

Proposed Gathabawn Windfarm

Environmental Impact Assessment Report

Chapter 21: Interaction of the Foregoing

September 2026

CHAPTER 18 Interaction of the Foregoing

All environmental factors are inter-related to some extent. The EIA Coordinators facilitated the sharing of information and evaluations between the environmental topic authors, so that the potential for cross-factor effects could be considered by the various authors regarding their Environmental Factor topic. Where the potential for cross-factor effects was identified, then, the effect was evaluated in the receiving Environmental Factor topic chapter.

The likely cross-factor effects that were examined in the EIA Report 2026 are identified and summarised below. The potentially affected Sensitive Aspect and cross factor effect is identified along with the relevant EIAR evaluation section for ease of reference.

The strength of the interaction is indicated with the colour of the arrow box:

	Weak interaction
	Medium interaction
	Strong interaction

Table 18-1: Interaction of the Environmental Factors

PRIMARY Environmental Factor: LAND		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
<u>Agricultural Land</u> : Reduction in Land Area available for Agricultural Use		Biodiversity (Ch 13)	<u>Terrestrial Habitats</u> : Direct loss of Terrestrial Habitats, Landscape level habitat fragmentation, Habitat Degradation Effects. See Section EIAR 13.4.4.3 <u>Fauna</u> : Habitat loss or reduction. See Sections EIAR 13.4.6.1, 13.4.7.1, 13.4.7.2 and 13.4.11.2
PRIMARY Environmental Factor: Soils		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
<u>Local Soils and Subsoils</u> : Soil degradation due to compaction, erosion, weathering		Land (Ch 6)	<u>Agricultural Land</u> : Reduction or loss of productivity due to degradation of soils. See Section EIAR 6.4.4
<u>Local Soils and Subsoils</u> : Soil degradation due to erosion, weathering, or contamination, Reduction in soil quantity and soil degradation due to sealing		Water (Ch 8)	<u>River Waterbodies, Groundwater Bodies, Water Supply (local wells), Designated Sites</u> : Reduction in water quality. See Sections EIAR 8.4.5.1, 8.4.5.2, 8.4.5.3, 8.4.5.4 and 8.4.6
<u>Local Soils and Subsoils</u> : Soil degradation due to erosion or weathering		Air Quality (Ch 9)	<u>Local Residents, Community, Amenities</u> : Increase in Airborne dust, See Section EIAR 9.4.4.1

Local Soils and Subsoils: Excavation and Relocation of Soils, Subsoils and Bedrock	➔	Climate (Ch 12)	Climate Change: Embodied emissions. See Greenhouse Gas Assessment, Section EIAR 12.4.4.1
PRIMARY Environmental Factor: Water		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
River Waterbodies, Groundwater Bodies: Changes to Surface Water Quantities due increased runoff rates and/or changes to drainage patterns; Alteration of groundwater levels and/or flow paths	➔	Land (Ch 6)	Agricultural Land: Reduced growth rates due to a change in the drainage regime, See Section EIAR 6.4.4
Water Supply: Reduction in Groundwater Quality or Quantity at local wells	➔		Agricultural Land: Degradation or loss of farm water supply, See Section EIAR 6.4.4
River Waterbodies: Changes to Surface Water Quantities due increased runoff rates and/or changes to drainage patterns	➔	Soils (Ch 7)	Local Soils & Bedrock: Soil degradation due to erosion or weathering, See Section EIAR 7.4.6
River Waterbodies & Groundwater Bodies: Reduction in surface water quality; Changes to Water Quantities or Drainage Patterns; Hydromorphological effects due to watercourse crossing works	➔	Biodiversity (Ch 13)	Terrestrial Habitats: Surface or groundwater dependent habitat degradation, See Section EIAR 13.4.4.3 and 13.4.4.4 Amphibians & Reptiles: Loss, reduction or degradation of foraging and breeding habitat, See Section EIAR 13.4.5.1.2 and 13.4.5.2 Mammals (Otter): Reduction in aquatic habitat quality and availability of aquatic prey item species; See Section EIAR 13.4.6.1 and 13.4.11.2 Birds – Waders and Waterbirds: Permanent or temporary reduction or loss or fragmentation of suitable habitat. See Section EIAR 13.4.9.2.3 and EIAR 13.4.9.2.4 Aquatic Habitats & Species: Hydromorphological impacts to downstream waterbodies due to changes to drainage regimes and surface water runoff; Disturbance/displacement/ mortality of species of conservation importance. See Section EIAR 13.4.10.2 Designated Sites: Habitat Degradation Effects to Designated Sites (SAC, SPA and pNHA) – change in flow regimes; Reduction in Water Quality; WFD Status, Change in flow/water quantities. See Sections EIAR 13.4.11.2, 13.4.11.1.2, and 13.4.11.3

