Peregrine Falcon	**Direct Habitat Loss:** Likely long-term slight negative effect, which is Not Significant. **Disturbance:** Likely short-term slight negative effect, which is Not Significant.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant
Kestrel	**Direct Habitat Loss:** Likely long-term slight negative effect. **Disturbance:** Likely short-term slight negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant
Lapwing	**Direct Habitat Loss:** The Proposed Wind Farm site	Section 7.6.1 Section 7.6.2 Section 7.5.3	No effect greater than slight negative	Not Significant

	Likely long-term imperceptible negative effect. The River Nore Proposed 110kV Underground Cabling crossing Likely short-term imperceptible negative effect. **Disturbance:** The Proposed Wind Farm site Likely short-term imperceptible negative effect. The River Nore Proposed 110kV Underground Cabling crossing Likely short-term imperceptible negative effect.			
Snipe	**Direct Habitat Loss:** Likely long-term constant slight negative effect. **Disturbance:** Likely short-term constant slight negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant
Woodcock	**Direct Habitat Loss:** Likely long-term constant slight negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant

	Disturbance: Likely short-term constant slight negative effect.			
Buzzard	**Direct Habitat Loss:** Likely long-term constant imperceptible negative effect. **Disturbance:** Likely short-term constant imperceptible negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant
Long-eared Owl	**Direct Habitat Loss:** Likely long-term constant imperceptible negative effect. **Disturbance:** Likely short-term constant imperceptible negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than imperceptible negative	Not Significant
Sparrowhawk	**Direct Habitat Loss:** Likely long-term constant imperceptible negative effect. **Disturbance:** Likely short-term constant	Section 7.6.1 Section 7.6.2	No effect greater than imperceptible negative	Not Significant

	imperceptible negative effect.			
Operational Phase				
Golden Plover	**Direct Habitat Loss:** The Proposed Wind Farm site No Effect The River Nore Proposed 110kV Underground Cabling crossing No Effect **Displacement and Barrier Effect:** The Proposed Wind Farm site Likely long-term constant slight negative effect. The River Nore Proposed 110kV Underground Cabling crossing No Effect. **Collision Risk:** Likely long-term constant imperceptible negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant
Kingfisher	**Direct Habitat Loss:** No Effect.	Section 7.6.1 Section 7.6.2 Section 7.6.3	No effect greater than slight negative	Not Significant

	Displacement and Barrier Effect: Likely long-term slight negative effect. **Collision Risk:** No Effect.			
Peregrine Falcon	**Direct Habitat Loss:** No Effect **Displacement and Barrier Effect:** Likely long-term slight negative effect. **Collision Risk:** Likely long-term slight negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant
Kestrel	**Direct Habitat Loss:** No Effect **Displacement and Barrier Effect:** Likely long-term slight negative effect. **Collision Risk:** Likely long-term slight negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant
Lapwing	**Direct Habitat Loss:**	Section 7.6.1	No effect greater than slight negative	Not Significant

	The Proposed Wind Farm site No Effect. The River Nore Proposed 110kV Underground Cabling crossing No Effect **Displacement and Barrier Effect:** The Proposed Wind Farm site Likely long-term imperceptible negative effect. The River Nore Proposed 110kV Underground Cabling crossing No Effect **Collision Risk:** Likely long-term constant imperceptible effect.	Section 7.6.2 Section 7.5.3		
Snipe	**Direct Habitat Loss:** No Effect **Displacement and Barrier Effect:** Likely long-term constant slight negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant

	Collision Risk: Likely long-term constant imperceptible negative effect.			
Woodcock	**Direct Habitat Loss:** No Effect **Displacement and Barrier Effect:** Likely long-term constant slight negative effect. **Collision Risk:** Likely long-term constant imperceptible effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant
Buzzard	**Direct Habitat Loss:** No Effect **Displacement and Barrier Effect:** Likely long-term constant slight negative effect. **Collision Risk:** Likely long-term imperceptible negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than slight negative	Not Significant
Long-eared Owl	**Direct Habitat Loss:** No Effect	Section 7.6.1 Section 7.6.2	No effect greater than imperceptible negative	Not Significant

