The decommissioning phase of the Proposed Development may cause potential habitat degradation due to sediment loss and/ or hydrocarbon loss to waterbodies which is associated with increased vehicle use on site and increased traffic congestion. This would cause short-term, moderate, reversible, negative effects on aquatic species, flora and terrestrial fauna in localised catchments. The implementation of mitigation measures outlined in Chapters 4, 6, 8 and 9 will ensure the potential negative effects are ameliorated or removed

Biodiversity, and Air and 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 a reduction in air pollution. Consequently, this is likely, in combination with other renewable energy projects, to have a **long-term slight positive effect** on flora and fauna.

Any potential air quality impacts and consequential effects likely to occur during the decommissioning phase are lower than those which would occur under the Do-Nothing alternative outlined in Chapter 10 Air and Climate (2025 Decommissioning Date). There would be exhaust emissions from construction plant and vehicles, and potential dust emissions due to the movement of the same associated with the decommissioning of the wind farm and substation. Mitigation measures will be implemented which is further outlined in Chapter 10 Air and Climate. With the Implementation of Mitigation **No significant Effects** are envisaged

Biodiversity, and Noise and Vibration

No potential impacts upon biodiversity from noise and vibration arising during the operational phase of the Proposed Development were identified in Chapter 6 of the EIAR.

Site activity during the decommissioning phase could give rise to noise that could be a nuisance for fauna, thereby having a **temporary, slight, negative effect**. Best practice mitigation measures are included in Chapter 6 and Chapter 11 to minimise the potential negative effect of noise generated during the decommissioning phase on biodiversity

Biodiversity, and Landscape and Visual

No significant impacts are likely upon vegetation within the Proposed Development footprint and surrounding area during the operational phase of the existing Castledockrell Wind Farm and 110kv Substation. As the wind farm and substation has been in operation since 2011 it is now considered to have become part of the normal landscape of the wider area. No significant visual effects are likely during the operational phase.

Concrete foundations will not be removed from the ground as it is considered to be the least preferred option in terms of having potential effects on the environment. Therefore, the turbine foundations will be backfilled, covered with soil material and re-seeded resulting in a more environmentally prudent option.

Ornithology, and Water

The limited site maintenance activities that will take place during the operational phase, do not include any changes to the existing site drainage. With implementation of the mitigation measures outlined in Chapter 7 and Chapter 9 on Water of this EIAR, no impacts to birds from the water environment are envisaged during the operational phase.

Site activities during the future decommissioning 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 waterbodies within the same catchment. Mitigation measures (as per Chapter 7) if implemented will ensure there are no significant effects on birds or their habitat. Further measures would also be included in a decommissioning plan to be agreed with the local authority in advance of works.

Ornithology, and Air and 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.

During the decommissioning phase of the Proposed Development, increased vehicular and dust emissions within and around the site have the potential to be a nuisance for birds, thereby having a **temporary, slight, negative effect**. The mitigation measures outlined in Chapter 7 of the EIAR will ensure that the potential for negative effects is reduced or eliminated.

Ornithology, and Noise and Vibration

In Chapter 6 Biodiversity; Birds, Flora and Fauna concluded that as the operational parameters of the existing Castledockrell Wind Farm and 110kV Substation are not changing therefore the magnitude of change resulting from noise and visual disturbance causing displacement of birds by extending the operational phase is inexistent and is therefore not significant.

Site activity during the future decommissioning of the Proposed Development could give rise to noise that could be a nuisance for birds that use the site, therefore, causing a **temporary, slight, negative effect**. Best practice mitigation measures are included in Chapter 6 and Chapter 11 to minimise the potential negative effect of noise generated during the decommissioning phase on ornithology.

16.2.3 Land, Soils, and Geology

Land, Soils and Geology, and Water

The operational phase of the Proposed Development will not include any groundworks (e.g. excavations) or other activities likely to result in ground disturbance or pollution, which may give rise to impacts upon the water environment. Chapter 8 of the EIAR concluded that no significant effects to the subsurface environment will occur during the operational phase.

As identified in Chapter 8: Land Soils & Geology and Chapter 9: Water of this EIAR, groundworks including excavations and movement of spoil during the decommissioning phase has the potential to have a significant, negative effect on water quality through potentially silt-laden runoff from the proposed works areas. Mitigation measures to ensure there are no significant, negative effects on water quality are presented in Chapter 9.

Land, Soils and Geology, and Cultural Heritage

No disturbance to the subsurface (soils and geology) is proposed as part of the extended operational phase of the Proposed Development. Chapter 12: Cultural Heritage concluded that as no groundworks will take place during the operational phase, no direct or indirect effects on archaeology, architecture and cultural heritage are identified.

