

Borrisbeg Grid Connection

Chapter 9: Air Quality

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Chapter 9 Air Quality

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9.1 Introduction

This chapter assesses the likely significant effects on air quality associated with the Proposed Grid Connection. A full description of the Proposed Grid Connection is outlined in Chapter 3: Development Description.

9.1.1 Background

The Proposed Grid Connection is situated in a rural area of north Tipperary, approximately 14.5 km south of Roscrea Town and approximately 3.8 km northeast of Templemore town centre. The current land use consists of a combination of pastoral agriculture and local roads. The surrounding area is mainly used for pastoral agriculture, small scale private forestry and commercial and residential development, within Templemore town.

Given the rural nature of the Proposed Grid Connection and the typical characteristics of the surrounding environment, air quality sampling was considered unnecessary for this EIAR. It is presumed that the existing air quality is good because there are no significant sources of air pollution, such as heavy industry, near the Proposed Grid Connection. The construction phase for the Proposed Grid Connection is estimated to be 9-12 months, after which, the site is anticipated to be visited by 1-2 light good vehicles (LGV) or personnel cars for maintenance and inspection purposes.

The purpose of the Proposed Grid Connection is to facilitate the transmission of renewable energy from the associated Consented Wind Farm onto the national grid. In doing so, the Proposed Grid Connection will indirectly facilitate the offsetting of 58,808 tonnes of carbon dioxide each year (approximately 1,764,240 tonnes over the operational lifespan of the Consented Wind Farm), power 47,304 households with renewable energy and aid the State in reaching its 2030 renewable and emissions targets as mandated by the EU.

9.1.2 Statement of Authority

This section of the EIAR, has been prepared by Karen Mulryan and reviewed by Paul Chadwick, of RPS. Karen is a Senior Environmental Scientist with RPS with over 9 years' experience in the consultancy sector. Karen holds a BA in International in Archaeology from NUI Galway and a MSc in Archaeology from the University of Edinburgh. Karen's key strengths and areas of expertise are in project management, environmental impact assessment, wind energy site selection and feasibility assessment. Karen has experience managing wind farm Environmental Impact Assessment Report applications of various scales including SID applications across Ireland. Karen has experience in report writing, including EIAR Material Assets chapters, feasibility studies and EIA screening reports. Karen holds memberships with the Chartered Institute for Archaeologists (ACIfA) and the Institute of Archaeologists of Ireland (IAI).

Paul is a Technical Director with the Energy, Environment and Resources Sector and leads the team responsible for environmental, waste and resource management and assessment of infrastructural and industrial projects for RPS in Ireland. Paul specialises in the fields of air quality and climate. He has considerable experience, both academic and professional, in ambient air quality and a wide range of atmospheric pollutants from waste / wastewater, road traffic, air traffic, industrial and stationary sources. As a result of two years research in atmospheric chemistry, he has an in-depth knowledge of the chemical and physical transformations associated with local and regional air pollution and climate change. Paul is a trained and experienced expert witness and is supported by a team of multidisciplinary environmental experts across RPS in Ireland.

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9.2 Methodology

9.2.1 Legislation, Policy and Guidance

9.2.1.1 Legislation

The assessment has been undertaken in accordance inter alia with the 2001, Air Pollution Act and the EIA Directive. In terms of legislation for air quality, this is presented in two separate levels as follows:

- Ambient air quality legislation for the protection of human health; and
- National emissions legislation for transboundary pollution.

The ambient air quality standards in Ireland are outlined in the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) (as amended) by the Air Quality Standards (Amendment) and Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air (Amendment) Regulations 2016 (S.I. 659 of 2016) and Ambient Air Quality Standards Regulations 2022 (S.I. No. 739 of 2022) (“the Air Quality Regulations”), which incorporate the ambient air quality limits set out in Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (known as the CAFE Directive), for a range of air pollutants.

The CAFE Directive replaced the previous Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management and daughter directives, Council Directive 1999/30/EC of 22 April 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air and Directive 2000/69/EC of the European Parliament and of the Council of 16 November 2000 relating to limit values for benzene and carbon monoxide in ambient air.

The ambient air quality standards were revised in 2024. The revised Ambient Air Quality Directive (Directive (EU) 2024/2881) merges the previous two Directives into one and streamlines provisions to clarify and simplify the rules, aligning 2030 EU air quality standards more closely with the recommendations of the World Health Organization. Member States will have two years to adopt the laws, regulations and administrative provisions to transpose the revised Directive. The Commission will adopt secondary legislation (implementing acts) to complement the new rules and assist with their application.

The Air Quality Regulations set limit values for the pollutants nitrogen dioxide (NO₂) and nitrogen oxides (NO_x), particulate matter (PM) with an aerodynamic diameter of less than 10 microns (PM₁₀), PM with an aerodynamic diameter of less than 2.5 microns (PM_{2.5}), lead (Pb), sulphur dioxide (SO₂), benzene and carbon monoxide (CO) as presented in Table 9-1.

On a national level, Ireland is a party to the Convention on Long Range Transboundary Air Pollution (CLRTAP) under which certain transboundary air pollutants are controlled. For EU Member States, implementation of the Gothenburg Protocol (a daughter protocol of the CLRTAP) is achieved through limits set out in Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants (“the NEC Directive”) which has been amended by Directive (EU) 2016/2284 and the European Union (National Emission Ceilings) Regulations (Amendment) 2024.

The NEC Directive sets national emission ceilings for key pollutants including particulate matter (PM₁₀ (particles with a diameter of 10 microns or less) and PM_{2.5} (particles with a diameter of 2.5 microns or less)), sulphur dioxide (SO₂), nitrogen oxides (NO_x), ammonia (NH₃) and Volatile Organic Compounds (VOCs). The aim of the Directive is to cut the negative impacts of air pollution on human health by almost half by 2030. Reducing levels of illness, including respiratory and cardiovascular diseases and premature death is the main priority.