	Displacement and Barrier Effect: Likely long-term constant imperceptible negative effect. **Collision Risk:** No Effect			
Sparrowhawk	**Direct Habitat Loss:** No Effect **Displacement and Barrier Effect:** Likely long-term constant imperceptible negative effect. **Collision Risk:** Likely long-term imperceptible negative effect.	Section 7.6.1 Section 7.6.2	No effect greater than imperceptible negative	Not Significant
Decommissioning Phase				
Ornithological receptors	**Direct habitat loss:** No effect. **Disturbance during decommissioning:** As per the construction phase.	Section 7.8.3	No effect greater than slight.	Not Significant

19.2.4 Land, Soils and Geology

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Land and Land use	Negative, moderate, direct, likely, long-term	Section 8.5.2.1 – None Required	Negative, slight to moderate, direct, likely, long-term	Not Significant
Soil, Subsoil and Bedrock Excavation	Negative, moderate, direct, likely, permanent	Section 8.5.2.2	Negative, slight to moderate, direct, likely, permanent	Not Significant
Leakages and Spillages	Negative, imperceptible to slight, direct, short-term, unlikely	Section 8.5.2.3	Negative, imperceptible, direct, short-term, unlikely	Not Significant
Erosion of Exposed Soils and Subsoils	Negative, imperceptible to slight, direct, short-term, likely	Section 8.5.2.4	Negative, imperceptible, direct, short-term, likely	Not Significant
Karst Related Ground Instability	Negative, moderate to significant, direct, permanent, unlikely	Section 8.5.2.5	Negative, slight, direct, permanent, unlikely	Not Significant
Turbine Delivery Route Accommodation Areas	Negative, imperceptible to slight, direct, likely, temporary	Section 8.5.2.6	Negative, imperceptible, direct, likely, temporary	Not Significant
Proposed Enhancement Measures	Positive, moderate, direct, likely, long-term final effect	N/a	N/a	Not Significant
Operational Phase				
Land, Soils and Geology	Not Significant	Section 8.5.3	Not Significant	Not Significant
Decommissioning Phase				
Land Soils and Geology	The potential impacts associated with decommissioning of	N/A	N/A	Not Significant

	the Proposed Project will be similar to those associated with construction but of reduced magnitude.			

19.2.5 Hydrology and Hydrogeology

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Potential Effects on the Clomantagh/Killoshulan (Balief) Group Water Scheme and Other Local Wells	Negative, Slight, Indirect, Temporary, Unlikely effect on GWS and other local wells source quality and quantity	9.5.2.1	Negative, Imperceptible, Indirect, Temporary, Unlikely effect on Clomantagh/Killoshulan GWS and other local wells source quality and quantity	Not Significant
Clear Felling of Coniferous Plantation and Potential Surface Water Quality effects	Negative, Imperceptible to Slight, Indirect, Temporary, Likely effect on surface water quality.	9.5.2.2	Negative, Imperceptible, Indirect, Temporary, Likely effect on downstream water quality and aquatic habitats	Not Significant
Earthworks Resulting in Suspended Solids Entrainment in Surface Waters	Negative, Moderate to Significant, Indirect, Short-Term, Likely effect on surface water quality	9.5.2.3	Negative, Imperceptible, Indirect, Short-Term, Likely effect on down-gradient rivers, water quality, and dependent ecosystems	Not Significant
Potential Impacts on Groundwater Levels During Excavations	Negative, Imperceptible to Slight, Direct, Brief, Likely effect on local GWBs. No significant effects on the GWBs	9.5.2.4	Negative, Imperceptible, Direct, Brief, Likely effect on	Not Significant