Potential groundworks including localised excavations and movement of spoil during the decommissioning phase of the Proposed Development has the potential to have a permanent, significant, negative effect on previously unrecorded sub-surface archaeological site and artefacts. The

implementation of mitigation measures outlined in Chapter 12 will reduce the potential for negative effects on unrecorded sites and artefacts during excavations.

Land, Soils and Geology, and Landscape and Visual

There are no likely significant effects upon lands, soils and geology during the operational phase that could result in associated landscape and visual impacts.

Localised groundworks and excavations that may occur during the decommissioning phase are largely concerned with restoration of the site and therefore likely to have a positive impact on the local landscape. The visual effect of this change is expected to be **positive, long term, localised in nature and slight.**

16.2.4 Air and Climate

Air and Climate, and Material Assets

In Chapter 14 Material Assets of the EIAR assesses the traffic effects of the Proposed Development during the operational phase and found that typically, no more than two trips per day to the site are made by car or light goods vehicle. As per Chapter 10: Air and Climate of the EIAR, there will be no significant direct or indirect effects to air quality associated with the continued operation of the existing Castledockrell Wind Farm and 110kV Substation.

During the decommissioning phase, the movement of construction vehicles (e.g. cranes and heavy plant) both within, and to and from the site, has the potential to give rise to dust and exhaust emissions. This is assessed further in Chapters 10 and 14 of this EIAR, and mitigation measures are presented to minimise any potential effects.

16.2.5 Landscape and Visual

Landscape and Visual, and Cultural Heritage

As described in Chapter 12: Cultural Heritage of this EIAR, the Proposed Development, as it is an extension of operation of an existing Castledockrell Wind Farm and 110kV Substation, will not change the landscape setting of recorded sites and monuments, either within the site bounds or in the wider area. It is considered that no direct effects would occur at the operational phase. It is concluded in Chapter 12 that no built heritage structures will be impacted either directly or indirectly by the Proposed Development, since nothing additional to the existing baseline environment is being proposed as part of the extended operation of the existing Castledockrell Wind Farm and 110kV Substation.

No recorded monuments, protected structures, NIAH structures, historic gardens or items of local cultural heritage merit are located within the existing Wind Farm site. Given that minimal works will be required at the decommissioning phase and it is proposed that the site roads be left in situ, no potential direct effects to the archaeological, architectural or cultural heritage resource, including sub-surface archaeology, are identified and no mitigation is proposed.

16.2.6 Major Accidents and Natural Disasters

As described in Chapter 15 of the EIAR, major accidents or natural disasters are hazards which have the potential to affect the Proposed Development and lead to environmental effects both directly and indirectly. These include accidents during the operation and decommissioning of the Proposed development caused by operational failure and/or natural hazards. The assessment of the potential for

significant accidents or disasters is conducted in connection with the information that must be included in the EIAR. This includes aspects such as population and human health, biodiversity, land and soil, hydrology and hydrogeology, air quality, climate, material assets, cultural heritage, and landscape. The risk of a major accident and/or disaster during the construction of the Proposed Development is considered 'low' in accordance with the 'Guide to Risk Assessment in Major Emergency Management' (DoEHLG, 2010).

When the above mitigation is implemented, and all mitigation detailed in the EIAR is implemented, the residual effect(s) associated with the operation and decommissioning of the Proposed Development are not significant.

16.3 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 EIAR. These are also outlined in full in Chapter 17: Schedule of Mitigations. The implementation of these mitigation measures will reduce or remove the potential for these effects. Information on potential residual impacts and the significance of effects, is also presented in each relevant cha

17. SCHEDULE OF MITIGATION

17.1 Introduction

All mitigation and monitoring measures relating to the operational and decommissioning phases of the Proposed Development are set out in the relevant chapters of the EIAR. There are no construction activities, groundworks or alterations to the existing wind farm proposed as part of the Proposed Development, and so there is no construction phase.

All mitigation and monitoring measures which will be implemented during the operational and decommissioning phases of the Proposed Development are outlined in Table 17-1and Table 17-2 below. The mitigation measures can be grouped together according to their environmental field/topic under the following headings:

- Operational Phase
- Decommissioning Phase

The mitigation proposals in the below format provides an easy to audit list that can be reviewed and reported on during the future phases of the Proposed Development. The proposal for environmental management framework to be adhered to during the extended operational phase are set out in the Operation and Environmental Management Plan (OEMP) which is included as Appendix 4-3 of this EIAR. The proposal for environmental management framework to be adhered to during the decommissioning phase are set out in the Decommissioning Plan which is included as Appendix 4-4 of this EIAR. The tabular format in which the below information is presented, can be further expanded upon during the course of Proposed Development phases to provide a reporting template for site compliance audits.