Ireland’s emissions ceilings under the first NEC Directive applied until December 2019 with reference to 2005 as the base year. Article 4(1) and Annex II of the Directive (as amended) then

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sets out new reduction commitments which apply from 2020 to 2029, and from 2030 onwards as shown in Table 9-2. The European Union (National Emission Ceilings) Regulations (Amendment) 2024 updates the reporting requirements for emissions and projections as referred to in Article (2).

Table 9-1: Air Quality Regulations (based on the CAFE Directive)

Pollutant	Regulation	Limit Type	Value
Nitrogen Dioxide	S.I. 180 of 2011	Hourly limit for protection of human health - not to be exceeded more than 18 times/year	200µg/m ³ NO ₂
		Annual limit for protection of human health	40µg/m ³ NO ₂
Nitrogen Oxides (NO + NO ₂)		Critical limit for the protection of vegetation and natural ecosystems	30µg/m ³ NO + NO ₂
Lead	S.I. 180 of 2011	Annual limit for protection of human health	0.5µg/m ³
Sulphur Dioxide	S.I. 180 of 2011	Hourly limit for protection of human health - not to be exceeded more than 24 times/year	350µg/m ³
		Daily limit for protection of human health - not to be exceeded more than three times/year	125µg/m ³
		Critical limit for the protection of vegetation and natural ecosystems (calendar year and winter)	20µg/m ³
Particulate Matter (asPM ₁₀)	S.I. 180 of 2011	24-hour limit for protection of human health - not to be exceeded more than 35 times/year	50µg/m ³
		Annual limit for protection of human health	40µg/m ³
Particulate Matter (asPM _{2.5})	S.I. 180 of 2011	Annual limit for protection of human health	25µg/m ³
Benzene	S.I. 180 of 2011	Annual limit for protection of human health	5µg/m ³
Carbon Monoxide	S.I. 180 of 2011	8-hour limit (on a rolling basis) for protection of human health	10mg/m ³

Table 9-2: Ireland's National Emissions Ceiling Directive 2020 and 2030 Targets

Pollutant	2010-20 Targets under 2001/81/EC (kilotonnes)	Targets under 2016/2284/EU (kilotonnes)	
		2020	2030
SO ₂	42	25.574	10.960
NO _x	65	66.836	40.626
NM VOC	55	56.335	51.077
NH ₃	116	112.066	107.539
PM _{2.5}	N/A	15.606	11.229

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9.2.1.2 Policy

European Policy

On 12 May 2021, the European Commission (EC) adopted the EU Action Plan: Towards a Zero Pollution for Air, Water and Soil' which was a key deliverable of the European Green Deal. The 2030 targets of this plan that are relevant to this assessment are listed as follows:

- Improving air quality to reduce the number of premature deaths caused by air pollution by 55%; and
- Reducing by 25% the EU ecosystems where air pollution threatens biodiversity.

Furthermore, as part of the European Green Deal, in October 2022 the EC proposed to revise the Ambient Air Quality Directives to align more closely with the recommendations of the World Health Organization (WHO). The purpose of this proposal is to:

- Put the EU on track to achieve zero pollution for air by 2050;
- Foresee a regular review of the air quality standards, in line with latest scientific evidence;
- Further improve the legal framework, providing more clarity on access to justice, damage redress, effective penalties, and better public information on air quality;
- Support local authorities in achieving cleaner air by strengthening air quality monitoring, modelling, and air quality plans; and
- Merge the current two Directives into one and streamline provisions to clarify and simplify the rules.

National Policy

Nationally, Project Ireland 2040: the National Planning Framework cite air quality as a National Policy Objective 64 as follows:

Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions.

In addition, the Clean Air Strategy for Ireland was published by the Department of the Environment, Climate and Communications (DECC) in April 2023 (DECC, 2023) with the following aims:

- To set the appropriate targets and limits to ensure continuous improvements in air quality across the country, to deliver health benefits for all;
- To ensure the integration of clean air considerations into policy development across Government;
- To increase the evidence, base that will help us to continue to evolve our understanding of the sources of pollution and their impacts on health, in order to address them more effectively;
- To enhance regulation required to deliver improvements across all pollutants;
- To improve the effectiveness of our enforcement systems;
- To promote and increase awareness of the importance of clean air, and the links between cleaner air and better health; and
- To develop the additional targeted/specific policy measures as required to deal with national or local air quality issues.

Following the EU policy, the national strategy commits to setting more stringent legal limits for ambient air quality taking into full consideration the new WHO guideline limits and the proposal for a new EU Ambient Air

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Quality Directive with achievement of final WHO Guidelines Value by 2040. In addition, interim values are proposed for 2026 and 2030 to track progress to meeting the WHO Guidelines by 2040.

Regional Policy

Tipperary County Council has monitoring and enforcement responsibilities and powers under a range of Air Quality legislation, including:

- The Air Pollution Act 1987 (Solid Fuels) Regulations 2022 (I. No. 529 of 2022);
- The Waste Management (Prohibition of Waste Disposal by Burning) Regulations 2009 (I. No. 286 of 2009);
- The European Union (Paints, Varnishes, Vehicle Refinishing Products and Activities) Regulations 2012 (I. No. 564 of 2012);
- The European Union (Installations and Activities Using Organic Solvents) Regulation 2012 (I. No. 565 of 2012);
- The Air Pollution Act 1987 (Petroleum Vapour Emissions) Regulations 1997 (I. No. 375 of 1997); and
- The Air Pollution Act 1987.

9.2.1.3 Guidance

The assessment utilises the predictive approaches of the following Transport Infrastructure Ireland (TII) guidance documents:

- TII Air Quality Assessment of Specified Infrastructure Projects – Overarching Technical Document PE-ENV-01106 (December 2022) (TII, 2022a);
- TII Air Quality Assessment of Proposed National Roads - Standard PE-ENV-01107 (December 2022) (TII, 2022b); and
- TII Road Emissions Model (REM): Model Development Report GE-ENV-01107 (December 2022) (TII, 2022c).

