Planning and Environmental Consultants

Environmental Impact Assessment Report (EIAR)

Gannow Renewable Energy Development, Co. Galway

Chapter 16 – Major Accidents and Natural Disasters

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16. MAJOR ACCIDENTS AND NATURAL DISASTERS

16.1 Introduction

This section of the Environmental Impact Assessment Report (EIAR) describes the likely significant adverse effects on the environment arising from the vulnerability of the Proposed Project, as detailed in Chapter 4: Description of the Proposed Project, to risks of major accidents and/or natural disasters, as well as the potential of the Proposed Project itself to cause potential major accidents and/or natural disasters. It has been completed in accordance with the guidance set out by the Environmental Protection Agency (EPA) in '*Guidelines on Information to be contained in Environmental Impact Statements'* (EPA, 2022) and the European Commission in relation to Environmental Impact Assessment of Projects (Directive 2011/92/EU, as amended by 2014/52/EU), namely '*Guidance on the preparation of the Environmental Impact Assessment Report'.*

The assessment of the vulnerability of the Proposed Project to major accidents and/or natural disasters, as well as the risk of the Proposed Project itself causing major accidents and/or natural disasters is carried out in compliance with the EIA Directive (2014/52/EU) which states the need to assess:

> *"the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or natural disasters which are relevant to the project concerned."*

The objective of this assessment is to ensure that appropriate precautionary actions are taken for the Proposed Project:

> *"because of their vulnerability to major accidents and/or natural disasters, are likely to have significant adverse effects on the environment".*

Based on the requirements of the EIA Directive, this chapter seeks to determine:

- The relevant major accidents and/or natural disasters, if any, that the Proposed Project could be vulnerable to or could cause;
- The potential for these major accidents and/or natural disasters to result in likely significant adverse environmental effect(s); and
- The measures that are in place, or need to be in place, to prevent or mitigate the likely significant adverse effects of such events on the environment.

For the purposes of this EIAR, the various project components are described and assessed using the following references: 'Proposed Project', 'Proposed Wind Farm', 'proposed turbines', 'Proposed Grid Connection', 'Site' and 'Proposed Wind Farm site'. Please see Section 1.1.1 of this EIAR for further details. A detailed description of the Proposed Project is provided in Chapter 4: Description of the Proposed Project of this EIAR.

16.1.1 Statement of Authority

This section of the EIAR has been prepared by Catherine Johnson with input from Edel Mulholland and reviewed by Ellen Costello and Sean Creedon, all of MKO.

Edel Mulholand is an Environmental Scientist Edel holds BA (Hons) in Environmental Science from the University of Galway. Prior to taking up her position with MKO, Edel worked as an Environmental Chemistry Analyst with Complete Laboratory Solutions, Co. Galway, where she assisted with water

quality analysis. Edel's key strengths and areas of expertise are in environmental policy, drafting EIAR chapters and QGIS mapping.

Catherine is an Environmental Scientist at MKO with over three years of consultancy experience in climate and sustainability. Prior to joining MKO in 2022, Catherine worked as an Environmental Social Governance (ESG) analyst for Acasta in Edinburgh. Catherine has expertise in international climate law and policy, earth science, and sustainability/ESG processes. Catherine has a BSc in Earth and Ocean Science and an LLM in Global Environment and Climate Change Law.

Ellen Costello is a Senior Environmental Scientist with MKO with over five years of experience in private consultancy. Ellen holds a BSc (Hons) in Earth Science, and a MSc (Hons) in Climate Change: Integrated Environmental and Social Science Aspects where she focused her studies on renewable energy development in Europe and its implications on environment and society. Ellen's key strengths and expertise are Environmental Protection and Management, Environmental Impact Statements, Project Management, and GIS Mapping and Modelling. Since joining MKO, Ellen has been involved in a range of renewable energy infrastructure projects. In her role as a project manager, Ellen works with and co-ordinates large multidisciplinary teams including members from MKO's Environmental, Planning, Ecological and Ornithological departments as well as sub-contractors from various fields in the preparation and production of EIARs. This report has also been reviewed by Sean Creedon.

Sean is an Associate Director in the Environment Team at MKO. He oversees a team of highly skilled environmental professionals working on EIAR for large-and medium scale Renewable Energy infrastructure. Sean has directed and overseen multiple renewable energy projects across wind, solar, battery and hydrogen as well as a range of thermal and other energy related developments. He is a member of the MKO senior management team responsible for developing the business, mentoring team members, fostering a positive culture and promoting continuous employee professional development. Sean has over 23 years' experience in program and project development, holds an MSc from NUI Galway and a Diploma in Project Management from Institute of Project Management Ireland.

16.2 Assessment Methodology

16.2.1 General

The following sources of information and literature pertinent to the area were used in the preparation of this section:

- Census of Ireland 2022[1]
- Regional Planning Guidelines for the West Region (2010 – 2022)[2]
- Regional Spatial and Economic Strategy (RSES) Northern and Western Regional Assembly 2020 – 2032[3]
- Galway County Development Plan (2022 – 2028)[4]
- Galway City Council Local Authority Climate Action Plan (LACAP) 2024-2029[5]

[1] *Central Statistics Office* https://www.cso.ie/en/census/
[2] *Regional Planning Guidelines for the West Region (2010-2022)* < https://www.nwra.ie/wp-content/uploads/Planning-Guidelines-for-the-West-Region.pdf>
[3] *Regional Spatial and Economic Strategy (RSES) Northern and Western Regional Assembly 2020 – 2032* <https://www.nwra.ie/rses/#:~:text=Regional%20Spatial%20and%20Economic%20Strategy,policies%20and%20objectives%20of%20Government.>
[4] *Galway County Development Plan (20222-2028)* https://consult.galway.ie/en/consultation/adopted-galway-county-development-plan-2022-2028 >
[5] *Galway City Council Local Authority Climate Action Plan (LACAP) 2024-2029* https://consult.galway.ie/en/system/files/materials/8797/Galway%20County%20Council%20Local%20Authority%20Climate%20Action%20Plan%202024-2029_0.pdf

- Galway County Council Major Emergency Plan (2021)[6]
- Galway County Council Website[7], and
- Fáilte Ireland[8]
- HSE Emergency Management Area 2 Crisis Management Team Major Emergency Plan: Covering Geographical Areas of Counties Galway, Mayo and Roscommon) (June 2024)[9]

Major accidents or natural disasters are hazards which have the potential to affect the Proposed Project and lead to environmental effects directly and indirectly. These include accidents during construction, operation and decommissioning of the Proposed Project caused by operational failure and/or natural hazards. The assessment of the risk of major accidents and/or disaster is considered in relation to the information required to be provided in the EIAR, i.e., Chapter 5: Population and Human Health, Chapter 6: Biodiversity, Chapter 8: Land, Soil and Geology, Chapter 9: Water, Chapter 10: Air Quality, Chapter 11: Climate, Chapter 13: Landscape and Visual, Chapter 14: Archaeology, Architectural and Cultural Heritage, and Chapter 15: Material Assets

16.2.2 Legislative Context

An assessment of the following key elements was undertaken in accordance with the EIA Directive (2014/52/EU):

- The vulnerability of the Proposed Project to potential major accidents and/ or natural disasters.
- The potential for the Proposed Project to cause major accidents and/or natural disasters which pose a risk to human health, cultural heritage and/or the environment.

The information relevant to major accidents and/or disasters to be included in the EIAR is set out in Section 8 of Annex IV of the EIA Directive as follows:

> *"(8) A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies".*

16.2.2.1 Guidance Documents

The following guidance documents have been consulted in the preparation of this section:

- European Commission (2017). Environmental Impact Assessment of Projects – Guidance on the preparation of Environmental Impact Assessment Reports
- Environmental Protection Agency (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports

[6] *Galway County Council (2021) Galway Major Emergency Plan <https://www.galway.ie/en/media/GCC%20MEP%20Revised%202021%2013%20Jan%202021.pdf>*
[7] *https://www.galway.ie/en/*
[8] *Fáilte Ireland https://www.failteireland.ie/*
[9] *HSE Emergency Management Area 2 Crisis Management Team Major Emergency Plan: Covering Geographical Areas of Counties Galway, Mayo and Roscommon) (June 2024) < https://www.hse.ie/eng/services/list/3/emergencymanangement/area-mep/hse-emergency-management-area-2-emergency-plan.pdf>*

- Department of Environment, Heritage and Local Government (2010) *A Guide to Risk Assessment in Major Emergency Management*
- Environmental Protection Agency (2014) Guidance on Assessing and Costing Environmental Liabilities
- Department of Defence (2024) National Risk Assessment 2024: Overview of Strategic Risks

On a regional scale, Galway falls under the scope of the HSE West (Area 2) Major Emergency Plan[10]

16.2.3 Categorisation of the Baseline Environment

A desk-study has been completed to establish the baseline environment for which the proposed risk assessment is being carried out. This will influence both the likelihood and the impact of a major accident or natural disaster. Local and regional context has been established prior to undertaking the risk assessment to develop an understanding of the vulnerability and resilience of the area to emergency situations.