17.2 EIAR Mitigation Measures

Table 17-1 Schedule of Mitigation

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		Operational Phase		
MM1	EIAR Chapter 4	During the operational period, on a day-to-day basis the wind turbines will operate automatically, responding by means of anemometry equipment and control systems to changes in wind speed and direction. Turbine output, performance, wind speeds and responses to any key alarms will continue to be monitored. All operational works in-site will be carried out in strict adherence with the Applicant's Health and Safety Policies and Procedures. Each turbine will continue to be subject to a routine maintenance programme involving monthly checks and intermittent changing of consumables, including oil changes. In addition, there will be a requirement for unscheduled maintenance, which could vary between resetting alarms to major component changes requiring a crane. All site roads will continue to be subject to maintenance, this includes surfacing works to maintain operational site access. Typically, maintenance traffic will consist of four-wheel drive vehicles or vans. The wind farm manager will continue to attend the site regularly to perform inspections and oversee maintenance works. An Operation and Environmental Management Plan (OEMP) has been prepared for the Proposed Development and is included as Appendix 4-3 of this EIAR.		
MM2	EIAR Chapter 5	Regarding Health and Safety during the operational phase:		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		› **Access to the wind farm site is through a locked gate entered via the L2012** Local Road to the west of the Proposed Development site. An Operational Controller (OC) monitors site activity 24/7, including monitoring weather conditions and turbine performance on site. › **All visitors must undertake a site induction and log entry to the site on a** specific app "Skylark Control". The access log is monitored by the OC to ensure anyone who has booked onsite also books offsite safely. If there is an incident or emergency onsite the OC will enact the Emergency Response Procedure for the wind farm and coordinate the emergency services to the incident. › **Access to the turbines is through a door at the base of the structure, which** will be locked at all times outside maintenance visits. The OC's number is displayed at the entrance of the existing wind farm site and at each turbine door. › **Signs have also been erected at suitable locations across the site, including at** the main gate of the wind farm site and the entrance of each turbine, for the ease and safety of operation of the wind farm. These signs include: › **Buried cable route markers at regular intervals and change of** cable route direction; › **Directions to relevant turbines at junctions;** › **"No access to Unauthorised Personnel" at appropriate locations** › **Speed limits signs at site entrance and junctions;** › **"Warning these Premises are alarmed" at appropriate locations;** › **"Danger HV" at appropriate locations;** › **"Warning – Keep clear of structures during electrical storms,** high winds or ice conditions" at site entrance; › **"No unauthorised vehicles beyond this point" at specific site** entrances; and		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		› **Other operational signage required as per site-specific hazards.** › **An operational phase Health and Safety Plan has been developed to fully** address identified Health and Safety issues associated with the operation of the site and provides for access for emergency services at all times. This Health and Safety Plan is updated regularly as necessary. › **All major components of the wind turbines have an expected lifetime of 26** years and are equipped with a number of safety devices to ensure safe operation during their lifetime. During the operation of the wind farm regular maintenance of the turbines is carried out by the turbine manufacturer or appointed service company. A project or task specific Health and Safety Plan has been developed for these works in accordance with the site's health and safety requirements.		
MM3	EIAR Chapter 5	Regarding Residential Amenity during the operational phase: All mitigation as outlined under noise and vibration, visual amenity and shadow flicker in this EIAR will be implemented in order to reduce insofar as possible impacts on residential amenity at properties located in the vicinity of the Proposed Development. Shadow flicker mitigation is already in operation at the Proposed Development site and will continue throughout any proposed extended operational period. If the need arose, the Proposed Development also has the potential to be brought in line with the requirements of the Draft Revised Wind Energy Development Guidelines (2019) should they be adopted during the planning application phase or operational phase of the Proposed Development.		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		Where daily shadow flicker exceedances have been predicted at buildings by the modelling software, a site visit will be undertaken firstly to determine the level of occurrence, existing screening and window orientation. Should the proposed extended operational period be granted, the shadow flicker prediction data will be used to select dates on which a shadow flicker event could be observed at one or multiple affected properties and the following process will be adhered to. 1. *Recording the weather conditions at the time of the site visit, including wind speeds and direction (i.e., blue sky, intermittent clouds, overcast, moderate breeze, light breeze, still etc.).* 2. *Recording the house number, time and duration of site visit and the observation point GPS coordinates.* 3. *Recording the nature of the sensitive receptor, its orientation, windows, landscaping in the vicinity, any elements of the built environment in the vicinity, vegetation.* 4. *In the event of shadow flicker being noted as occurring the details of the duration (times) of the occurrence will be recorded.* **Screening Measures** In the event of an occurrence of shadow flicker exceeding guideline threshold values of 30 minutes per day at a residential receptor, mitigation options will be discussed with the affected homeowner, including: › **Installation of appropriate window blinds in the affected rooms** of the residence; › **Planting of screening vegetation;** › **Other site-specific measures which might be agreeable to the** affected party and may lead to the desired mitigation.		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		If agreement can be reached with the homeowner, then it would be arranged for the required mitigation to be implemented in cooperation with the affected party as soon as practically possible and for the full costs to be borne by the wind farm operator. **Wind Turbine Control Measures** If it is not possible to mitigate any identified shadow flicker limit exceedance locally using the measures detailed above, wind turbine control measures will be implemented. Wind turbines have been fitted with shadow flicker control units to allow the turbines to be controlled to prevent the occurrence of shadow flicker at properties surrounding the wind farm. The shadow flicker control units have been installed on a number of turbines. A shadow flicker control unit allows a wind farm's turbines to be programmed and controlled using the wind farm's SCADA control system to change a particular turbine's operating mode during certain conditions or times, or even turn the turbine off if necessary. Should a complaint be received within 12 months of the operational period of the Proposed Development being extended, field investigation/monitoring will be carried out by the wind farm operator at the affected property. With the permission of the homeowner, the wind farm developer will log the date, time and duration of shadow flicker events occurring on at least five different days from within the dwelling. The provided log will be compared with the predicted occurrence of shadow flicker at the residence, and if necessary, a field investigation will be carried out.		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