In addition, the following non-legislative guidance is applied to this assessment:

- WHO (2021). WHO global air quality guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide;
- Institute of Air Quality Management (IAQM) (2024) Guidance on the assessment of dust from demolition and construction; and
- Technical Instructions on Air Quality Control – TA Luft, German Federal Ministry for Environment, Nature Conservation and Nuclear Safety, (July 2002).

The WHO Guidelines are particularly pertinent in relation to the statutory limits for the protection of human health as presented in Table 9-1. The WHO Guidelines are based on reducing the risk to human health and in some cases the levels differ from the statutory limits as these limits are based on balancing health risks with technological feasibility, economic considerations, and various other political and social factors in the EU. The 2021 Air Quality Guidelines (AQG) and interim targets recommended by the WHO are presented in Table 9-3. These guidelines are not legally binding; however, they do provide WHO Member States with an evidence-informed tool to inform legislation and policy. The levels are presented as an ultimate guideline as well as a series of interim targets which are proposed as incremental steps in a progressive reduction of air pollution and are intended for use in areas where pollution is high.

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Table 9-3: WHO Recommended Air Quality Guideline (AQG) Levels and Interim Targets (2021)

Pollutant	Averaging Time	Interim Target				AQG
		1	2	3	4	
PM _{2.5} (µg/m ³)	Annual	35	25	15	10	5
	24-hour	75	50	37.5	25	15
PM ₁₀ (µg/m ³)	Annual	70	50	30	20	15
	24-hour	150	100	75	50	45
O ₃ (µg/m ³)	Annual	100	70	-	-	60
	24-hour	160	120	-	-	100
NO ₂ (µg/m ³)	Annual	40	30	20	-	10
	24-hour	120	50	-	-	25
SO ₂ (µg/m ³)	24-hour	125	50	-	-	40
CO (mg/m ³)	24-hour	7	-	-	-	4

9.2.2 Zone of Influence

Impacts to air quality during the Construction Phase of the Proposed Grid Connection will be as a result of construction dust and exhaust emissions. According to the Institute of Air Quality Management (IAQM) guidance (2024), dust emissions from site activities have the potential to impact people and property from up to 250 m from the source. As a result, a 250 m buffer around the Proposed Grid Connection has been set as the Zone of Influence (Zol) for air quality impacts. Due to the nature of the Proposed Grid Connection, operational impacts to air quality are not envisaged and as such, no Zol has been set for the operational phase.

9.2.3 Sources of Information to Inform the Assessment

The following sources were used to inform the air quality assessment:

- Transport Infrastructure Ireland (2022) Air Quality Assessment of Proposed National Roads – Standard PE-ENV-01107' (Transport Infrastructure Ireland, December 2022).
- Environmental Protection Agency (2025) Ireland's Provisional Greenhouse Gas Emissions 1990-2024
- Environmental Protection Agency (2024) Annual Air Quality Monitoring Reports – Air Quality in Ireland 2023 and previous reports 2018 – 2022.
- Environmental Protection Agency (2023) Air Quality in Ireland Report 2023.
- Environmental Protection Agency (2021) Best Practice Guidelines on the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects.
- Environmental Protection Agency (2016) Guidance on the Assessment of Dust from Demolition and Construction V2.2 (IAQM, 2024).
- National Roads Association (2022) Guidelines for Assessment of Ecological Impacts of National Roads Schemes.
- UK Department of Environment Food and Rural Affairs (DEFRA) Part IV of the Environment Act 1995: Local Air Quality Management, LAQM.TG (DEFRA, 2018);

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- UK Highways Agency (UKHA) Design Manual for Roads and Bridges (DMRB) – LA105 Air Quality (UKHA, 2019);
- WHO Air Quality Guidelines for Particulate Matter, Ozone, Nitrogen Dioxide and Sulphur Dioxide Global Update 2005 (WHO, 2005).
- Google Satellite mapping

9.2.4 Key Parameters for Assessment

The following aspects were considered in the assessment of potential effects of the Proposed Grid Connection on air quality:

Construction Phase

- Fugitive dust emissions at the construction sites and temporary compound during, excavations, construction and track-out;
- Plant emissions from diesel use on mobile and fixed plant engaged in the construction phase; and
- Road traffic emissions from transport of personnel and materials to and from site for construction activities.

Operational Phase

Due to the nature of the Proposed Grid Connection, it is unlikely for there to be any significant emissions to the atmosphere during the Operational Phase. There may be some imperceptible dust emissions from personnel vehicles during site inspections/light maintenance work and on a very rare occasion, plant machinery for substation component replacement or grid route maintenance works.

9.2.5 Assessment Criteria and Significance

Air quality impacts are assessed at sensitive receptors within various distances of the Proposed Grid Connection. The primary source of air quality impacts relevant to the Proposed Grid Connection are construction dust emissions, which are assessed at sensitive receptors within 250m of the Proposed Grid Connection. For the purposes of this assessment, as per the IAQM guidance (2024), high sensitivity receptors are regarded as residential properties (where people are likely to spend the majority of their time), schools, hospitals and care homes. Commercial premises and places of work are regarded as medium sensitivity. Receptors where people are present for short periods or do not expect a high level of amenity are regarded as low sensitivity. Dust impacts to sensitive ecology receptors, specifically vegetation, are assessed up to a distance of 50m from the Proposed Grid Connection infrastructure. Impacts to air quality are assessed against compliance with the relevant air quality standards which are set for the protection of human health and the environment.

9.2.5.1 Dust Deposition Guidelines

The concern from a health perspective is focused on particles of dust, which are less than 10 microns, and the EU ambient air quality standards outlined in Section 9.2.1 have set ambient air quality limit values for PM₁₀ and PM_{2.5}.