	will occur due to the small dewatering requirements		groundwater levels	
Excavation Dewatering and Potential Impacts on Surface Water Quality	Negative, Slight to Moderate, Indirect, Temporary, Likely effect on surface water quality	9.5.2.5	Negative, Imperceptible, Indirect, Temporary, Likely effect on local surface water quality	Not Significant
Potential Release of Hydrocarbons During Construction and Storage	Negative, Slight to Moderate, Indirect, Short-Term, Unlikely effect on local groundwater quality and surface water quality	9.5.2.6	negative, imperceptible, indirect, short-term, unlikely impact on local surface water and groundwater quality	Not Significant
Groundwater and Surface Water Contamination from Wastewater Disposal	Negative, Moderate, Indirect, Temporary, unlikely effect to surface water quality and surface water quality	9.5.2.7	No Residual Effects	Not Significant
Release of Cement-Based Products	Negative, Moderate, Indirect, Short-Term, Unlikely effect to surface waters (Foyle South Stream, Lisdowney Stream, Nuenna River and Gorteenahilla Stream) and GWBs (Lisdowney GWB, Durrow GWB, Killkenny-Ballynakill Gravels GWB and Rathdowney GWB).	9.5.2.8	negative, imperceptible, indirect, short-term, unlikely effect on surface water quality	Not Significant
Morphological and Hydrological Effects Due to New Watercourse Crossings	Negative, Imperceptible to Slight, Direct, Long-Term, Likely effect on surface water flows and drainage patterns	9.5.2.9	Negative, Imperceptible, Direct, Long-Term, likely effect on stream flows, stream morphology and surface water quality	Not Significant

Potential Hydrological Effects on Designated Sites	Negative, Imperceptible, Indirect, Short-Term, likely effect on downstream SACs	9.5.2.10	No Effects on Local Designated Sites	Not Significant
Potential Effects on Local Groundwater Well Supplies from Excavations	Negative, Imperceptible, Indirect, Short-Term, Unlikely effect on local wells	9.5.2.11	No Effects on Local Groundwater Wells	Not Significant
Turbine Delivery Route Works	Negative, Imperceptible, Indirect, Short-Term, Likely effect on surface water quality	9.5.2.12	No Significant Residual Effect	Not Significant
Effects of Construction Works on the WFD Status of Downstream Waterbodies	Negative, Slight, Indirect, Temporary, Unlikely effect on river waterbody and GWB WFD status	9.5.2.13	Negative, Imperceptible, Indirect, Short-Term, Unlikely impact on down gradient rivers, water quality, dependent ecosystems and GWBs. No potential impact on the status, ecology or hydromorphology of waters	Not Significant
Use of Siltbuster and Impacts on Downstream Surface Water Quality	Negative, Slight, Indirect, Temporary, Likely effect on surface water quality	9.5.2.14	Negative, Imperceptible, Indirect, Temporary, Unlikely effect on downstream water quality	Not Significant (Adverse Effects)
Potential Surface Water Quality Effects of the Proposed Grid Connection Earthworks and Watercourse Crossings	Negative, Slight, Indirect, Temporary, Likely effect to surface water quality	9.5.2.15	Negative, Imperceptible, Direct, Long-Term, Likely effect on surface water quality	Not Significant
Biodiversity Enhancement and Management Plan (BEMP)	Positive, Slight, Direct, Permanent, Likely effect of BEMP	9.5.2.16	Positive, Slight, Direct, Permanent effect on habitats	Positive Effect