MM4	EIAR Chapter 6	Regarding Water Quality (Rivers, Streams, Groundwater and Sensitive Aquatic Faunal Species) during the operational phase: Taking a precautionary approach there is potential for indirect effects on otter and other aquatic species such as salmonids, lamprey, white-clawed crayfish, European eel, and aquatic invertebrates due to accidental spillage or leaks of pollutants during the operational phase, including routine maintenance activities on the site. Such an event could create potential for run off of pollutants to watercourses and habitats downstream of the site, potentially affecting water and habitat quality and supporting habitat quality for these species. Whilst no significant effects on water quality are anticipated during the operational phase of the Proposed Development, any potential for effects on water quality associated with the operational phase drainage of the site has been fully mitigated through appropriate design and mitigation as fully described below: › **All plant and machinery to be serviced before being mobilised to site;** › **No plant maintenance completed on-site, any broken-down plant removed from site to be fixed;** › **Should it be required on site, refuelling will be completed in a controlled manner using drip trays at all times on impermeable surfaces;** › **Mobile bowsers, tanks and drums stored in secure, impermeable bunded storage areas a minimum of 50m from open water;** › **Only designated trained operators authorised to refuel plant on-site; and** Procedures and contingency plans set up to deal with emergency accidents or spills.		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
MM5	EIAR Chapter 6: Appendix 6-1 Bat Report	Regarding Bat Species during the operational phase: In accordance with NIEA Guidelines, blade feathering will be implemented as a standard across all proposed turbines when wind speeds are below the cut-in speed of the turbine. To continually assess the effects of the ongoing wind farm site activities on bat activity, at least 3 years of post-consent monitoring is proposed. Post-consent monitoring will include static detector surveys, manual activity surveys and corpse searching to record any bat fatalities resulting from collision. The results of post-consent monitoring will be utilised to assess any potential changes in bat activity patterns and to monitor the implementation of the mitigation and curtailment strategy. At the end of each year, the efficacy of the mitigation and curtailment monitoring plan will be reviewed, and any identified efficiencies incorporated into the programme. Curtailment will be implemented during periods with significant peaks of activity (i.e. Autumn), with simultaneous activity monitoring taking place. All turbines will be curtailed during the conditions most suitable for bat activity at the site, as outlined below. Draft proposal for SCADA programme to curtail turbines during the following conditions – › **Season – mid-August to mid-September** › **Duration – dusk until dawn** › **Temperature – 11°C** › **Wind speed – below 5m/s**		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		› Rainfall – less than 3.5mm per hour The effectiveness of curtailment will be monitored in order to determine (a) whether it is working effectively (i.e. whether bat mortality is detected, thereby confirming its effectiveness), and (b) whether the curtailment regime can be refined such that turbine down-time can be minimised whilst ensuring that it remains effective at preventing casualties.		
MM6	EIAR Chapter 8, 9	Oil used in transformers (at each turbine) and any storage of oils or hydrocarbons within the control building compound could potentially leak during the operational phase and impact on soils and subsoils. Turbine transformers are located within the turbine hardstands, with dedicated concrete foundations, so any leaks would be contained within the turbine transformer units and hydrocarbons would not be able to permeate to ground. In addition: › **All plant and machinery to be serviced before being mobilised to site;** › **No plant maintenance completed on-site, any broken-down plant removed from site to be fixed;** › **Refuelling completed in a controlled manner using drip trays at all times;** › **Mobile bowsers, tanks and drums stored in secure, impermeable bunded storage areas away from open water;** › **Only designated trained operators authorised to refuel plant on-site;** › **Procedures and contingency plans set up to deal with emergency accidents or spills; and,** › **Highest standards of site management maintained, and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the site and surrounding environment during works.**		
MM7	EIAR Chapter 10	Regarding Exhaust Emissions during the operational phase:		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		Any vehicles or plant brought onsite during the operational phase will be maintained in good operational order that comply with the Road Traffic Acts 1961 as amended, thereby minimising any emissions that arise.		
MM8	EIAR Chapter 11 EIAR Chapter 11: Appendix 11-11 Noise Management Plan	If specific conditions arise that significant and consistent Amplitude Modulation (AM) is generated, the operator can vary the operating mode to sufficiently mitigate the generation of AM or reduce the overall noise level in comparison to achieve set noise limits. A noise level meter will be deployed at the complainant's property to be representative of the wind farm noise impacts upon the dwelling, whilst attempting to minimise the influence from background noise levels. Typically 6 weeks or monitoring is required, though this may need to be extended depending on wind conditions during the monitoring period. Data analysis will be conducted on the noise measurement data: › Only data where the wind farm was operational will be included › Only data between the hours of 23:00 and 04:00 will be included › Only data within 45 degrees either side of directly downwind of the monitoring location will be included. › Other wind directions and times will be considered if a specific complaint arises further to complainant logs identified repeated concerns › Only data where rainfall was not registered will be included The total measured noise levels inclusive of any penalties will be compared against the background noise level +5dB(A) limit or limits as included within any grant of permission by Wexford County Council.		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		If noise levels are in excess of the background noise level +5dB(A) limit at the complainant's property, a curtailment strategy will be designed to ensure that noise levels from wind farm will reduce either absolute noise levels or reduce the presence of Amplitude Modulation (or a combination of both). Further to the curtailment strategy being initiated, additional noise level monitoring will be undertaken as above to determine the successfulness of the curtailment strategy in reducing operational noise levels to under the background noise level +5 dB(A) limit. Repeated improvements to the curtailment strategy and remeasurement will continue until operational noise levels are under the background noise level +5 dB(A) limit.		
MM9	EIAR Chapter 12	No significant effects have been predicted for the operational phase of the Proposed Development in relation to Cultural Heritage, therefore no mitigation measures have been proposed.		