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With regard to larger dust particles that can give rise to nuisance dust, there are no statutory guidelines regarding the maximum dust deposition levels that may be generated during the construction phase of a development in Ireland.

However, guidelines for dust deposition, the German TA-Luft standard for dust deposition (non-hazardous dust) (German VDI, 2002) sets a maximum permissible emission level for dust deposition of 350 mg/m²/day averaged over a one-year period at any receptors located in proximity to construction zones. The TA-Luft standard has been applied for the purpose of this assessment based on recommendations from the Environmental Protection Agency (EPA) in Ireland in the document titled 'Environmental Management Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals)' (Paul, et al., 2007). The document recommends that the TA-Luft limit of 350 mg/m²/day be applied to the site boundary of quarries. This limit value can be implemented with regard to dust impacts from construction of the Proposed Grid Connection.

9.2.6 Construction Phase Methodology

9.2.6.1 Construction Dust Assessment

The IAQM guidance document '*Guidance on the Assessment of Dust from Demolition and Construction*' (2024) outlines an assessment method for predicting the impact of dust emissions from construction activities based on the scale and nature of the works and the sensitivity of the area to dust impacts. The IAQM methodology has been applied to the construction phase for the Proposed Grid Connection in order to predict the likely risk of dust impacts in the absence of mitigation measures and to determine the level of site-specific mitigation measures required. The use of UK guidance is recommended by Transport Infrastructure Ireland in their guidance document Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106 (TII, 2022).

Sensitivity of the Receiving Environment

In line with the IAQM guidance document '*Guidance on the Assessment of Dust from Demolition and Construction*' (2024) the sensitivity of the area must first be assessed as outlined below. Both receptor sensitivity and proximity to proposed works areas are taken into consideration. As mentioned in Section 9.2.5, for the purposes of this assessment, high sensitivity receptors are regarded as residential properties (where people are likely to spend the majority of their time), schools, hospitals and residential care homes. Commercial premises and places of work are regarded as medium sensitivity and places where people are present for short periods or do not expect a high level of amenity are regarded as low sensitivity.

The sensitivity of the area to dust soiling effects and dust-related human health effects are first considered. The criteria considers the receptor sensitivity based on type (high, medium and low) and the number of receptors affected within respective distance bands from the construction works i.e. 50m, 100m and 250m. In addition, the current annual mean PM₁₀ concentration is also considered. The IAQM guidance (2024) states that where there are no sensitive human receptors present within 250 m of the site, then no assessment of dust impacts is required.

The IAQM guidelines (2024) also outlines the assessment criteria for determining the sensitivity of the area to dust-related ecological impacts. Dust emissions can coat vegetation leading to a reduction in the photosynthesising ability of the plant as well as other effects. The guidance states that medium to high dust impacts to vegetation can occur up to 50 m. The sensitivity of the area is determined based on the distance to the source, the designation of the site, (European, National or local designation) and the potential dust sensitivity of the ecologically important species present.

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Ecological receptors are categorised based on the below:

- High Sensitivity Receptor
 - International or National designation where the designated feature may be negatively affected by dust.
 - Communities which are sensitive to dust i.e. vascular plant species listed in the Red Data List For Great Britain
- Medium Sensitivity Receptors
 - Important plant species, where dust sensitivity is unknown.
 - National designations in which features may be negatively affected by dust.
- Low sensitivity receptor
 - Local designations where features may be negatively affected by dust i.e. local nature reserves.

Table 9-4 outlines the criteria for determining the sensitivity of the area to dust soiling, Table 9-5 details the criteria for determining the sensitivity of the area to dust-related human health effects and Table 9-6 details the criteria for determining the sensitivity of the area to dust-related ecological effects. These criteria, reproduced from the IAQM guidance (2024), have been used in the current assessment to determine the sensitivity of each subsection of the Proposed Grid Connection to potential dust impacts.

Table 9-4: Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from Source (m)			
		<20	<50	<100	<250
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

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Table 9-5: Sensitivity of the Area to Dust Related Human Health Impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from Source (m)				
			<20	<50	<100	<200	<250
High	< 24 µg/m ³	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	< 24 µg/m ³	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Low	< 24 µg/m ³	>1	Low	Low	Low	Low	Low

Table 9-6: Sensitivity of the Area to Dust-Related Ecological Effects

Receptor Sensitivity	Distance from Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Determining the Magnitude of Dust Emissions

The magnitude of each activity that has the potential to generate dust considers the overall sensitivity of the area to determine the risk of dust impacts from site activities in **Table 9-7**. This allows the level of site-specific mitigation be determined.

Table 9-7: Risk of Dust Impacts from Trackout. Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024)

Sensitivity of Area	Dust Emission Magnitude		
	Large >50HGVs	Medium 20-50 HGVs	Small >20 HGVs
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible Risk

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The category applicable to the Proposed Grid Connection includes trackout. These are described below for each category as per the IAQM (2024) guidance. As current activities at the study area and surrounding landscape are non-industrial in nature, air quality sampling was deemed to be unnecessary for this EIAR. The potential impact and significance of effects on air quality from emissions listed above during the construction and operation of the Proposed Grid Connection is assessed.

9.3 Description of the Existing Environment

The description of the existing environment is divided into a number of subsections for assessment purposes. Due to the nature of air quality, the baseline environment cannot be specifically localised to each of these subsections as air quality is similar across a broad area. In relation to the prevailing meteorological conditions and the background air pollutant levels, these will be similar to all subsections and are not specific to one. These have been described in detail in the below sections. In relation to the sensitivity of the surrounding area in respects to construction phase dust impacts, this is specific to each subsection of the Proposed Grid Connection and has been broken down accordingly.