Further detail on the baseline environment is provided in Section 16.3.

16.2.4 Impact Assessment Methodology

16.2.4.1 Introduction

A wind farm is not a recognised source of pollution. It is not subject to Industrial Emissions Directive regulation or any other EPA environmental regulatory consent. Should a major accident or natural disaster occur the potential sources of pollution onsite during the construction, operational and decommissioning phases of this type of development are limited and of low environmental risk. Sources of pollution with the potential to cause significant environmental pollution and associated negative effects such as bulk storage of hydrocarbons or chemicals, storage of wastes, management of flammable materials etc. are limited and so there is an inherent low level of environmental risk associated with major accident or natural disaster impacting the Proposed Project and causing environmental damage.

There is low potential for significant natural disasters to occur at the Proposed Project. Ireland is a geologically stable country with a mild temperate climate. According to the Irish National Seismic Network (INSN), earthquakes measuring ~2 on the Richter Scale are “normal” in terms of seismicity in Ireland. These are known as microearthquakes; they are not commonly felt by people and are generally recorded only on local seismographs. As such, buildings or structures in Ireland are extremely unlikely to be damaged or collapse due to seismic activity. Irelands geographic position means that tsunamis, which may pose a risk to developments similar to the Project in other geographic locations, are of a low likelihood of occurrence, and are less likely to be of a significant magnitude in order to cause an accident or disaster.

The potential natural disasters that may occur are therefore limited to issues such as flooding and fire and are described in the sections below.

Major industrial accidents involving dangerous substances pose a significant threat to humans and the environment; such accidents can give rise to serious injury to people or serious damage to the environment, both on and off the site of an accident. The Proposed Project is not regulated, connected to, or close to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e., SEVESO sites and so there are no potential effects from this source. Mitigation and monitoring measures to avoid the release of fuels and hazardous materials at the Site are

[10] *HSE Emergency Management Area 2 Crisis Management Team Major Emergency Plan (Covering Geographical Areas of Counties Galway, Mayo and Roscommon) June 2024*

detailed below in Section 16.4.2, in Section 9.5.2.6 of Chapter 9: Water, Chapter 18: Schedule of Mitigation, and in the CEMP (Appendix 4-5).

The Proposed Project has low potential to cause natural disasters or major accidents. As detailed in Appendix 8-1 (Peat Stability Risk Assessment) of Chapter 8: Land, Soils and Geology of this EIAR, the published soil map (www.epa.ie) for the area shows that Proposed Wind Farm is predominantly covered by cutover peat (Cut) and limestone till (TLs).

The Site is relatively flat and so there is low risk for peat failure. The potential natural disasters and/or major accidents that may occur are therefore limited to issues such as flooding, impacts on infrastructure, fire etc are addressed in the sections below.

Current EIA practice already includes an assessment of some potential accidents and disaster scenarios such as pollution incidents to ground and watercourses as well as assessment of flooding events. These are described in detail in the relevant EIAR assessment chapters (Refer to Chapters 5 to 16 and Appendix 9-1 Flood Risk Assessment for further detail).

16.2.4.2 Site Specific Risk Assessment Methodology

A site-specific risk assessment identifies and quantifies risks focusing on unplanned, but possible and plausible events occurring during the construction, operation and decommissioning of the Proposed Project. The approach to identifying and quantifying risks associated with the Proposed Project by means of a site-specific risk assessment is derived from the EPA '*Guidance on Assessing and Costing Environmental Liabilities'* 2014 document[11]. The following steps were taken as part of the site-specific risk assessment:

- Risk Identification
- Risk Classification, likelihood and consequence, and
- Risk Evaluation

16.2.4.2.1 *Risk Identification*

Risks have been reviewed through the identification of reasonably foreseeable risks in consultation with relevant contributors to this EIAR. The identification of risks has focussed on non-standard but plausible incidents that could occur at the Proposed Project during construction, operation and decommissioning.

In accordance with the European Commission EIAR Guidance (EC, 2017), risks are identified in respect of the Proposed Project's:

1. *Potential to cause accidents and/or disasters,*
2. *Vulnerability to potential disaster/accident*

16.2.4.2.2 *Risk Classification*

Classification of Likelihood

After identifying the potential risks, the likelihood of occurrence of each risk has been assessed. An analysis of safety procedures and proposed environmental controls was considered when estimating likelihood of identified potential risks occurring. Table 16-1 defines the likelihood ratings that have been applied.

[11] *EPA (2014) Guidance on assessing and costing environmental liabilities. Available at https://www.epa.ie/publications/compliance--enforcement/licensees/reporting/financial-provisions/EPA_OEE-Guidance-and-Assessing-WEB.pdf*

The approach adopted has assumed a 'risk likelihood' where one or more aspects of the likelihood description are met.

Table 16-1 Classification of Likelihood (Source: DoEHLG, 2010)

Ranking	Likelihood	Description
1	Extremely Unlikely	May occur only in exceptional circumstances; once every 500 or more years.
2	Very Unlikely	Is not expected to occur; and/or no recorded incidents or anecdotal evidence; and/or very few incidents in associated organisations, facilities, or communities; and / or little opportunity, reason or means to occur; may occur once every 100-500 years.
3	Unlikely	May occur at some time; and /or few, infrequent, random recorded incidents or little anecdotal evidence; some incidents in associated or comparable organisation's worldwide; some opportunity, reason or means to occur; may occur once per 10-100 years.
4	Likely	Likely to or may occur; regular recorded incidents and strong anecdotal evidence and will probably occur once per 1-10 years.
5	Very Likely	Very likely to occur; high level of recorded incidents and/or strong anecdotal evidence. Will probably occur more than once a year.

Classification of Consequence

The consequence rating assigned to each risk has assumed that all proposed mitigation measures and/or safety procedures have failed to prevent the major accident and/or disaster. Furthermore, the Galway County Major Emergency Plan will work to reduce the consequences of any major accident or disaster. The consequence of the impact if the event occurs has been assigned as described in Table 16-2.

The consequence of a risk to/from the Proposed Project has been determined where one or more aspects of the consequence description are met, i.e., risks that have no consequence have been excluded from the assessment.

Table 16-2 Classification of Impact (Source: DoEHLG, 2010)

Ranking	Likelihood	Impact	Description
1	Minor	Life, Health, Welfare	Small number of people affected; no fatalities and small number of minor injuries with first aid treatment.
		Environment	No contamination, localised effects <€0.5M
		Infrastructure	Minor localised disruption to community services or infrastructure (<6 hours).
		Social	

Ranking	Likelihood	Impact	Description
2	Limited	Life, Health, Welfare Environment Infrastructure Social	Single fatality; limited number of people affected; a few serious injuries with hospitalisation and medical treatment required. Localised displacement of a small number of people for 6-24 hours. Personal support satisfied through local arrangements. Simple contamination, localised effects of short duration €0.5-3M Normal community functioning with some inconvenience.
3	Serious	Life, Health, Welfare Environment Infrastructure Social	Significant number of people in affected area impacted with multiple fatalities (<5), multiple serious or extensive injuries (20), significant hospitalisation. Large number of people displaced for 6-24 hours or possibly beyond; up to 500 evacuated. External resources required for personal support. Simple contamination, widespread effects or extended duration €3-10M Community only partially functioning, some services available.
4	Very Serious	Life, Health, Welfare Environment Infrastructure Social	5 to 50 fatalities, up to 100 serious injuries, up to 2000 evacuated. Heavy contamination, localised effects or extended duration €10-25M Community functioning poorly, minimal services available
5	Catastrophic	Life, Health, Welfare Environment Infrastructure Social	Large numbers of people impacted with significant numbers of fatalities (>50), injuries in the hundreds, more than 2000 evacuated. Very heavy contamination, widespread effects of extended duration. >€25M

Ranking	Likelihood	Impact	Description
			Serious damage to infrastructure causing significant disruption to, or loss of, key services for prolonged period. Community unable to function without significant support.

Risk Evaluation

Once classified, the likelihood and consequence ratings have been multiplied to establish a 'risk score' to support the evaluation of risks by means of a risk matrix.

The risk matrix sourced from the DoEHLG '*Guide to Risk Assessment in Major Emergency Management*', and as outlined in Table 16-3, indicates the critical nature of each risk. This risk matrix has therefore been applied to evaluate each of the risks associated with the Proposed Project. The risk matrix is colour coded to provide a broad indication of the critical nature of each risk:

- The red zone represents 'high risk scenarios':
- The amber zone represents 'medium risk scenarios', and
- The green zone represents 'low risk scenarios'.