MM10	EIAR Chapter 13	No significant effects have been predicted for the operational phase of the Proposed Development in relation to Landscape and Visual Impacts, therefore no mitigation measures have been proposed.		
MM11	EIAR Chapter 14	Regarding Traffic during the operational phase: Due to very low volumes of traffic forecast to be generated during this stage no mitigation measures are required. Regarding Telecommunications during the operational phase: No telecoms operators have highlighted issued regarding the Proposed Development, therefore no mitigation measures are required. Regarding Aviation during the operational phase:		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		The developer will coordinate with the IAA directly should a grant of 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 all wind farm developments.		
MM12	EIAR Chapter 15	Potential effects associated with contamination during operation and decommissioning are addressed fully in Chapter 9 Hydrology and Hydrogeology. The mitigation measures outlined in Chapter 9 to protect environmental receptors as well as the procedures and measures described in the Decommissioning Plan (Appendix 4-4) to protect environmental receptors will ensure that the risk from these sources is low. Regarding Fire/Explosions during the operational phase: The Proposed Development will also be subject to a fire safety risk assessment in accordance with Chapter 19 of the Safety, Health and Welfare at Work Acts 2005 to 2014, which will assist in the identification of any major risks of fire on site, and mitigation of the same during operation.		
Decommissioning Phase				
MX1	EIAR Chapter 4	In the event that the Proposed Development is decommissioned after the 20 years extension of life, an updated Decommissioning Plan will be prepared for agreement with the Local Authority. This will be a comprehensive plan updated in line with decommissioning methodologies that may exist at the time.		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		The Final Decommissioning Plan will therefore be agreed with the Local Authority at least three months prior to decommissioning the Proposed Development.		
MX2	EIAR Chapter 4, 5, 10, 11	Regarding Dust, Noise and Vibration during the decommissioning phase: It is proposed to leave the turbine foundations in place underground and to cover them with earth and reseed as appropriate. Leaving the turbine foundations in-situ is considered a more environmentally prudent option, as to remove that volume of reinforced concrete from the ground could result in significant environmental nuisance such as noise, dust and/or vibration. It is proposed that site roadways will be left in situ, as appropriate, to facilitate ongoing access to agricultural holdings. If it were confirmed that the roads were not required in the future for any other purpose, they could be removed where required, however, this is not envisaged at this time. It is proposed to leave underground cables in place where they are below a level likely to be impacted by typical agricultural works.		
MX3	EIAR Chapter 6	Regarding Water Quality (Rivers, Streams, Groundwater and Sensitive Aquatic Faunal Species) during the decommissioning phase. During decommissioning, there is potential for accidental spillage or leaks of pollutants from machinery, and therefore potential for runoff of pollutants to watercourses and groundwater downstream of the site, potentially affecting water quality and supporting habitat quality for aquatic species. Such pollution events are considered highly unlikely as all vehicles and plant are regularly maintained in good working condition.		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		Whilst no significant effects on water quality are anticipated during the decommissioning phase of the Proposed Development, any potential for effects in this phase the has been fully mitigated through appropriate design and mitigation as described below: › **All plant and machinery to be serviced before being mobilised to site;** › **No plant maintenance completed on-site, any broken-down plant removed** from site to be fixed; › **Should it be required on-site refuelling will be completed in a controlled** manner using drip trays at all times on impermeable surfaces; › **Mobile bowsers, tanks and drums stored in secure, impermeable bunded** storage areas a minimum of 50m from open water; › **Only designated trained operators authorised to refuel plant on-site; and** › **Procedures and contingency plans set up to deal with emergency accidents or** spill.		
MX4	EIAR Chapter 7	Mitigation measures, as outlined below, will be implemented during the future decommissioning phase to avoid any potential effects. A decommissioning plan will be agreed with the local authorities at least three months prior to decommissioning of the Proposed Development. This decommissioning plan will include industry best practise measures to mitigate the impact of works on birds, which may include the following: › **All machinery will work from the existing access road corridor.** › **Any required vegetation removal will be conducted in line with the** provisions of the Wildlife Acts 1976-2021. › **Decommissioning works will begin outside the bird nesting season as defined** by the Wildlife Act 1976 as amended (1st of March to the 31st of August). Any requirement for works to run into the subsequent breeding season will		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		be subject to pre-works bird surveys to confirm the absence of breeding birds of conservation concern. If such breeding activity is identified during the works, the nest sites will be located, and no works shall be undertaken within an agreed buffer in line with industry best practise. › **Noise limits, noise control measures, hours of operation (i.e. dusk and dawn is** high faunal activity time) and selection of plant items will be considered in relation to disturbance of birds. All plant and equipment for use will comply with the European Communities (Noise Emission By Equipment For Use Outdoors) Regulations, 2001, as amended (SI 632/2001). Plant machinery will also be turned off when not in use. › **Silt fences will be installed as an additional water protection measure around** existing watercourses. › **An Environmental Clerk of Works and Project Ecologist will be appointed.** Duties will include: o Organise the undertaking of a pre-works walkover bird survey to ensure that significant effects on birds will be avoided. o Inform and educate on-site personnel of the ornithological and ecological sensitivities within the Site. o Oversee management of ornithological issues during the works period and advise on ornithological issues as they arise. o Provide guidance to contractors to ensure legal compliance with respect to protected species onsite. o Liaise with officers of consenting authorities and other relevant bodies with regular updates in relation to decommissioning progress.		
MX5	EIAR Chapter 8	Oil used in transformers (at each turbine) and any storage of oils or hydrocarbons within the control building compound could potentially leak during the operational phase and impact on soils and subsoils. Turbine transformers are located within the turbine hardstands, with dedicated concrete foundations, so any		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		leaks would be contained within the turbine transformer units and hydrocarbons would not be able to permeate to ground. In addition: › **All plant and machinery to be serviced before being mobilised to site;** › **No plant maintenance completed on-site, any broken-down plant removed from site to be fixed;** › **Refuelling completed in a controlled manner using drip trays at all times;** › **Mobile bowsers, tanks and drums stored in secure, impermeable bunded storage areas away from open water;** › **Only designated trained operators authorised to refuel plant on-site;** › **Procedures and contingency plans set up to deal with emergency accidents or spills; and,** Highest standards of site management maintained, and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the site and surrounding environment during works.		