9.3.1 Baseline Environment

The air quality surrounding the Proposed Grid Connection area is characteristic of 'Zone D (Rural Ireland).' The Proposed Grid Connection is subject to prevailing south-westerly winds. These south-westerly prevailing winds transports unpolluted air across the Atlantic Ocean until it reaches the mainland of Ireland. The EPA publishes Air Monitoring Station Reports for the respective air quality zones. The most recent report for air quality in Ireland is the 'Air Quality in Ireland 2023'. The EPA reports provide Sulphur Dioxide (SO₂), Particulate Matter (PM₁₀), Nitrogen dioxide (NO₂), Carbon Monoxide (CO) and Ozone (O₃) concentrations.

9.3.1.1 Sulphur Dioxide (SO₂)

Kilkitt, Letterkenny, Cork Harbour, Shannon Estuary, Askeaton and Edenderry are the air quality monitoring stations that are located within Zone D that monitored Sulphur Dioxide (SO₂) in 2023. Table 9-8 outlines the averaged SO₂ concentrations across the respective air quality monitoring stations. These figures are the averaged SO₂ figures from across the aforementioned air quality monitoring stations for 2023.

Table 9-8: Average Sulphur Dioxide Data for Zone D Sites in 2023

Parameter	Measurement (ug/m ³)
Annual Mean	4.31
Hourly values > 350	0
Hourly max	80.86
Daily values > 125	0
Daily max	23.25

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During this monitoring period, there was no daily limit exceedances for the protection of human health with respects to the average maximum hourly value. In addition, there were no exceedances of the annual mean limit for the protection of ecosystems. It would be expected that the SO₂ concentrations within the surrounding area of the Proposed Grid Connection would yield similar results as those outlined in Table 9-8.

9.3.1.2 Particulate Matter (PM₁₀)

Particulate matter is usually generated from vehicle exhaust emissions, soil / road surfaces, construction works and industrial emissions. There were 18 no. air quality monitoring stations within Zone D (including Tipperary Town, Carrick-on-Shannon, Enniscorthy, Birr, Askeaton, Macroom, Castlebar, Cobh Carrignafof, Claremorris, Kilkitt, Cavan, Edenderry, Mallow, Longford, Cobh Cork Harbour, Roscommon Town, Killarney and Malin Head) that monitored Particulate matter (PM₁₀) for 2023. Data for 2023 is presented in Table 9-9.

Table 9-9: Average Particulate Matter (PM₁₀) Data for Zone D

Parameter	Measurement (ug/m ³)
Annual Mean	10.9
% Data Capture	91.3
Values > 50 ug/m ³	13
Daily Max	44.2

The daily limit of 50 µg/m³ (PM₁₀) for the protection of human health was exceeded 13 days across the 18 Zone D air quality monitoring stations. Edenderry recorded the highest number of days where PM₁₀ exceeded this limit where the PM₁₀ daily limit was exceeded on six occasions^{Error!}

Bookmark not defined.

9.3.1.3 Nitrogen Dioxide (NO₂)

Emo Court, Birr, Castlebar, Carrick-on-Shannon, Kilkitt, Edenderry and Briarhill are the air quality monitoring stations that monitored Nitrogen Dioxide (NO₂) within Zone D for 2023. An average of the figures collected from the aforementioned air quality monitoring stations are presented in Table 9-10.

Table 9-10: Average Nitrogen Dioxide Data for Zone D Sites in 2023

Parameter	Measurement (µg/m ³)
Annual Mean	8.08
NO ₂ Values >200	0
Values > 140 (UAT)	0
Values >100 (LAT)	4
Hourly Max.	87.3

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The annual NO₂ value for the Zone D air quality monitoring stations was significantly lower than the annual mean limit value for the protection of human health (40 µg/m³). The lower assessment thresholds of 100 µg/m³ for NO₂ were exceeded a total of four times across the Zone D air quality monitoring stations in 2023. There were no exceedances recorded for the upper assessment threshold (140 µg/m³) in any of the aforementioned Zone D air quality monitoring stations for 2023. The average hourly maximum NO₂ value of 87.3 µg/m³ measured across the air quality monitoring stations were significantly lower than the hourly max threshold of 200 µg/m³. It can be inferred that the NO₂ values within the footprint of the Proposed Grid Connection would record similar figures as those recorded in Table 9-10.

9.3.1.4 Carbon Monoxide (CO)

The only air quality monitoring station that monitors Carbon Monoxide (CO) within Zone D was Birr. The EPA (2024) report provided rolling 8-hour carbon monoxide concentrations for the Birr's air quality monitoring station. An average of the figures collected from the aforementioned air quality monitoring stations are presented in Table 9-11

Table 9-11: Carbon Monoxide Data for Birr - Zone D Site in 2023

Parameter	Measurement
Annual Mean	0.6 mg/m ³
Median	0.6 mg/m ³
% Data Capture	99.8%
Values > 10	0
Max	2.2 mg/m ³

The average mean concentration of CO for the Birr air quality monitoring station in 2023 was 0.6 mg/m³. 2.2 mg/m³ was the maximum CO concentration recorded within the Birr air quality monitoring station for 2023 which is significantly lower than the CO limit value for the protection of human health of 10mg/m³. In the Bir air quality monitoring station, there was no recordings where the values exceeded the 10 mg limit value in 2023.

9.3.1.5 Ozone (O3)

In 2023, seven no. Zone D air quality monitoring stations were monitored ozone. These include Emo Court, Kilkitt, Carnsore Point, Mace Head, Castlebar, Valentia and Malin Head air quality monitoring stations. Table 9-12 outlines the average ozone data recorded across the aforementioned air quality monitoring stations for Zone D for 2023.