Table 16-3 Classification of Impact (Source: DoEHLG, 2010)

		Consequence Rating				
		1.Minor	2.Limited	3. Serious	4.Very Serious	5.Catastrophic
Likelihood Rating	5. Very Likely					
	4. Likely					
	3. Unlikely					
	2. Very Unlikely					
	1. Extremely Unlikely					

16.3 Baseline Conditions

The functional area of Galway County Council falls under the West Major Emergency Region. The Major Emergency Plan prepared by Galway County Council (2021)[12] outlines the following potential major emergency scenarios in the county:

- Transport Emergencies:
  - M6 and M18 Motorways
  - National Primary Routes N6, N17 & N18
  - Iarnród Éireann: Galway – Athlone, Galway – Ennis Rail Lines

[12] https://www.galway.ie/en/media/GCC%20MEP%20Revised%202021%2013%20Jan%202021.pdf

- Airports including Island Airports
- Galway Harbour
- Rossaveel Harbour
- Offshore Inhabited Island and Ferries

- Natural Emergencies:
  - Flooding
  - Severe Weather
  - Landslide/ Tsunami
- Technological Emergencies
  - Control of Major Accident Hazards (COMAH) Sites
  - Large Fires/Lakes
  - Hazardous Materials Incidents
  - Environmental Pollution
- Civil Emergencies:
  - Terrorism
  - Large Crowd Events
  - Loss of Critical Infrastructure
  - Pollution of Water Supplies
  - Communicable Diseases/ Public Health Emergencies
- Utility Company Emergencies
  - Bord Gáis Networks
  - E.S.B. Networks
- Site/Event Specific Internal Emergency Plans[13]
  - Galway Harbour Major Emergency Incident Plan (Galway Fire and Rescue Service, hereafter referred to as GFRS)
  - Island Response Major Incident Plan (GFRS)
  - M6, M17 &M18 Motorway Plans (GFRS)
  - Severe Weather (Excluding Flood Events) Plan
  - Flood Response Plan
  - Mortality Management Plan
  - Marine and Inland Pollution Plans
  - GCC Business Continuity Plan
- Site/Event Specific External Emergency Plans[14]
  - Circle K Oil Terminal, Galway Harbour
  - Colas Bitumen Emulsion West, Oranmore
  - Inter-Agency Island Response Plan
  - Inter-Agency Plan for Galway Racecourse
  - Tynagh Energy, Tynagh
  - Galway Harbour – GALFIRE
  - Rossaveel Harbour Plan
  - Coillte Forestry Emergency Plans.

As part of the Local Area Climate Action Plan for County Galway (Galway LACAP) a climate change risk assessment was carried out by Galway County Council. The assessment included a review of the extreme weather events in County Galway over the time period of 1973-2022, and the identification of the main climate hazards such as rainfall, flooding, windstorms, drought, snowfall etc and their impacts on the delivery of Galway County Council services. The Galway LACAP risk assessment identified the following as the most significant future risks to the delivery of Galway County Council services (based on predicted frequency and impact): Severe Windstorm, River and Pluvial Flooding, Coastal Erosion and Flooding, Heatwave and Drought.

[13] https://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/COMAH/Emergency_Planning/Comah_Internal_Emergency_Planning.html
[14] https://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/COMAH/Emergency_Planning/Comah_External_Emergency_Planning.html

The risks which are most relevant to this assessment are described below:

16.3.1 Transport Emergencies

As detailed in Chapter 15: Material Assets, the Proposed Project will utilise the M6 Motorway, the N6 national road, the R348 regional road, the local road network and the Port of Galway in order to facilitate construction and turbine delivery to the Proposed Wind Farm site. A Traffic Management Plan (TMP) (Appendix 15-2) will be included as part of detailed traffic and transport assessment provided in Chapter 15: Material Assets.

The Proposed Grid Connection will interact with the Irish Rail Galway-Dublin railway line, please see Section 15.3.2.1 of Material Assets for further details. This railway station is located approximately 0.8km northwest of the nearest proposed turbine (T01). In relation to telecommunication impacts, scoping was carried out with Irish Rail where it was identified that the proposed turbines are located within a GSR 5km exclusion zone. Ai Bridges was engaged to carry out a Telecoms Impact Assessment (Appendix 15-5) which states that the proposed turbines will not result in any impacts on the Irish Rail telecommunication links. Please see Section 15.2.5 and Appendix 15-5 for further information.

Galway Port in Galway City is the proposed point of arrival for the large turbine components for the Proposed Wind Farm. The port is a well-established point of arrival for wind turbine components of similar scale into the State on a regular basis, as is the road network between the port and the national road network. For the purposes of this EIAR only the Port of Galway has been considered.

For further discussion on aviation, please see Section 15.2.3 of chapter 15: Material Assets.

16.3.2 Natural Emergencies

Flooding

Chapter 8: Land Soils and Geology and Chapter 9: Water of this EIAR provides detailed assessment regarding the susceptibility of the Proposed Project to flooding and landslide events. A flood risk identification study was undertaken to identify existing potential flood risks associated with the Proposed Project. From this study,

The OPW National Flood Hazard Maps have no records of any recurring or historic flood incidences within the Proposed Wind Farm site (www.floodinfo.ie). The GSI's Winter 2015/2016 surface water flood map shows areas of fluvial and pluvial flooding during the Winter 2015/2016 flood event, which was the largest recorded flood event in many areas. This flood map does not record any mapped flood areas within the majority of the Proposed Wind Farm site. A small area of surface water flooding is recorded in the east of the Proposed Wind Farm site along the Raford River. NIFM fluvial flood maps record low (1,000-year flood event) and medium (100-year flood event) probability fluvial flood zones along the Raford River in the eastern portion of the Proposed Wind Farm site. T8 is mapped within these flood zones. NIFM fluvial flood zones are also mapped along the Killimor River downstream of the western section of the Proposed Wind Farm site. These fluvial flood zones do not encroach upon the Proposed Wind Farm site. Mitigation measures are provided in Section 9.5.2.9 of the EIAR.

The Proposed Grid Connection crosses a total of 4 no. EPA mapped watercourses and an additional 6 no. non-EPA mapped watercourse crossings in which mitigation measures are provided in Section 9.5.2.10 of the EIAR and Appendix 9-1 Flood Risk Assessment. The Proposed Project is considered to be low risk in terms of flooding potential and will not have an effect on the potential for increased downstream flood risk.

Peat Stability

Fehily Timoney (FT) were engaged to undertake a Peat Stability Risk Assessment (PSRA) of the Site. A PSRA Report is attached as Appendix 8-1.

There are mapped areas of cutover raised peat within the Proposed Wind Farm site, and some small areas of shallow cutover peat are mapped along the Proposed Grid Connection. Due to the nature of the Site and the mitigation measures set out in Section 8.2.6.7 of this EIAR, risk of peat instability or failure is not likely. Furthermoe, due to the limited extent and shallow depth peat along the Proposed Grid Connection (<0.3m) it was deemed unnecessary to undertake a stability analysis of this area.

Based on the available data, the fieldwork, and FT's professional judgement, it is concluded that significant peat slides are unlikely on the Proposed Wind Farm site; furthermore, the Proposed Wind Farm site has an acceptable margin of safety and is suitable for the Proposed Wind Farm, provided appropriate mitigation measures, as outlined in the PRSA in Appendix 8-1.

Severe Weather

The climate change risk assessments included in the Galway LACAP detail the major risks posed from climate change being river flooding, severe wind storms, extreme precipitation, and drought. The changes in frequency in intensity of weather patterns as a result of climate change will continue to influence the wide range of functions caried out by the Galway County Council. The identification of future risks is critical to enable the progression of adaptation and mitigation measures in the development and execution of plans and policies. Please see Section 11.3 in Chapter 11: Climate for further information on the baseline environment and the future environment relative to the Site.

16.3.3 Technological Emergencies

The nearest COMAH site to the Site is the Colas Bitumen Emulsion (West) Ltd, located in Oranmore, Co. Galway. This facility is located approximately 5.5km south-west from the Proposed Project at its closest point (i.e., the Proposed Grid Connection terminus at the existing Cashla 220kV substation) and 21km south-west of the Proposed Wind Farm site, therefore, the probability of this major emergency having an effect on the Proposed Project, whether during the construction, operational or decommissioning phase, is very low.

In addition, there are no large lakes within or in close proximity to the Site, the closest lake is located at Loughrea, Co. Galway, located approximately 13km south of the Proposed Wind Farm site. A larger lake, Lough Corrib, is located approximately 13.6km northwest of the Site at its closest point.

The possibility of fires is low due to the sparse distribution of buildings in the Proposed Wind Farm site area, and the landcover of the Proposed Wind Farm site being dominated by cutover bog, commercial forestry and pastoral agriculture land. There are no COMAH sites in the vicinity of the Proposed Wind Farm site and the Proposed Grid Connection which store hazardous materials, and there is no recorded history of environmental pollution.