Operational Phase				
Removal of Vegetation Cover and Progressive Replacement of Natural Surface with Low Permeability Surfaces	Negative, Imperceptible, Indirect, Long-Term, Likely effect on all downstream surface water bodies	9.5.3.1	Neutral, Direct, Long-Term, Likely effect on surface waters	Not Significant
Runoff Resulting in Suspended Solids Entrainment in Surface Waters	Negative, Slight, Indirect, Temporary, Likely effect on surface water quality	9.5.3.2	Negative, Imperceptible, Indirect, Temporary, Unlikely effect on downstream water quality	Not Significant
Potential Effects on the Clomantagh/Killoshulan Group Water Scheme and Other Local Wells	Negative, Imperceptible, Indirect, Long-Term, Unlikely impact on Clomantagh/Killoshulan Group Water Scheme and Other Local Wells	9.5.3.3	No Residual Effects on Clomantagh/Killoshulan Group Water Scheme and Other Local Wells	Not Significant
Decommissioning				
Water	The potential impacts associated with decommissioning of the Proposed Project will be similar to those associated with construction but of a reduced magnitude, due to the reduced scale of the proposed decommissioning works in comparison to construction phase works.	N/A	N/A	Not Significant

19.2.6 Air Quality

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Exhaust Emissions (Construction)	Short-term, Slight, Negative	Section 10.3.2.1.	Short-Term, Imperceptible, Negative	Not Significant

Exhaust Emissions (Transportation)	Short-term, Slight, Negative	Section 10.3.2.2	Short-Term, Imperceptible, Negative	Not Significant
Dust Emissions (Proposed Wind Farm)	Short-term, Slight Negative	Section 10.3.2.3	Short-Term, Slight, Negative	Not Significant
Dust Emissions (Proposed Grid Connection)	Short-term, Slight Negative	Section 10.3.2.3	Temporary Slight Negative	Not Significant
Human Health	No effects identified	Section 10.3.2.4	No effects identified	Not Significant
Operational Phase				
Exhaust Emissions	Long-term, Imperceptible, Negative	Section 10.3.3.1	Long-term, Imperceptible Negative	Not Significant
Dust Emissions	Long-term, Imperceptible, Negative Effect	Section 10.3.3.2	Long-term, Imperceptible Negative	Not Significant
Air Quality	Long-term, Significant, Positive	Section 10.3.3.3 – no mitigation required	Long-term, Significant, Positive	Significant
Decommissioning Phase				
Air Quality	The potential impacts associated with decommissioning of the Proposed Project will be similar to those associated with construction but of reduced magnitude.	N/A	N/A	Not Significant

19.2.7 Climate

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Greenhouse Gas Emissions	**Proposed Wind Farm:** Short-Term, Slight, Negative	Section 11.5.2	Short-term Imperceptible Negative	Not Significant

	Proposed Grid Connection: Short-Term, Slight, Negative **Transportation:** Short-Term, Slight, Negative **Waste Disposal:** Short-Term, Slight, Negative			
Operational Phase				
Greenhouse Gas Emissions	**Proposed Wind Farm:** long-term, slight, negative **Proposed Grid Connection:** long-term, slight, negative **Transportation:** long-Term, imperceptible, Negative **Waste Disposal:** Short-Term, Imperceptible, Negative	Section 11.5.3	Long-Term, Moderate, Positive	Not Significant
Decommissioning Phase				
Climate	Any impact and consequential effect that occurs during the decommissioning phase will be similar to that which occurs during the construction phase, however to a lesser extent and lesser duration, and the mitigation measures outlined in Section 11.5.2 will be implemented during the decommissioning phase also.	N/A	N/A	N/A