Table 9-12: Average Ozone Data for Zone D Air Quality Monitoring Stations for 2023

Parameter	Measurement
Annual Mean	61.48 µg/m ³
Median	72.82 µg/m ³
% Data Capture	95.54%

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No. of days > 120

10 days

9.3.1.6 Dust

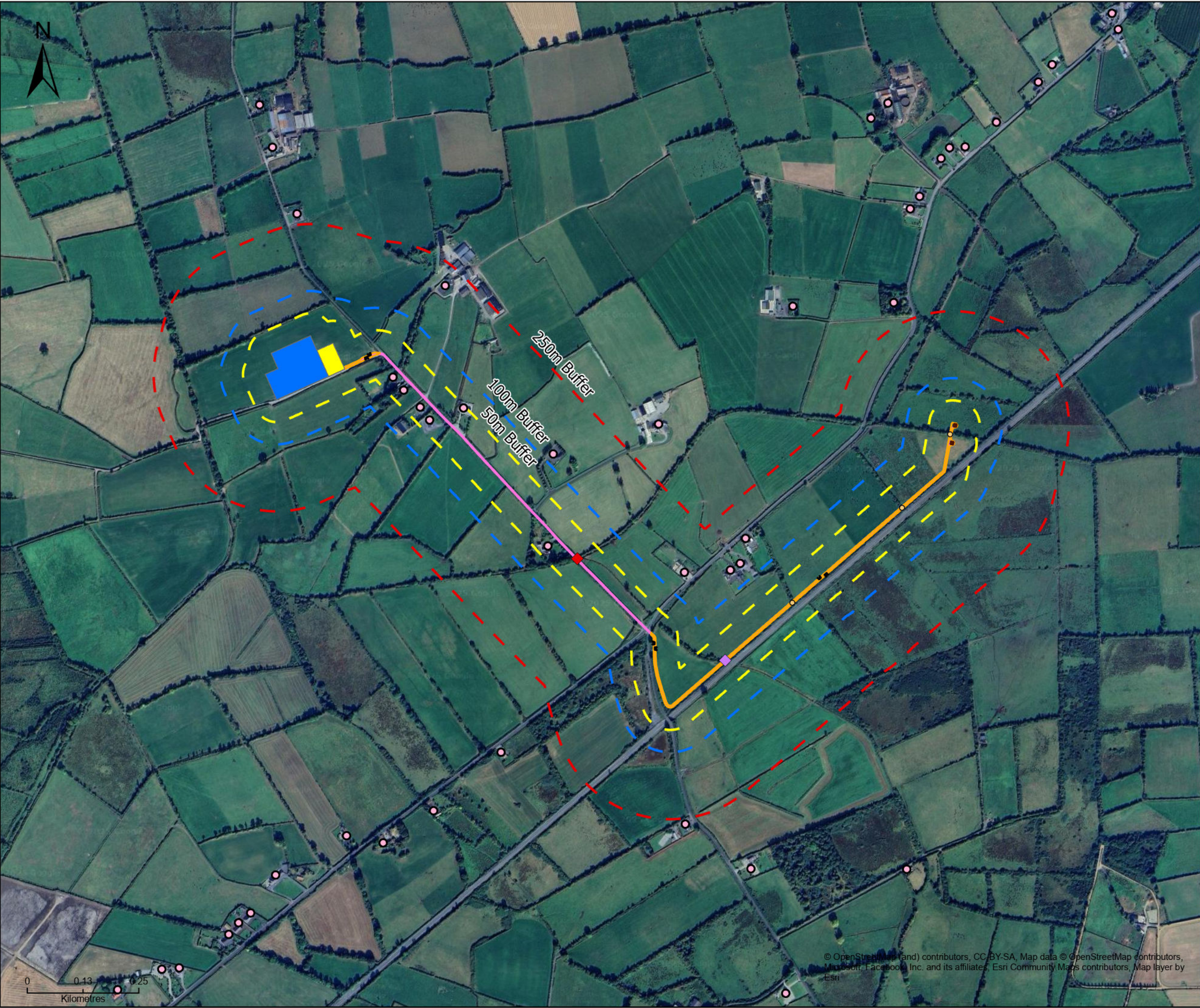
There are no statutory limits outlined for dust deposition within Ireland. A maximum emission level of 350 mg/m²/day has been outlined within the German TA-Luft standard for dust deposition. This limit value can also be applied to the assessment for the Proposed Grid Connection in respects to the dust impacts during the construction phase.

9.3.1.7 Existing Sensitive Receptors

Sensitive Human Receptors

According to the IAQM (2024) guidance document, dust deposition can result in negative effects to human receptors for a distance of up to 250 m from the footprint of the Proposed Grid Connection, but the majority of deposition occurs within the first 50m (IAQM, 2024). For the purpose of this EIAR, residential receptors are collectively referred to as 'Sensitive Properties.'

- There are 6 no. Sensitive Properties within 50 m of the Proposed Grid Connection.
- There are 7 no. Sensitive Properties within 100m of the Proposed Grid Connection, of which 6 are within 50m.
- There are 12 no. Sensitive Properties within 250 m from the Proposed Grid Connection, of which 7 are within 100m. (See Figure 9-1).



- Legend**
- 110kV Substation
 - Temporary Construction Compound
 - Joint Bays
 - End Masts
 - New Clear span crossing
 - HDD crossing under bridge
 - Field Drain Culverts
 - Proposed Cabling Route with New Track
 - Proposed Cabling Route in Public Road (to be upgraded)
 - Sensitive Receptors
 - 50m AQ Buffer
 - 150m AQ Buffer
 - 250m AQ buffer

Client

Buirios Ltd

Borrisbeg Grid Connection

Title

Air Quality Sensitive Receptors



TETRA TECH



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Sensitive Ecology Receptors

The nearest Designated Site SAC: 000934 - Kilduff, Devilsbit Mountain Special Area for Conservation (SAC; [000934]) is located approx. 7.2 km west of the Proposed Grid Connection. Multidisciplinary walkover surveys including habitat surveys, botanical surveys, invasive species and mammal surveys concluded that there are no sensitive habitats, Annex I or protected flora within the EIAR Study Boundary. Refer to Chapter 5 Biodiversity for details. Based on the criteria set out in Section 9.2.6.1, it can be concluded that the baseline for sensitive ecological receptors with respects to air quality is low.