In regard to telecoms and other signalling infrastructure, Ai Bridges were commissioned to carry out a Telecommunications Impact Assessment (Appendix 15-5) for the Proposed Wind Farm. Ai Bridges conducted detailed field and desktop surveys of the Irish Rail Network in the vicinity of the Proposed Wind Farm and concluded that the proposed turbines will have no impacts on the Irish Rail communications network, please see Section 15.2.5 of Chapter 15: Material Assets for further details. Therefore, the Proposed Wind Farm site and Proposed Grid Connection will have no impact as it will not physically interact with any other infrastructure of this nature.

16.3.4 Civil Emergencies

The likelihood of a civil emergency, as described above, occurring at the Proposed Wind Farm site and the Proposed Grid Connection is anticipated to be low. During construction of the infrastructure associated with the Proposed Wind Farm, there is a possible risk of contamination of drinking water supplies in the absence of mitigation; all mitigation is detailed in Chapter 9: Water and Chapter 18 Schedule of Mitigation of this EIAR.

The Proposed Project will utilise the M6 Motorway, the N6 national road, the R348 regional road, the local road network during the construction phase and operational phase and to facilitate turbine delivery to the Proposed Wind Farm site. Construction related traffic will originate from the delivery of materials to the Proposed Project and transport of employees to, from and throughout the Proposed Project.

It is proposed that large wind turbine components will be delivered to the Proposed Wind Farm site under Garda escort.

Potential impacts that may occur on the identified road networks could be caused by an accident during the delivery of the turbines, collisions onsite and offsite with vehicles involved in construction and operation of Proposed Project, and damage to critical transport infrastructure caused by extreme weather i.e., periods of heavy rainfall, taking into account climate change and strong winds.

As detailed in Section 15.1 Traffic and Transport in Chapter 15: Material Assets of this EIAR, the localised traffic disruptions as a result of Proposed Grid Connection construction works will be mitigated through the use of industry standard traffic management measures. These traffic management measures will be designed in accordance with the Department of Transport's '*Guidance for the Control and Management of Traffic at Roadworks – Second Edition (2010)*'.

16.3.5 Utility Company Emergencies

The likelihood of a utility company emergency, as described above, occurring at the Site is considered to be low. The Proposed Grid Connection interacts with the GNI network. Consultation has been carried out with the GNI in relation to crossing methodology and the Dial Before You Dig protocol will be adhered to prior to any works taking place.

Pre-commencement surveys will be carried out along the Proposed Grid Connection in order to determine what other services are located within the road corridors of the local road network, the R384 Regional Road and the M17 Motorway. Once these surveys have been carried out, the exact location of the Proposed Grid Connection will be confirmed. All existing services within the road will be maintained.

The ESB network supplies homes and business in Ireland. EirGrid operate the grid from National Control Centres (NCCs) in Dublin and Belfast, matching electricity production to customer demand, switching from synchronous to non-synchronous where required to ensure no power outages. Therefore, any technical fault at the Proposed Project would not impact the local or national energy supply.

There may be ESB Network services located within the public road in which the Proposed Grid Connection is located. As outlined in Section 4.8.2 of Chapter 4: Description of the Proposed Project, prior to works commencing, surveying will take place along the proposed cabling route, and ESB Networks will be contacted and all drawings for all existing services will be sought. Any underground services encountered along the cabling route will be surveyed for the level and the ducting will pass over or under the service, as appropriate. Given the measures outlined in Chapter 4: Description of the Proposed Project in relation to these services, the possibility of disturbance to this type of infrastructure, is deemed to be low.

Consultation was also carried out with Uisce Eireann. Further information was received in May 2025 which provided details of water and wastewater networks in the vicinity of the Site as well as along the Proposed Grid Connection. All instances of overlap are within the public road corridors along the L7108, L3103, L31030, L7122, L7126, L3107, L3111, L7152, and L3115 local roads and the R347 regional road. Given the measures outlined in Chapter 4: Description of the Proposed Project, Chapter 9: Water and Chapter 15: Material Assets, the possibility of disturbance to this type of infrastructure, is deemed to be low.

16.3.6 Site/Event Specific Internal Emergency Plans

It is proposed that all turbine components to be used for the construction of the Proposed Wind Farm will be delivered from the Port of Galway to the Proposed Wind Farm site via the M6 motorway, the regional road network, and the local road network. As the Port of Galway is being utilised to facilitate the construction of the Proposed Wind Farm, there is potential for a Site/Event Specific Internal Emergency Plan to be utilised during this process. It is considered, however, that the likelihood of this occurring is low.

There is also the possibility that the Severe Weather Plan as detailed within the Galway County Major Emergency Plan may need to be implemented during the construction, operational and/or decommissioning phase of the Proposed Project due to emerging and forecasted trends in climate change associated weather patterns.

16.3.7 Site/Event Specific External Emergency Plans

As detailed above, it is proposed that all turbine components to be used for the construction of the Proposed Wind Farm are to be delivered from the Port of Galway. The Galway Harbour – GALFIRE is in place as a Site/Event Specific External Emergency Plan in case of major emergency associated with the Port of Galway. There is therefore a possibility that this emergency plan may need to be implemented during the construction phase of the Proposed Project. However, the likelihood of this occurring is deemed to be low.

As mentioned above, the nearest COMAH site to the Site is the Colas Bitumen Emulsion (West) Ltd, located in Oranmore, Co. Galway, therefore, the probability of this major emergency having an effect on the Proposed Project, whether during the construction, operational or decommissioning phase, is very low.

16.4 Risk Assessment

This section outlines the possible risks associated with the Proposed Project for the construction, operational and decommissioning phases.

These risks have been assessed in accordance with the relevant classifications as outlined in Table 16-1 and 16-2.

As outlined in Section 16.2.4.2.2, the consequence rating assigned to each potential risk assumes that all proposed mitigation measures and safety procedures have failed to prevent the major accident and/or disaster i.e. pre-mitigation.

16.4.1 Likely Significant Effects

16.4.1.1 Do-Nothing Scenario

If the Proposed Project were not to proceed, the Site will continue to function as it does at present, with no changes to the current land-use.

If the Proposed Project were not to proceed, the opportunity to capture a significant part of County Galway's and Ireland's valuable renewable resource would be lost, as would the opportunity to contribute to meeting Government and EU Targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions. The opportunity to generate local employment and investment would also be lost. It is likely that the trends of population growth that have been recorded in the Population Study Area, as outlined in Section 5.3.2 of Chapter 5: Population and Human Health, would continue in the absence of investment.

Furthermore, as this application includes a Biodiversity Management and Enhancement Plan (BMEP) (Appendix 6-4) to be implemented during the Proposed Project's operation, the opportunity to enhance the site for biodiversity, at a local scale, would also be lost.

16.4.1.2 Identification of Effects During Construction

A risk register has been developed which contains all potentially relevant risks identified during the construction phase of the Proposed Project. Risks specific to the construction of the Proposed Project have been identified and are presented in Table 16-4.

Table 16-4 Risk Register - Construction Phase

Risk ID	Potential Risk	Possible Cause
Potential vulnerability to accidents and / or natural disasters		
A	**Critical Infrastructure Emergencies** Risk of delivery of turbines and associated infrastructure to the Site.	Traffic accident during turbine delivery or extreme weather periods of heavy rainfall, taking into account climate change and strong winds
B	**Severe Weather** Risk to construction activity on site	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds
C	**Flooding** Risk of flooding in areas surrounding the Site impacting the construction phase and leading to environmental emissions	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds
D	**Peat Stability** Movement of peat within the Proposed Wind Farm site during construction.	Mismanagement of excavated material on site. Severe weather conditions- storm, flooding.
Potential to cause accidents and / or natural disasters.		

Risk ID	Potential Risk	Possible Cause
E	**Utility emergencies** Risk of construction activity along the Proposed Grid Connection	Construction activity along the Proposed Grid Connection and road network impacting on local services and utilities. Construction of Proposed Grid Connection interaction over a mapped Gas Networks Ireland underground pipeline.
F	**Traffic Incident** Collisions onsite and offsite with vehicles involved in construction of Proposed Project	Driver negligence or failure of vehicular operations on Proposed Project roads (Proposed Wind Farm access roads and public road network and private access track/land in which Proposed Grid Connection is proposed). Traffic Management not implemented
G	**Contamination** Discharge or spillage of fuel, chemical solvents onto subsoils and into watercourse or percolated to groundwater. Groundwater and surface water emissions from construction activities. Risk of sediment-laden run off reaching the groundwater system Discharge due to horizontal directional drilling (HDD) frack out on Proposed Grid Connection works area.	Accidental fuel spillage during delivery to site. Failure of fuel storage tank or tanks in plant and machinery and vehicles leading to uncontrolled emissions. Drainage and seepage water resulting from accident during infrastructure excavation. Stockpiled excavated material becoming unstable and providing a point source of exposed sediment. Excavation works during the construction of the Proposed Project which may result in entrainment of sediment from the excavations during construction. Frack Out associated with HDD along the Proposed Grid Connection which may result in sediment release to surface water.
H	**Fire / Explosion** Presence of underground gas pipeline under the Proposed Grid Connection	Equipment or infrastructure failure; Electrical problems; and Employee negligence.
I	**Collapse / damage to structures**	Earthquake, land slide, extreme weather events; and Vehicular collisions due to driver negligence on public roads.