MX6	EIAR Chapter 9	Regarding Earthworks Resulting in Suspended Solids Entrainment in Surface Waters during the decommissioning phase: The key mitigation measure during the decommissioning phase is the avoidance of sensitive aquatic areas. The River Slaney runs approximately 4.5km from the western border of the site of the Proposed Development. A tributary of the Slaney, the River Glasha, runs in a west-east direction approximately 1.4km north of the Proposed Development. Because of this proximity to surface waters, mitigation measures were put in place in the original construction phase. No in-stream works would be required during the decommissioning phase of the existing wind farm. Best construction practices will be adhered to throughout the decommissioning phase of the development.		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		Regarding Potential Release of Hydrocarbons during Decommissioning and Storage: Oil used in transformers (within each turbine transformer) and any storage of oils or hydrocarbons within the Proposed Development site could potentially leak during the decommissioning phase and impact on groundwater or surface water quality. Turbine transformers are located within the turbine hardstands, with dedicated concrete foundations, so any leaks would be contained within the turbine transformer units and hydrocarbons would not be able to permeate to ground. In addition: › **All plant and machinery to be serviced before being mobilised to site;** › **No plant maintenance completed on-site, any broken-down plant removed from site to be fixed;** › **Refuelling completed in a controlled manner using drip trays at all times;** › **Mobile bowsers, tanks and drums stored in secure, impermeable bunded storage areas away from open water;** › **Only designated trained operators authorised to refuel plant on-site;** › **Procedures and contingency plans set up to deal with emergency accidents or spills; and,** › **Highest standards of site management maintained, and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the site and surrounding environment during works.** Regarding Potential Hydrological Impacts on Designated Sites during the decommissioning phase: › **All plant and machinery to be serviced before being mobilised to site;**		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		› **No plant maintenance completed on-site, any broken-down plant removed** from site to be fixed; › **Should it be required on site, refuelling will be completed in a controlled** manner using drip trays at all times on impermeable surfaces; › **Mobile bowsers, tanks and drums stored in secure, impermeable bunded** storage areas a minimum of 50m from open water; › **Only designated trained operators authorised to refuel plant on-site; and** › **Procedures and contingency plans set up to deal with emergency accidents or** spills.		
MX7	EIAR Chapter 10	Regarding Exhaust Emissions during the decommissioning phase: › **All construction vehicles and plant used onsite during the decommissioning** phase will be maintained in good operational order. If a vehicle requires repairs this work will be caried out, thereby minimising any emissions that arise. › **Turbine components will be transported from the Site on specified routes** only, as agreed with the Local Authority prior to decommissioning. › **All machinery will be switched off when not in use.** › **Users of the Site will be required to ensure that all plant and vehicles are** suitably maintained to ensure that emissions of engine generated pollutants are kept to a minimum. › **The Materials Recovery Facility (MRF) facility will be as close as possible to** the Proposed Development site to reduce the amount of emissions associated with vehicle movements. Regarding Dust Emissions during the decommissioning phase: › **Sporadic wetting of loose stone surface will be carried out during the** decommissioning phase to minimise movement of dust particles to the air. In periods of extended dry weather, dust suppression may be necessary along		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		haul roads to ensure dust does not cause a nuisance. Water bowser movements will be carefully monitored to avoid, insofar as reasonably possible, increased runoff. › **All plant and materials vehicles shall be stored in dedicated areas within the** Wind Farm Site. › **Turbines will be transported away from site on specified haul routes only,** which will be agreed prior to decommissioning with Wexford County Council. › **The roads adjacent to the site entrances will be checked weekly for** damage/potholes and repaired as necessary. › **Waste material will be transferred to a licensed/permitted Materials Recovery** Facility (MRF) by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal. The MRF facility will be local to the Proposed Development to reduce the amount of emissions associated with vehicle movements › **An Operational and Environmental Management Plan (OEMP) will be in** place throughout the decommissioning phase (see Appendix 4-3). The OEMP includes dust suppression measures. Regarding Climate during the decommissioning phase: › **All construction vehicles and plant used onsite during the decommissioning** phase will be maintained in good operational order. If a vehicle requires repairs this work will be caried out, thereby minimising any emissions that arise. › **Turbines components will be transported from the Site on specified routes** only, as agreed with the Planning Authority prior to decommissioning. › **All machinery will be switched off when not in use.**		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		› **Users of the Site will be required to ensure that all plant and vehicles are** suitably maintained to ensure that emissions of engine generated pollutants are kept to a minimum. › **The Materials Recovery Facility (MRF) facility will be as close as possible to** the Proposed Development site to reduce the amount of emissions associated with vehicle movements. › **Where applicable, low carbon intensive construction materials will be sourced** and utilised onsite.		
MX8	EIAR Chapter 4: Appendix 4-4 Decommissioning Plan	› **Limiting the hours during which site activities likely to create noticeable levels** of noise or vibration are permitted; › **Establishing channels of communication between the Applicant or contractor,** Local Authorities and residents; › **Selection of plant with low inherent potential for generation of noise and/or** vibration; › **No plant or machinery will be permitted to cause a public nuisance due to** noise; › **The best means practicable, including proper maintenance of plant, will be** employed to minimise the noise produced by on site operations; › **All vehicles and mechanical plant will be fitted with effective exhaust silencers** and maintained in good working order for the duration of works; › **Compressors models fitted with properly lined and sealed acoustic covers** which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers; › **Machinery that is used intermittently will be shut down or throttled back to a** minimum during periods when not in use, and, › **The hours of decommissioning works (and associated traffic movements) will,** insofar as possible, be limited to avoid unsociable hours. Activities shall generally be restricted to between 07:00hrs and 19:00hrs Monday to Friday		