9.4 Likely Significant Effects and Associated Mitigation Measures

9.4.1 'Do Nothing' Effect

If the Proposed Grid Connection did not receive a grant of permission, the Site will continue to function as it does at present, with no changes made to the current land-use and potential for impacts on air quality through the construction and operation of the Proposed Grid Connection would not occur.

If the Proposed Grid Connection were not to proceed, the Consented Wind Farm would not be constructed, therefore the indirect short term construction phase impacts and long term operational phase impacts, (which have been determined to not have significant environmental effects, refer to ACP Planning Reference 318704) , will not occur.

If the Proposed Grid Connection does not proceed, the Consented Wind Farm would not have a pathway to export the renewable energy generated onto the wider electricity network. The indirect positive contribution that the Proposed Grid Connection has with meeting National and EU targets for the production and consumption of electricity from renewable resources by 2030 would be lost. The opportunity to indirectly facilitate the reduction of emissions such as carbon dioxide (CO₂), oxides of nitrogen (NO_x), and sulphur dioxide (SO₂) would not occur due to the continued demand on electricity from coal, oil and gas-fired power stations. The 'Do Nothing' effect will result in an indirect negative long-term impact on air quality nationally, regionally and locally.

9.4.2 Construction Phase

9.4.2.1 Exhaust Emissions: Construction of Proposed Grid Connection Infrastructure

9.4.2.1.1 Pre-Mitigation Impact

The construction of the permanent 110kV substation, temporary construction compound, underground grid connection cabling and end masts will require the operation of construction vehicles and heavy plant machinery around the site. This potential effect will not be significant and will be restricted to the duration of the construction phase and localised to works areas. This is considered an indirect short-term, slight, negative impact on air quality.

9.4.2.1.2 Mitigation and Monitoring Measures

1. Construction staff will be trained how to inspect and maintain construction vehicles and plant to ensure good operational order while onsite, thereby minimising any emissions that arise. The Site Supervisor/Construction Manager produce and follow a site inspection and machinery checklist which will be followed and updated if/when required.

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2. All plant and materials vehicles shall be stored in dedicated areas (on-site). Machinery will be switched off when not in use.
3. construction materials will be transported to the site on specified routes only, unless otherwise agreed with the Planning Authority. Please see Chapter 14 Material Assets for details.
4. All plant and materials vehicles shall be stored in dedicated areas (on-site).
5. Areas of excavation will be kept to a minimum, and stockpiling will be minimised by coordinating excavation, spreading and compaction.
6. The expected waste volumes generated onsite are unlikely to be large enough to warrant source segregation at the Site. Therefore, all wastes streams generated onsite will be deposited into a single waste skip which will be covered. This 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 will be local to the Site to reduce the emissions associated with vehicle movements. There are several licenced waste treatment facilities located outside of Thurles, approximately 18km to the south of the Site.
7. A CEMP will be in place throughout the construction phase (see Appendix 3-2).

9.4.2.1.3 Residual Effect

With the implementation of the above measures for the construction phase, residual impacts on air quality from exhaust emissions associated with construction activities and machinery are considered to be imperceptible, negative impact and to short-term in nature.

9.4.2.1.4 Significance of Effects

The effects on air quality from exhaust emissions during the construction phase of the Proposed Grid Connection are considered to be imperceptible.

9.4.2.2 Exhaust Emissions: Transportation to and from Site

9.4.2.2.1 Pre-Mitigation Impact

The transport of substation infrastructure, construction vehicles, aggregate material, waste removal vehicles and construction staff to/from the site (which will occur on specified routes only, see in Chapter 3 Development Description), will give rise to exhaust emissions. This is considered an indirect, temporary to short-term, slight, negative impact on air quality.

9.4.2.2.2 Mitigation and Monitoring Measures

1. Measures listed in Section 9.4.2.1.2 above pertaining to exhaust emissions will be implemented for the transportation of vehicles to and from the Site.
2. Aggregate materials for the construction of site access tracks and all associated infrastructure will all be locally sourced, where appropriate, which will further reduce potential emissions.
3. Construction materials will be transported to the site on specified haul routes only.
4. Waste material will be transferred to a licensed /permitted MRFs by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery

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or disposal. The MRF will be local to the Site to reduce the amount of emissions associated with vehicle movements.

5. A CEMP will be in place throughout the construction phase (see Appendix 3-2).

9.4.2.2.3 Residual Effect

This constitutes a short-term slight negative effect to air quality brought about by the exhaust emissions associated with the traffic movements to and from the Site.

9.4.2.2.4 Significance of Effects

Based on this assessment there will be a slight significant effect on air quality from exhaust emissions due to traffic movements to and from the Site and will be temporary to short-term in duration.

9.4.2.3 Dust Emissions: Construction of the Proposed Grid Connection Infrastructure

9.4.2.3.1 Pre-Mitigation Impact

Construction of the Proposed Grid Connection Infrastructure

The construction of the Proposed Grid Connection will result in an increase in dust emissions to the surrounding environs. Approximately 15,000m³ of sand and stone is estimated to be required for fill as part of the Proposed Grid Connection (refer to Table 3-1 of Chapter 3 for details).

The IAQM methodology for the Assessment of Dust from Demolition and Construction as is used to predict the likely risk of dust impacts as a result of the construction works. Significant dust deposition impacts can occur for up to a distance of 250m from the works areas, but the majority of deposition occurs within the first 50m (IAQM, 2014). As discussed in Section 9.3.1.7, the above Sensitive Properties were derived from the constraints identification and mapping process, detailed and updated planning search which informed the project sensitive property dataset.

- There are 6 no. Sensitive Property located approx. 50m of the Proposed Grid Connection;
- There are 7 no. Sensitive Properties within 100m of the Proposed Grid Connection, of which 6 are within 50 metres of the Proposed Grid Connection;
- There are 12 no. Sensitive Properties within 250m of the Proposed Grid Connection, of which 7 are within 100m of the Proposed Grid Connection.