Risk ID	Potential Risk	Possible Cause
		Traffic Management not implemented.

16.4.1.3 Identification of Effect During Operation

Risks specific to the operation of the Proposed Project have been identified and are presented in Table 16-5.

Table 16-5 Risk Register – Operational Phase

Risk ID	Potential Risk	Possible Cause
Potential vulnerability to accidents and / or natural disasters		
j	**Severe Weather** Risk to operational activity on site, blade or turbine damage	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.
K	**Contamination** Discharge or spillage of fuel, chemical solvents, sewage or wastewater into watercourse or percolated to groundwater.	A vehicular incident on the public road involving fuel, wastewater or sewage transportation in the operational phase. Spill or leak of oil during operational maintenance.
L	**Flooding** Risk of flooding in areas surrounding the Proposed Project impacting the construction phase and leading to environmental emissions	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds
Potential to cause accidents and / or natural disasters.		
M	**Fire / Explosion**	Equipment or infrastructure failure; Electrical problems; and Employee negligence
N	**Collapse / damage to structures**	Earthquake, extreme weather events; and Vehicular collisions due to driver negligence on public roads.
O	**Traffic Incident** Collisions onsite and offsite with vehicles involved in operation of Proposed Project	Driver negligence or failure of vehicular operations on site roads. Traffic Management not implemented

16.4.1.4 Identification of Effect During Decommissioning

Risks specific to the decommissioning of the Proposed Project have been identified and are presented in Table 16-6.

Table 16-6 Risk Register – Decommissioning Phase

Risk ID	Potential Risk	Possible Cause
Potential vulnerability to accidents and / or natural disasters		
P	**Severe Weather** Risk to decommissioning activity on site leading to environmental emissions	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.
Q	**Flooding** Risk of flooding in areas surrounding the Site impacting the decommissioning phase and leading to environmental emissions.	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.
Potential to cause accidents and / or natural disasters.		
R	**Traffic Incident** Collisions onsite and offsite with vehicles involved in construction of Proposed Project	Driver negligence or failure of vehicular operations on site roads. Traffic Management not implemented.
S	**Contamination** Discharge or spillage of fuel, chemical solvents into watercourse or percolated to groundwater	Accidental fuel spillage during delivery to the Site. Failure of fuel storage tank or tanks in plant and machinery and vehicles leading to uncontrolled emissions.

16.4.1.5 Risk Assessment Summary

These risks have been assessed in accordance with the relevant classification (Refer to Table 16-1 and Table 16-2), and the resulting risk analysis is given in Table 16-7.

The risk register is based upon possible risks associated with the Proposed Project. As outlined in Section 16.2.4.2.2, the consequences rating assigned to each potential risk assumes that all proposed mitigation measures and safety procedures have failed to prevent the major accident and/or disaster. A summary of the findings can be found in Table 16-7.

16.4.1.6 Assessment of Effect - Summary

Table 16-7 Risk Assessment

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
Construction Phase								
A	**Critical Infrastructure Emergencies**	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds	Illness or loss of life;	1	The risk of traffic accident during turbine delivery severe weather conditions impacting the identified road network is unlikely when considering the assessment in Chapter 11: Climate (weather conditions recorded over the last 30 years within the area) and Chapter 15: Material Assets, Section 15.1 – Traffic Assessment (turbine delivery occurring during the night, Garda patrolled, etc)	1	The risk of a traffic accident due to severe weather conditions during the construction phase will result in a minor consequence in that a 'small number of people would be affected' should a severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'.	1
B	**Severe Weather**	Extreme weather- periods of heavy rainfall, taking into account climate	Illness or loss of life; Damage to, or depletion of	3	The risk of severe weather is unlikely when considering the assessment in Chapter 11: Climate and weather conditions	1	The risk of severe weather conditions during the construction phase will result in a minor consequence in that a	3

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		change and strong winds.	aquatic habitats and species.		recorded over the last 30 years within the area. The works programme for the groundworks part of the construction phase of the Proposed Project, which is laid out in detail in the Construction and Environmental Management Plan (CEMP), (Appendix 4-5) will take account of weather forecasts and predicted rainfall in particular and construction will be paused if required. All construction works will be paused during a Red Weather Warning as issued by Met Éireann and will not recommence until the weather warning has been lifted and it has been deemed safe to do so.		'small number of people would be affected' should a severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'. Severe weather may cause increased mobilisation of sediment which will be controlled via the Proposed Project design and mitigation measures.	
C	**Flooding**	Extreme weather- periods	Illness or loss of life;	2	The risk of flooding is considered very unlikely	1	The risk of flooding during the construction phase will	2

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		of heavy rainfall, taking into account climate change and strong winds	Groundwater Flooding; Flooding to surrounding properties; Damage to, or depletion of aquatic habitats and species.		when taking into account the assessment in Chapter 9: Water of the EIAR, the raising of infrastructure in flood zones to above flood zone level and the implementation of a bespoke drainage design plan for the project.		result in a minor consequence in that a 'small number of people would be affected' should a severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'. Flooding has the potential to cause increased sediment mobilisation however flooding is not anticipated and should any flooding occur, it would be localised.	
D	**Peat Stability**	Mismanagement of excavated material on site. Extreme weather conditions.	Movement of peat within the Site; Sedimentation of nearby watercourse; and Damage to, or depletion of	2	The Proposed Project has been designed to minimise the potential for peat instability and failure. Refer to Appendix 8-1: Geotechnical and Peat Stability Report.	2	The risk of peat instability during the construction phase will result in a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration'. Simple contamination of environment (e.g.	4

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
			aquatic habitats and species.				watercourses, aquatic habitats and associated species), localised effects of short duration.	
E	**Utility emergencies**	Construction activity along road network during the Proposed Grid Connection installation impacting on local services and utilities. Connecting the Proposed Project to the national grid at the Cashla 220kV substation in the townland of Barrettspark, Co. Galway	Illness or loss of life; Disruption to services	2	Confirmatory surveys will be carried out by the Contractor to ensure that the Proposed Grid Connection is designed to take into consideration any services and utilities with the road network.	1	The risk of impact on utilities and services during the construction phase will result in a minor consequence in that a 'small number of people would be affected, with 'no fatalities and a small number of minor injuries with first aid treatment'.	2
F	**Traffic Incident**	Driver negligence or	Injury or loss of life.	3	Chapter 15: Material Assets of this EIAR,	1	A minor consequence is predicted. Having regard to	3

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		failure of vehicular operations on site roads (Proposed Wind Farm access roads and public road network and private access track/land in which the Proposed Grid Connection is proposed). Driver negligence or failure of vehicular operations on public road network (turbine component deliveries/ other infrastructure deliveries/ staff vehicles).			Section 15.1 details traffic movements which relate to the Construction Phase of the Proposed Project. The Traffic Management Plan included as Appendix 15-2 details proposals for traffic movements entering and leaving the Site, and within the internal access roads. The internal road network within the Proposed Wind Farm has been designed to allow for 2 vehicles to pass on the road, and/or in passing bays, which will reduce the likelihood of a traffic incident or collision occurring within the Proposed Wind Farm. There will also be a speed limit imposed on the internal Proposed Wind Farm road network, which will also reduce the likelihood of any traffic incident or collision.		on-site speed limits and vehicular movements, a 'small number of people would be affected' should a vehicular collision occur, with 'no fatalities and small number of minor injuries with first aid treatment.'	