19.2.8 Noise and Vibration

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Construction Noise (Proposed Wind Farm)	Short-Term, Not Significant, Negative	12.7.1 (Chapter 12) Section 5 (TA 12.1)	Short-Term, Not Significant, Negative	Not Significant
Construction Noise (Proposed 110kV Underground Cabling)	Short-Term, Not Significant, Negative	12.7.1 (Chapter 12) Section 5 (TA 12.1)	Short-Term, Not Significant, Negative	Not Significant
Construction Vibration	Short-Term, Not Significant, Negative	12.7.1 (Chapter 12) Section 5 (TA 12.1)	Short-Term, Not Significant, Negative	Not Significant
Construction Traffic Noise	Short-Term, Not Significant, Negative	12.7.1 (Chapter 12) Section 5 (TA 12.1)	Short-Term, Not Significant, Negative	Not Significant
Operational Phase				
Assessment of Operational Noise from Proposed Wind Farm	Long-Term, Not Significant, Negative	Section 12.7.2	Long-Term, Not Significant, Negative	Not Significant
Assessment of Operational Noise from BESS and 110kV Substation	Long-Term, Not Significant, Negative	Section 12.7.2	Long-Term, Not Significant, Negative	Not Significant
Decommissioning Phase				
Removal of Proposed Wind Farm	Short-Term, Not Significant, Negative	12.7.1 (Chapter 12) 5 (TA 12.1)	Short-Term, Not Significant, Negative	Not Significant

19.2.9 Landscape and Visual

Topic	Impact Assessment Discussion Section Reference	Residual Effect	Significance
Construction Phase			

Proposed Project	Section 13.7.2.1	Temporary to Short-Term, Negative effects, within the following range: Slight – Moderate	not significant
Nearby Visual Receptors	Section 13.7.2.2	Temporary to Short-Term, Negative effects, within the following range: Not Significant – Slight	not significant
Operational Phase – Landscape Effects			
Proposed Project	Section 13.7.3.1.1	Long-Term, Moderate, Negative	not significant
LCAs	Section 13.7.3.1.2	Long-Term, Negative effects, within the following range: Not Significant – Moderate	not significant
Other Landscape Receptors (Sensitive Landscape Features, River Nore and Nore Valley, Clomantagh Hillfort)	Section 13.7.3.1.3	Long-Term, Negative effects, within the following range: Not Significant – Significant	Significant effects on the landscape setting of Clomantagh Hillfort; not significant at other assessed landscape receptors.
Operational Phase – Visual Effects			
Designated Scenic Routes, Views and Prospects	Section 13.7.3.2.3	Long-Term, Negative effects, within the following range: Imperceptible – Moderate	not significant
Settlements	Section 13.7.3.2.3	Long-Term, Negative effects, within the following range: Imperceptible – Moderate	not significant
Recreational Routes	Section 13.7.3.2.3	Long-Term, Negative effects, within the following range: Imperceptible – Slight	not significant
Recreational Destinations, Cultural Heritage and Tourism Destinations	Section 13.7.3.2.3	Long-Term, Negative effects, within the following range: Imperceptible – Significant	Significant at 1 No. location (Clomantagh Hillfort, VP18) / not significant at all other

			assessed locations.
Residential Receptors	Section 13.7.3.2.4	Long-Term, Negative effects, within the following range: Imperceptible – Moderate	not significant
Decommissioning Phase			
Proposed Project	Section 13.7.4	(same as construction phase effects)	not significant

19.2.10 Cultural Heritage

Cultural Heritage	Pre-Mitigation Effect	Section Reference	Residual Effect	Significant
Construction Phase				
UNESCO WHS and those on the Tentative List	Neutral	Section 14.4.3.1	Neutral	Not Significant
National Monuments and those Subject to a Preservation Order	Neutral	Section 14.4.3.2	Neutral	Not Significant
Recorded Monuments	Neutral	Section 14.4.3.3	Neutral	Not Significant
Previously Unrecorded Monuments	Neutral	Section 14.4.3.4	Neutral	Not Significant
Sub-surface Archaeology	Permanent, Negative, Significant,	Section 14.4.3.5	Long term, Slight, Negative	Not Significant
Protected Structures	Neutral	Section 14.4.3.6	Neutral	Not Significant
NIAH Structures and Historic Gardens	Neutral	Section 14.4.3.7	Neutral	Not Significant
Items of Local Cultural Heritage Merit	Permanent, Negative, Significant-Neutral	Section 14.4.3.8	Long-term, Negative, Slight-Neutral	Not Significant
Operational Phase				
UNESCO WHS and those on the Tentative List	Neutral	Section 14.4.4.1	Neutral	Not Significant