Ref No.	Reference Location	Mitigation Measures	Audit Result	Action Required
		and between 07:00hrs and 13:00hrs on Saturdays, with no activities on Sundays or public holidays unless in the event of an emergency.		
MX9	EIAR Chapter 12	No significant effects have been predicted for the decommissioning phase of the Proposed Development in relation to Cultural Heritage, therefore no mitigation measures have been proposed.		
MX10	EIAR Chapter 13	No significant effects have been predicted for the operational phase of the Proposed Development in relation to Landscape and Visual Impacts, therefore no mitigation measures have been proposed.		
MX11	EIAR Chapter 14	Regarding Traffic during the decommissioning phase: When the Proposed Development is decommissioned after the 20 years extension of life, an updated Decommissioning Plan, including material recycling / disposal and a Traffic Management Plan, developed to minimise impacts to the local road network, will be prepared at the time for agreement with the Local Authority. Turbine components will be transported from the Site on specified routes only, as agreed with the Local Authority prior to decommissioning. Regarding Telecommunications and Aviation during the decommissioning phase: There are no significant direct or indirect effects on telecommunications and aviation associated with the decommissioning phase of the Proposed Development, and therefore no mitigation required.		
MX12	EIAR Chapter 15	Potential effects associated with contamination during operation and decommissioning are addressed fully in Chapter 9 Hydrology and Hydrogeology. The mitigation measures outlined in Chapter 9 to protect environmental receptors as well as the procedures and measures described in the Decommissioning Plan (Appendix 4-4) to protect environmental receptors will ensure that the risk from these sources is low.		