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		Traffic Management not implemented.			As such, it can be determined that there is some 'opportunity, reason or means' for a vehicle collision to occur on site or public roads, 'at some time.' An unlikely risk is therefore predicted. Staff will be trained/toolbox talks highlighting construction entrances and proper access and egress procedures.			
G	**Contamination – Fuel storage and handling** **- General Construction**	Fuel spillage during delivery to Site. Failure of fuel storage tank or tanks in plant and machinery and vehicles. Drainage and seepage water	Release of suspended solids to groundwater. Contamination of local drinking water supplies and groundwater aquifers.	2	As outlined in Chapter 4: Description of the Proposed Project, fuel storage and re-fuelling plant and machinery will be managed on-site to ensure containment and prevent spillages of fuel. No fuels, chemicals or solvents will be stored outside of the confines of	2	The risk of a fuel spillage or impact on surrounding drainage during the construction stage will result in a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration' through the use of bunded containment areas during operation.	4

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		resulting from infrastructure excavation. Stockpiled excavated material providing a point source of exposed sediment. Works during the construction of the Proposed Project which may result in entrainment of sediment from the excavations or HDD.	Groundwater and surface water emissions from construction activities. Accidental spillage during refuelling.		the Proposed Wind Farm site. Setback distances from sensitive hydrological features means that adequate room is maintained for the proposed drainage mitigation measures as detailed in Chapter 9: Water. Detailed mitigation measures and methodologies for the control of sediment Proposed Grid Connection works as described in the EIAR. Standard and specific mitigation to prevent accidents and indirect effects of accidents are included in the Proposed Project design and will be implemented.		'Simple contamination' of environment (e.g., watercourses), 'localised effects of short duration'.	

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
H	**Fire / Explosion**	Equipment or infrastructure failure; Fuel spillage/storage; Electrical problems; Employee negligence; Disturbance of underground Gas Networks Ireland Pipeline.	Illness or loss of life; Damage to, or depletion of habitats and species; Impacts on ambient air quality; Fire and explosion.	2	As outlined in Chapter 4: Description of the Proposed Project, fuel stored onsite during the construction phase of the Proposed Project will be stored in bunded areas. Therefore, fuel leakage/spillage is not considered to be a significant fire risk. In accordance with Chapter 19 of the Safety, Health and Welfare at Work Act 2005 (the 2005 Act), the Proposed Project shall be subject to a fire safety risk assessment which would assist in the identification of any major risks of fire on site, and mitigation of the same during operation. Interaction of the Proposed Grid Connection with the GNI network has been	2	Should a fire/explosion occur at the Site, a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration' on people and environmental receptors due to the nature of the Proposed Project and the lack of infrastructure or fuel storage during operation that would result in any such incident. There will be 'normal community functioning' in the area with 'some inconvenience' The 'generic command, control & co-ordination systems' as well as the 'common elements of response' detailed in the Galway County Council Major Emergency Plan will work to reduce the consequence (both on people and the	4

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
					informed by consultation with GNI and has been designed in accordance with the GNI Code of Practice.		environment) of potential fire/explosions at the Site.	
I	**Collapse / damage to structures**	Vehicular collisions due to driver negligence on public roads; and Earthquakes, extreme weather events.	Injury or loss of life.	1	According to the Irish National Seismic Network (INSN), earthquakes measuring ~2 on the Richter Scale are "normal" in terms of seismicity in Ireland. These are known as microearthquakes; they are not commonly felt by people and are generally recorded only on local seismographs. As such, buildings in Ireland are extremely unlikely to be damaged or collapse due to seismic activity. As outlined in Chapter 11: Climate of this EIAR, due to Ireland's latitudinal position, the probability of extreme weather events posing a threat to human	1	The risk of infrastructure collapse during the construction phase will result in a minor consequence in that a 'small number of people would be affected' and no real likelihood of any impact on any environmental receptors. In the event of a severe weather event, all stipulations outlined in the Severe Weather Plan will be followed explicitly.	1

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
					life are low. However, in the circumstance of such a weather event occurring at the Site during the construction phase, the Severe Weather Plan as set out in Section 11 of the Galway County Major Emergency Plan will be followed. Having regard to speed limits within the Site, it is not predicted that any collision of vehicles and any infrastructure would result in significant damage/collapse.			
Operational Phase								
J	**Severe Weather**	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds	Illness or loss of life;	3	The risk of severe weather is unlikely when considering the assessment in Chapter 11: Climate and weather conditions recorded over the last 30 years within the area.	1	The risk of severe weather conditions during the operational phase will result in a minor consequence in that a 'small number of people would be affected' should a severe weather event occur with 'no	3

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
							fatalities and a small number of minor injuries with first aid treatment'.	
K	**Flooding**	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds	Illness or loss of life; Groundwater Flooding; Flooding to surrounding properties; Damage to, or depletion of aquatic habitats and species.	2	As detailed in Appendix 9-1, Flood Risk Assessment (FRA), a flood risk identification study was undertaken to identify existing potential flood risks associated with the Proposed Project. The overall risk of flooding posed by the Proposed Project and associated works within the Proposed Wind Farm site is low. The main risk of flooding on site is from fluvial flooding, which the FRA states that the Proposed Wind Farm site is at risk from the Raford River, e.g. fluvial flooding, due to parts of the Proposed Wind Farm being within Flood Zone A and Flood Zone B.	1	The risk of flooding during the operational phase will result in a minor consequence in that 'small number of people would be affected' should a severe weather occur, with 'no fatalities and a small number of minor injuries with first aid treatment'. 'No contamination' of environment (e.g., watercourses), 'localised effects'.	2

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
L	**Contamination**	A vehicular incident on the public road or Proposed Wind Farm road network involving fuel, wastewater or sewage transportation in the operational phase.	Damage to, or depletion of aquatic habitats and species. Contamination of local drinking water supplies, Group Water Schemes, and groundwater aquifers.	2	As outlined in Chapter 9: Water, Section 9.5.3 fuels stored on site will be minimised and any hydrocarbons stored on-site will be bunded to 110% of the storage tanks maximum capacity	1	The risk of a fuel spillage or impact on surrounding drainage during the operational stage will result in a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration', through the use of bunded containment areas during operation. The potential residual environmental effects are described in detail in Chapter 9: Water which concludes that there will be no significant environmental effects.	2
M	**Fire / Explosion**	Equipment or infrastructure failure; Fuel spillage/storage; Electrical problems; and	Illness or loss of life; Damage to, or depletion of habitats and species; and	2	There is a possibility of equipment failure during the operational phase of the Proposed Project. The proposed turbines have an operation life of approximately 35 years, but components may need to be replaced before this	2	Should a fire/explosion occur at the Site, a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration' on people and environmental receptors due to the nature of the	4

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		Employee negligence.	Impacts on ambient air quality.		period has passed. The onsite 38kV substation will need maintenance. In accordance with Chapter 19 of the Safety, Health and Welfare at Work Act 2005 (the 2005 Act), the Proposed Project shall be subject to a fire safety risk assessment which would assist in the identification of any major risks of fire on site, and mitigation of the same during operation.		Proposed Project and the lack of infrastructure or fuel storage during operation that would result in any such incident. There will be 'normal community functioning' in the area with 'some inconvenience'. The 'generic command, control & co-ordination systems' as well as the 'common elements of response' detailed in the Galway County Council Major Emergency Plan will work to reduce the consequence (both on people and the environment) of potential fire/explosions at the Site.	
N	**Collapse/ damage to structures**	Vehicular collisions due to driver negligence on public roads; and	Injury or loss of life.	1	According to the Irish National Seismic Network (INSN), earthquakes measuring ~2 on the Richter Scale are "normal" in terms of seismicity in Ireland. These are known	1	The risk of infrastructure collapse during the operational phase will result in a minor consequence in that a 'small number of people would be affected' and no real likelihood of	1

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		Earthquakes, extreme weather events.			as microearthquakes; they are not commonly felt by people and are generally recorded only on local seismographs. As such, buildings in Ireland are extremely unlikely to be damaged or collapse due to seismic activity. As outlined in Chapter 11: Climate of this EIAR, due to Ireland's latitudinal position, the probability of extreme weather events posing a threat to human life are low. However, in the circumstance of such a weather event occurring at the site of the Proposed Project during the operational phase, the Severe Weather Plan as set out in Section 11 of the Galway County Major Emergency Plan will be followed.		any impact on any environmental receptors. In the event of a severe weather event, all stipulations outlined in the Severe Weather Plan will be followed explicitly.	