Water Supply: Reduction in Water Quality or Quantities	➔	Human Health (Ch 18)	Human Health: Secondary Impact of Water Supply Impacts on Health & Wellbeing, see Section EIAR 18.4.3.1
PRIMARY Environmental Factor: Air Quality		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
Air Quality: Increase in Airborne dust	➔	Land (Ch 6)	Agricultural Lands: Effects on animal health and wellbeing due to increases in airborne dust and deposition of dust on grassland, See Section EIAR 6.4.4
Air Quality: Increase in Airborne dust	➔	Human Health (Ch 18)	Human Health: Secondary Impact of a Reduction in Air Quality on Human Health, see Section EIAR 18.4.3.1.
PRIMARY Environmental Factor: Noise & Vibration		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
Noise and Vibration emissions from works, process and vehicles/machinery Noise emissions from operational turbines	➔	Biodiversity (Ch 13)	Fauna: Disturbance/displacement, See Sections EIAR 13.4.6.1, EIAR 13.4.11.2, EIAR 13.4.7.1 and EIAR 13.4.7.2 Bats: Disturbance or displacement of bats, See Section EIAR 13.4.8.2 and EIAR 13.4.8.3 Birds: Disturbance and/or displacement, See Sections EIAR 13.4.9.2.1, 13.4.9.2.2, 13.4.9.2.3, 13.4.9.2.4 and 13.4.9.2.5
Noise emissions from operational turbines	➔	Human Health (Ch 18)	Human Health: Secondary Impact of Operational Noise Impacts on Health & Wellbeing, see Section EIAR 18.4.3.2
PRIMARY Environmental Factor: Shadow Flicker		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
Shadow flicker occurrence	➔	Human Health (Ch 18)	Human Health: Secondary Impact of Shadow Flicker impacts on Health & Wellbeing, see Section EIAR 18.4.3.2
PRIMARY Environmental Factor: Climate		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
Climate Change	➔	Multiple	Climate Change has been identified as a potential adverse future effect in Evolution of the Baseline Environment in the Land, Soils, Water, Air Quality,

			Biodiversity, Material Assets, Population and Human Health chapters. See Section 18.1 .
<u>Climate Action</u> : Generation of RE-E Electricity	➔	Human Health (Ch 18)	<u>Human Health</u> : Secondary impact of Air Quality impacts on Health & Wellbeing due to Production of Renewable Electricity; Secondary impact of Climate impacts on Health & Wellbeing, see Section EIAR 18.4.3.2
PRIMARY Environmental Factor: Biodiversity		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
<u>Terrestrial Habitats</u> : Introduction or spread of invasive species	➔	Land (Ch 6)	<u>Agricultural Land</u> : Increased farm management costs due to spread of invasive species, See Section EIAR 6.4.4
PRIMARY Environmental Factor: The Landscape		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
Visual Impact on Tourism, Recreation & Heritage Features	➔	Population (Ch 17)	<u>Local Populations & Local Economy</u> : Decrease in tourism revenue, See Section EIAR 17.4.3.3
Visual Impact on Local Community Views	➔	Human Health (Ch 18)	<u>Human Health</u> : Secondary impact of Landscape and Visual Impacts on Local Community Wellbeing and Community Resource, See Section EIAR 18.4.3.2
PRIMARY Environmental Factor: Cultural Heritage		RECEIVING Environmental Factor (Chapter)	Sensitive Aspect & Cross-Factor Effect
Sensitive Aspect & Primary/Initial Effect			
<u>Visual Impacts</u> (setting effects) on cultural heritage sites	➔	Population (Ch 17)	<u>Local Populations & Local Economy</u> : Decrease in tourism revenue, See Section EIAR 17.4.3.3

In Conclusion: as outlined in the table above, some of the effects of the Proposed Gathabawn Windfarm on the Environmental Factors will interact and cause secondary (cross-factor) impacts to other Factors. Having considered and assessed the interaction of potential impacts during the construction, operational and decommissioning phases it has been determined that no additional significant effects are anticipated.

It is also noted that the proposed development will have some positive effects in terms of helping to achieve renewable energy targets and achieving climate action goals, with secondary positive effects to many of the Environmental Factors.