17.3 EIAR Monitoring Measures

Table 18.2 Schedule of Monitoring for the Proposed Development

Ref. No.	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
		Operational Phase			
MO1	EIAR Chapter 6: Appendix 6-1 Bat Report	Regarding Bat Species Monitoring Proposals during the operational phase: To continually assess the effects of the ongoing Wind Farm site activities on bat activity, at least 3 years of post-consent monitoring is proposed. Post-consent monitoring will include static detector surveys, manual activity surveys and corpse searching to record any bat fatalities resulting from collision. The results of post-consent monitoring will be utilised to assess any potential changes in bat activity patterns and to monitor the implementation of the mitigation and curtailment strategy. At the end of each year, the efficacy of the mitigation and curtailment monitoring plan will be reviewed, and any identified efficiencies incorporated into the programme. This approach allows for an evidence-based review of the potential for bat fatalities at the Site, and to ensure that the necessary measures are implemented for the protection of bat species locally. The effectiveness of any mitigation/curtailment needs to be monitored in order to determine (a) whether it is working effectively (i.e. the level of bat mortality is incidental), and (b) whether the curtailment regime can be refined such that turbine down-time can be minimised whilst ensuring that it remains effective at preventing casualties.			
MO2	EIAR Chapter 7	Regarding Bird Species Monitoring Proposals during the operational phase:			

Ref. No.	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
		Monitoring measures are proposed as industry best practice rather than in response to any identified impacts associated with the Proposed Development. A detailed Bird Monitoring Programme has been prepared for the extended operational phase of the existing wind farm (refer to Appendix 7-6 for further details). The programme of works will monitor parameters associated with collision, displacement/barrier effects and habituation during the extended operational phase. Surveys will be scheduled to coincide with Years 1, 2, 3, 5, 10 and 15 of the extended operational lifetime of the wind farm. Monitoring measures are broadly based on guidelines issued by SNH (2009). The following individual components are proposed: › **Monthly distribution and abundance surveys: breeding walkover surveys** (adapted Brown & Shepherd) and winter walkover surveys. › **Targeted bird collision surveys (corpse searches) will be undertaken with** trained dogs. The surveys will include detection and scavenger trials, to correct for these two biases and ensure the resulting data is robust.			
Decommissioning Phase					
MD1	Chapter 4: Appendix 4-4 Decommissioning Plan	In general, the Environmental Clerk of Works (ECoW) will maintain responsibility for monitoring the decommissioning works and Contractors/Sub-contractors from an environmental perspective. The Site Manager in consultation with the ECoW will be responsible for employing the services of a suitably qualified ecologist and any other suitably qualified professionals as required throughout the decommissioning works.	As required	As required	Site Manager