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
					Having regard to speed limits within the Proposed Wind Farm, it is not predicted that any collision of vehicles and any infrastructure would result in significant damage/collapse.			
O	**Traffic Incident**	Driver negligence or failure of vehicular operations on Proposed Wind Farm roads. Traffic Management not implemented.	Injury or loss of life.	3	A very low number of vehicles will access the Proposed Wind Farm as part of the operational phase. As such, it can be determined that there is some 'opportunity, reason or means' for a vehicle collision to occur within the Proposed Wind Farm, 'at some time.' An unlikely risk is therefore predicted.	1	A minor consequence is predicted. Having regard to on-site speed limits and vehicular movements, a 'small number of people would be affected' should a vehicular collision occur, with 'no fatalities and small number of minor injuries with first aid treatment.'	3
Decommissioning Phase								
P	**Severe Weather**	Extreme weather- periods	Illness or loss of life;	3	The risk of severe weather is unlikely when	1	The risk of severe weather conditions during the	3

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		of heavy rainfall, taking into account climate change and strong winds.	Damage to, or depletion of aquatic habitats and species.		considering the assessment in Chapter 11: Climate and weather conditions recorded over the last 30 years within the area. Decommissioning works will be paused should a Status Red weather warning alert be issued by Met Eireann as is standard practice		decommissioning phase will result in a minor consequence in that a 'small number of people would be affected' should a severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'. Decommissioning will not require significant excavations works. There is no likelihood of any impact on any environmental receptors.	
Q	**Flooding**	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.	Illness or loss of life; Groundwater Flooding; Flooding to surrounding properties;	2	The risk of flooding is considered to be low when taking into account the assessment in Chapter 9: Water of the EIAR.	1	The risk of flooding during the decommissioning phase will result in a minor consequence in that a 'small number of people would be affected' should a severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'.	2

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
			Damage to, or depletion of aquatic habitats and species.					
R	**Traffic Incident**	Driver negligence or failure of vehicular operations on site roads. Traffic Management not implemented.	Injury or loss of life.	3	Traffic movements associated with the decommissioning phase of the Proposed Project will be limited to Heavy Goods Vehicles (HGVs) needed for the decommissioning works, and Light Goods Vehicles (LGVs) needed to transport construction staff to the Site. As such, it can be determined that there is some 'opportunity, reason or means' for a vehicle collision to occur on site, 'at some time.' An unlikely risk is therefore predicted.	1	A minor consequence is predicted. Having regard to on-site speed limits and vehicular movements, a 'small number of people would be affected' should a vehicular collision occur, with 'no fatalities and small number of minor injuries with first aid treatment.'	3
S	**Contamination**	Fuel spillage during delivery to the Site.	Damage to, or depletion of	2	As outlined in Chapter 4: Description of the Proposed Project, fuel will	2	The risk of a fuel spillage or impact on surrounding drainage during the	4

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		Failure of fuel storage tank or tanks in plant and machinery and vehicles.	aquatic habitats and species; Discharge to groundwater.		be stored on-the Proposed Wind Farm site but in a bunded area to ensure containment and prevent spillages of fuel. No fuels, chemicals or solvents will be stored outside of the confines of the Proposed Wind Farm site. Setback distances from sensitive hydrological features means that adequate room is maintained for the proposed drainage measures as detailed in Chapter 9: Water.		decommissioning stage will result in a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration' through the use of bunded containment areas during decommissioning. 'Simple contamination' of environment (e.g., watercourses), 'localised effects of short duration'.	
T	**Fire / Explosion**	Equipment or infrastructure failure; Fuel spillage/storage; Electrical problems; and	Illness or loss of life; Damage to, or depletion of habitats and species; and	2	There is a possibility of equipment failure during the operational phase of the Proposed Project. The proposed turbines have an operation life of approximately 35 years, but components may need to be replaced before this period has passed. The	2	Should a fire/explosion occur at the Site, a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration' on people and environmental receptors due to the nature of the Proposed Project and the	4

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		Employee negligence.	Impacts on ambient air quality.		onsite 38kV substation will need maintenance. In accordance with Chapter 19 of the Safety, Health and Welfare at Work Act 2005 (the 2005 Act), the Proposed Project shall be subject to a fire safety risk assessment which would assist in the identification of any major risks of fire on site, and mitigation of the same during operation.		lack of infrastructure of fuel storage during operation that would result in any such incident. There will be 'normal community functioning' in the area with 'some inconvenience'. The 'generic command, control & co-ordination systems' as well as the 'common elements of response' detailed in the Galway County Council Major Emergency Plan will work to reduce the consequence (both on people and the environment) of potential fire/explosions at the Site.	

The risk assessment for each of the potential risks identified are consolidated in Table 16-8 which provides their 'risk-score'. A corresponding risk matrix is provided in Table 16-9, which is colour coded to provide an indication of the critical nature of each risk. As outlined in Section 16.2.4.2, the red zone represents 'high risk' scenarios, the amber zone represents 'medium risk' scenarios, and the green zone represents 'low risk' scenarios.

Table 16-8 Risk Scores

Risk ID	Potential Risk	Likelihood Rating	Consequence Rating	Risk Score
Construction Phase				
A	Critical Infrastructure Emergencies	1	1	1
B	Severe Weather	3	1	3
C	Flooding	2	1	2
D	Peat Stability	2	2	4
E	Utility Emergencies	2	1	2
F	Traffic Incident	3	1	3
G	Contamination	2	2	4
H	Fire / Explosion	2	2	4
I	Collapse/ damage to structures	1	1	1
Operational Phase				
J	Severe Weather	3	1	3
K	Flooding	2	1	2
L	Contamination	2	1	2
M	Fire / Explosion	2	2	4
N	Collapse/ damage to structures	1	1	1
O	Traffic Incident	3	1	3
Decommissioning Phase				
P	Severe Weather	3	1	3
Q	Flooding	2	1	2
R	Traffic Incident	3	1	3
S	Contamination	2	2	4
T	Fire / Explosion	2	2	4

Table 16-9 Risk Matrix

Likelihood Rating	Consequence Rating				
	1.Minor	2.Limited	3. Serious	4.Very Serious	5.Catastrophic
5.Very Likely					
4. Likely					
3. Unlikely	B, F, J, O, P, R,				
2. Very Unlikely	C, E, K, L, Q	D, G, H, M, S, T			
1. Extremely Unlikely	A, I, N				

Table 16-9 presents the potential risks identified during the construction, operation and decommissioning of the Proposed Project all of which can be classified as 'low' risk scenarios.

The scenarios with the highest risk score in terms of a major accident and/or natural disaster during the construction, operation and decommissioning phase of the Proposed Project is identified below.

16.4.1.7 Contamination During Construction, Operation and Decommissioning (G, L, S)

There is a potential risk of contamination from site activities during the construction, operation and decommissioning phases from potential release of hydrocarbons. The risk of contamination was given a risk score of 4 on a precautionary basis. However, as outlined in Chapter 8: Land, Soils and Geology Section 8.6, and Chapter 9: Water, Section 9.5, measures will be put in place to reduce the risk of accidental spillage and contamination of pollution risk to soils, groundwater, surface water and associated ecosystems, and to terrestrial ecology.

The risk of contamination is 'very unlikely' to occur and will have 'limited' consequences should it do so, representing a 'low-risk scenario' during the construction, operation, and decommissioning phases.

The conclusions in the relevant chapters of the EIAR state that there will be no significant residual effects associated with this potential impact.

16.4.1.8 Peat Stability During Construction (D)

There is a potential risk of peat instability during the construction of the Proposed Project. The risk of peat instability was given a risk score of 4. The risk of peat instability has been minimised through the careful design of the Proposed Project and will be further limited through the implementation of the best practice construction control measures outlined in the Geotechnical and Peat Stability Report; Appendix 8-1 of the EIAR.

The risk of peat instability is 'very unlikely' to occur and will have 'limited' consequences should it do so, representing a 'low-risk scenario' during the construction phase. Therefore, there will be no significant effect.

16.4.1.9 Fire/ Explosion During Construction, Operation and Decommissioning (H, M, T)

There is a potential risk of fire/explosion at the Site. However, as outlined in Section 16.2.1, the scope of this assessment has been based on the understanding that the Proposed Project will be designed, built and operated in line with current best practice. Further, in accordance with Chapter 19 of the Safety, Health and Welfare at Work Acts 2005 to 2014, the Proposed Project shall be subject to a fire safety risk assessment which will assist in the identification of any major risks of fire on the Site.

Therefore, the risk of fire occurring at the Proposed Project resulting in a major accident and/or disaster was given a risk score of 4 on a precautionary basis. This indicates a scenario that is 'very unlikely' to occur and having 'limited' consequences should it do so, representing a 'low-risk scenario' during the construction, operational and decommissioning phases.

16.4.2 Mitigation Measures

As outlined in Section 16.4.1, the scenarios with the highest risk score in terms of the occurrence of major accident and/or disaster during construction, were identified as identified as 'Contamination' 'Fire/Explosion' and 'Peat Stability' and, risk of 'Fire/ Explosion' during operation; 'Contamination' for the decommissioning stage; In addition the next highest scores was for 'Severe Weather' during construction, operation, and decommissioning.

The Proposed Project will be designed and built in line with current best practice and, as such, mitigation against the risk of major accidents and/or disasters will be embedded through the design. In accordance with the provision of the European Commission '*Guidance on the preparation of Environmental Impact Assessment Reports'*, a Risk Management Plan (RMP) will be prepared and implemented on site to ensure an effective response to disasters or the risk of accidents. The RMP will include sufficient preparedness and emergency planning measures.