National Monuments and those Subject to a Preservation Order	Not Significant-Imperceptible, Negative, Long Term	Section 14.4.4.2	Not Significant-Imperceptible, Negative, Long Term	Not Significant
Recorded Monuments	Moderate-Neutral, Negative, Long Term	Section 14.4.4.3	Moderate-Neutral, Negative, Long Term	Not Significant
Previously Unrecorded Monuments	Neutral	Section 14.4.4.4	Neutral	Not Significant
Sub-surface Archaeology	Neutral	Section 14.4.4.5	Neutral	Not Significant
Archaeological Landscapes	Neutral	Section 14.4.4.6	Neutral	N/A
Protected Structures	Neutral to Moderate, Negative, Long Term	Section 14.4.4.7	Neutral to Moderate, Negative, Long Term	Not Significant
NIAH Structures and Historic Gardens	Neutral to Moderate, Negative, Long Term	Section 14.4.4.8	Neutral to Moderate, Negative, Long Term	Not Significant
Items of Local Cultural Heritage Merit	Moderate to Not Significant, Negative, Long Term	Section 14.4.4.9	Moderate to Not Significant, Negative, Long Term	Not Significant
Decommissioning Phase				
N/A	N/A	Section 14.5	N/A	N/A

19.2.11 Material Assets

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Traffic and Transport	Temporary, Slight, Negative	Section 15.1.13.5	short-term slight negative effect	Not Significant
Telecoms and Aviation	N/A	N/A	N/A	Not Significant

Other Material Assets	**Electricity**: Temporary, Moderate, Negative **Water**: Temporary, Slight, Negative **Broadband Services**: Short-Term, Slight, Negative	Section 15.3.3.2.1 Section 15.3.3.2.2 Section 15.3.3.2.3	**Electricity**: Temporary, Slight Negative **Water**: Slight, temporary, and Negative **Broadband Services**: Short-Term, imperceptible Negative	Not Significant
Operational Phase				
Traffic and Transport	Long-Term, Imperceptible, and Negative	n/a	n/a	Not Significant
Telecoms and Aviation	Telecoms: no identified impacts Aviation: Moderate, Long-Term and Negative	Section 15.2.7.3.1 Section 15.2.7.3.2	Telecoms: no identified impacts Aviation: Slight, Long-Term and Negative	Not Significant
Other Material Assets	n/a	n/a	n/a	Not Significant
Decommissioning Phase				
Traffic and Transport	Temporary, Imperceptible, and Negative.	Section 15.1.13.5	Imperceptible, Temporary, and Negative	Not Significant
Telecoms and Aviation	N/A	N/A	N/A	N/A
Other Material Assets	Any impact and consequential effect that occurs during the decommissioning phase will be similar to that which occurs during part of the construction phase.	N/A	N/A	Not Significant

19.2.12 Major Accidents and Natural Disasters

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Contamination Events	Temporary, Moderate, Negative	Section 16.4.3.1	Unlikely, Temporary, Slight, Negative	Not Significant
Major Fire	Temporary, Moderate, Negative	Section 16.4.3.2	Unlikely, Temporary, Slight, Negative	Not Significant
Karst Risk	Negative, Significant, Long-Term	Section 16.4.3.3	negative, imperceptible to slight, direct, long term, unlikely effect	Not Significant
Operational Phase				
Contamination Events	Temporary, Moderate, Negative	Section 16.4.3.1	Temporary, Slight, Negative	Not Significant
Major Fire	Temporary, Moderate, Negative	Section 16.4.3.2	Temporary, Slight, Negative	Not Significant
Decommissioning Phase				
Contamination Events	Temporary, Moderate, Negative	Section 16.4.3.1	Temporary, Slight, Negative	Not Significant
Major Fire	Temporary, Moderate, Negative	Section 16.4.3.2	Temporary, Slight, Negative	Not Significant