16.4.2.1 Mitigation – Contamination During Construction, Operation and Decommissioning (G,LS)

Potential effects associated with contamination during construction, operation and decommissioning are addressed fully in Chapter 8: Land, Soils and Geology and Chapter 9: Water. The mitigation measures outlined in Chapter 8: Land, Soils and Geology and Chapter 9: Water to protect environmental receptors as well as the procedures and measures described in the CEMP will ensure that the risk from these sources is low.

A CEMP has been prepared for the Proposed Project and is included in Appendix 4-5 of this EIAR. Upon a grant of planning permission for the Proposed Project, the CEMP will be updated to reflect the conditions stipulated in the consent prior to the commencement of the development. The CEMP will be a live document maintained by the contractor that will work to ensure that potential risks of major accident and/or disaster are identified, avoided and mitigated, as necessary. Refer to Appendix 4-5 for the CEMP that sets out the minimum standards to be employed by the contractor.

All mitigation measures proposed as part of this project are also listed in Chapter 18: Schedule of Mitigation and Monitoring Measures.

16.4.2.2 Mitigation – Fire/Explosion During Construction, Operation and Decommissioning (H, M, T)

The Proposed Project will 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.

As outlined in Section 4.4 of Chapter 4: Description of the Proposed Project of the EIAR, the CEMP will be reviewed and updated prior to the commencement of any works. The CEMP will be a live document maintained by the contractor that will work to ensure that potential risks of major accident and/or disaster are identified, avoided and mitigated, as necessary. Refer to Appendix 4-5 for the CEMP that sets out the minimum standards to be employed by the contractor.

All mitigation measures proposed as part of this project are also listed in Chapter 18: Schedule of Mitigation and Monitoring Measures.

16.4.2.3 Mitigation – Severe Weather During Construction, Operation and Decommissioning (B, J, P)

The works programme for the construction stage of the development will take account of weather forecasts and work will be suspended in the case of extreme weather events. The following forecasting and weather warning systems are available and will be used on a daily basis at the Site to direct proposed construction activities:

- General Forecasts: Available on a national, regional and county level from the Met Eireann website (www.met.ie/forecasts). These provide general information on weather patterns including rainfall, wind speed and direction but do not provide any quantitative rainfall estimates;
- Weather Warning or Advisories: Met Éireann's main suite of warnings are issued by the duty forecaster between 10am and midday and are updated as necessary as new information becomes available. In general, warnings will not be issued more than 60-hours ahead of the expected adverse weather but advisories on potential hazards are issued up to a week in advance. The three warning categories are:
    - Yellow: Not unusual weather. Localised danger.
    - Orange: Infrequent. Dangerous/disruptive.
    - Red: Rare. Extremely dangerous/destructive.
- MeteoAlarm: Alerts to the possible occurrence of severe weather for the next 2 days. Less useful than general forecasts as only available on a provincial scale;
- 3-hour Rainfall Maps: Forecast quantitative rainfall amounts for the next 3 hours but does not account for possible heavy localised events;
- Rainfall Radar Images: Images covering the entire country are freely available from the Met Eireann website (www.met.ie/latest/rainfall_radar.asp). The images are a composite of radar data from Shannon and Dublin airports and give a picture of current rainfall extent and intensity. Images show a quantitative measure of recent rainfall. A 3-hour record is given and is updated every 15 minutes. Radar images are not predictive; and

16.4.2.4 Mitigation – Peat Stability During Construction (D)

The findings of the Geotechnical & Peat Stability Report (Appendix 8-1) showed that the Site has an acceptable margin of safety, is suitable for the Proposed Project and is considered to be at low risk of peat failure. The findings include recommendations and control measures for construction work in peatlands to ensure that all works adhere to an acceptable standard of safety. These measures are summarised below and further detailed in Appendix 8-1:

- Detailed ground investigation to confirm peat, mineral soil and bedrock condition and properties.
- Use of experienced geotechnical staff for confirmatory site investigation.
- Maintain hydrology of area as far as possible by maintaining the flow of water in existing drains to prevent the build-up of water pressures in the peat, leading to the peat becoming "buoyant".
- Use of contractors with experience in working peat and trained operators to carry out the work.
- Use of floating roads in deeper areas of peat.
- Movement monitoring posts to be installed upslope of the turbine/hardstand excavation and monitored on a regular basis.

16.4.3 Residual Effects

The risk of a major accident and/or disaster during the construction of the Proposed Project is considered 'low' in accordance with the '*Guide to Risk Assessment in Major Emergency Management*' (DoEHLG, 2010).

It is considered that when the above mitigation is implemented, and all mitigation detailed in the EIAR is implemented, there will not be significant residual effect(s) associated with the construction, operation and decommissioning of the Proposed Project.

16.4.4 Monitoring

16.4.4.1 Monitoring During Construction

As outlined in Section 4.4 of Chapter 4: Description of the Proposed Project of the EIAR, the CEMP will be reviewed and updated prior to the commencement of any works. The CEMP will be a live document maintained by the contractor that will work to ensure that potential risks of major accident and/or disaster are identified, avoided and mitigated, as necessary. Refer to Appendix 4-5 for the CEMP that sets out the minimum standards to be employed by the contractor.

All monitoring measures proposed as part of this project are also listed in Chapter 18: Schedule of Mitigation and Monitoring Measures.

16.4.4.2 Monitoring During Operation

The operator of the Proposed Project will continue to assess the risk of major accidents and/or disasters on Site on an on-going basis during operation.

The maintenance programme, record of reported incidents, as well as general site activities will be monitored on an on-going basis to ensure risk of major accidents does not increase over time.

16.4.4.3 Monitoring During Decommissioning

As outlined in Section 4.11 of Chapter 4: Description of the Proposed Project of the EIAR, a Decommissioning Plan has been prepared (Appendix 4-6) the final detail of which will be agreed with the local authority prior to any decommissioning. The Decommissioning Plan will be updated prior to the end of the operational period in line with decommissioning methodologies that may exist at the time and will be finalised with the competent authority at that time. The Decommissioning Plan includes mitigation and monitoring measures that will be in place during the decommissioning phase. These can also be found in a Chapter 18 which sets out all proposed Mitigation and Monitoring Measures for all three phases of the Proposed Project.

16.4.5 Assessment of Cumulative and In Combination Impacts

A search in relation to plans and projects that may have the potential to result in a cumulative impact with the Proposed Project on the environment was carried out as part of the EIAR. The Proposed Project has been considered, in combination with existing, permitted and proposed projects and plans (wind energy or otherwise), as set out in Section 2.9 in Chapter 2: Background to the Proposed Project of this EIAR.

All elements of the Proposed Project were assessed to identify any cumulative effects. A wind farm including all its various components including the grid connection works, substation, roads, turbines etc is not a recognised source of pollution. It is not subject to Industrial Emissions Directive regulation or any other Environmental Protection Agency environmental regulatory consent. Should a major accident or natural disaster occur the potential sources of pollution onsite during the construction, operational and decommissioning phases are limited and of low environmental risk. Sources of pollution with the potential to cause significant environmental pollution and associated negative effects such as bulk storage of hydrocarbons or chemicals, storage of wastes, management of flammable materials etc. are limited and so there is an inherent low level of environmental risk associated with major accident or natural disaster.

There is low potential for significant natural disasters to occur at the Proposed Wind Farm site. Ireland is a geologically stable country with a mild temperate climate. The potential natural disasters that may occur are therefore limited and these have been assessed in the context of the Proposed Project, cumulatively in this chapter and in the wider EIAR.

Major industrial accidents involving dangerous substances pose a significant threat to humans and the environment; such accidents can give rise to serious injury to people or serious damage to the environment, both on and off the site of the accident. The Proposed Project is not regulated or connected to or close to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e., SEVESO sites and so there are no potential effects from this source. There is no real likelihood of significant environmental effects cumulatively associated with major accidents.

The Proposed Project has low potential to cause natural disasters or major accidents. The majority of the Proposed Wind Farm site is on cutover peat, with appropriate control/ mitigation measures implemented, there is low potential for peat slides or landslides. Any risks associated with flooding, impacts on infrastructure, accidents etc are addressed in the sections above. There is no real likelihood of significant environmental effects cumulatively associated with the Proposed Project's potential to cause accidents or natural disasters.

Following a detailed assessment of the potential for any further impact when considered in combination with any or all of the plans and projects set out in set out in Chapter 2: Background to the Proposed Project, Section 2.9 of this EIAR, the Proposed Project, with mitigation measures in place, was found to have no potential for significant in-combination or cumulative effects associated with the potential for the project to be impacted by major accidents and/ or natural disasters or the Proposed Projects potential to cause major accidents and/ or natural disasters. This is based on the low risk associated with the Proposed Project described in this Chapter of the EIAR and a review of the nature of the surrounding land uses and projects existing or intended in the surrounding area. Therefore, the cumulative residual effect of the Proposed Project to cause or be impacted by major accidents and natural disasters is not significant.