As per the criteria outlined in Table 9-13, the overall sensitivity of the area to dust soiling impacts is low. For the construction phase, the impact is considered to be a short term, slight negative impact.

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Table 9-13: Sensitivity of the Area to Dust Soiling Effects on People and Property. Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024)

Receptor Sensitivity	Number Of Receptors	Distance from Source (m)		
		<50	<100	<250
High	>100	High	Med	Low
	10-100	Med	Low	Low
	1-10	Low	Low	Low
Med	>1	Low	Low	Low
Low	>1	Low	Low	Low

9.4.2.3.2 Mitigation and Monitoring Measures

1. Sporadic wetting of loose stone surface will be carried out during the construction phase to minimise movement of dust particles to the air. In periods of extended dry weather, dust suppression may be necessary along haul roads to ensure dust does not cause a nuisance. Water bowser movements will be carefully monitored to avoid, as far as reasonably possible, increased runoff.
2. All plant and materials vehicles shall be stored in dedicated areas within the Site.
3. Areas of excavation will be kept to a minimum, and stockpiling will be minimised by coordinating excavation, spreading and compaction.
4. Construction traffic will be transported to the site on specified haul routes only.
5. The agreed haul route road adjacent to the Site will be regularly inspected for cleanliness and cleaned, as necessary.
6. The roads adjacent to the site entrances will be checked weekly for damage/potholes and repaired, as necessary.
7. The transportation of construction materials from locally sourced quarries will be covered by tarpaulin where necessary.
8. A CEMP will be in place throughout the construction phase (see Appendix 3-2). The CEMP includes dust suppression measures.

9.4.2.3.3 Residual Effect

With the implementation of the above, it is considered to be a temporary to short-term, imperceptible, negative effect on air quality as a result of dust emissions generated during the construction activities of the Proposed Grid Connection.

9.4.2.3.4 Significance of Effects

The effects on air quality from dust emissions during the construction phase will be imperceptible.

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9.4.2.4 Dust Emissions: Transportation to and from the Site

9.4.2.4.1 Pre-Mitigation Impact

The transportation of infrastructure, construction vehicles, aggregate material, waste removal vehicles and construction staff to and from site will result in an increase to localised dust emissions during dry weather periods.

The IAQM (2024) Guidance states that the impact of track out (transporting dust and dirt onto public roads from vehicles leaving construction and demolition sites) is determined based on the number of Heavy Good's Vehicles (HGVs) entering and leaving the construction site each day in conjunction with length of unpaved road, distance to receptors, the sensitivity and quantity of local receptors.

The Construction Phase timeframe for the Proposed Grid Connection will be 9 to 12 months. The shorter construction period for this timeframe outlined above will give rise to higher volumes of construction traffic using the public road network at any one time. For assessment purposes a standard 255 working days per year was adopted and so the timeframe will range from 191 days to 255 days. The quantity of HGVs that will utilise public roads during the Construction Phase will be greater than 50 no. HGVs per working day. Please see Chapter 14: Material Assets for details on traffic volumes. Based on the methodology detailed in Section 9.2.6.1, this is a large quantity of dust emissions from trackout. However, given the low sensitivity of the area, the dust emission magnitude for the transportation of materials to and from site is **low**. This potential effect is assessed as slight, negative and temporary to short-term in duration.

Table 9-14: Risk of Dust Impacts from Trackout. Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2014)

Sensitivity of Area	Dust Emission Magnitude		
	Large >50HGVs	Medium 20-50 HGVs	Small >20 HGVs
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible Risk

9.4.2.4.2 Mitigation and Monitoring Measures

1. Sporadic wetting of loose stone surface will be carried out during the construction phase to minimise movement of dust particles to the air. In periods of extended dry weather, dust suppression may be necessary along haul roads to ensure dust does not cause a nuisance. Water bowser movements will be carefully monitored to avoid, as far as reasonably possible, increased runoff.
2. All plant and materials vehicles shall be stored in dedicated areas within the Site.
3. Construction vehicles will be transported to the site on specified haul routes only.
4. Grid connection infrastructure will be transported to the site on specified haul routes only.
5. Construction materials for the Proposed Grid Connection will be sourced locally from licenced quarries.

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6. The agreed haul route roads adjacent to the Site will be regularly inspected for cleanliness and cleaned, as necessary.
7. The roads adjacent to the site entrances will be checked weekly for damage/potholes and repaired, as necessary.
8. The transport of construction materials to the Site for the Proposed Grid Connection will be covered by tarpaulin where necessary.
9. Waste material will be transferred to a licensed /permitted MRF by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal. The MRF will be local to the site to reduce the amount of emissions associated with vehicle movements.
10. A CEMP will be in place throughout the construction phase (see Appendix 3-2).

9.4.2.4.3 Residual Effect

Following implementation of mitigation measures as outlined above, residual impacts on air quality from dust emissions from traffic movements to and from the Site during the construction phase will have temporary to short-term imperceptible negative impact.

9.4.2.4.4 Significance of Effects

Based on the assessment above the effects on air quality from dust emissions generated by traffic movements to and from the Site during the construction phase will be imperceptible.

9.4.3 Operational Phase

9.4.3.1 Exhaust Emissions

9.4.3.1.1 Pre-mitigation Impact

The Proposed Grid Connection will be operated and maintained by EirGrid. It is anticipated that staff will visit the site 1-2 times per day in Light Good's Vehicles (LGVs) but on occasion HGVs may be required to enter the Site in the event of a substation component replacement. The removal of hydrocarbons (transformer oil) and waste from substation welfare facilities on occasion will be extracted from site by a licenced waste disposal contractor. The addition of a LGV to the area 1-2 times per day will result in an imperceptible effect which will be long-term to permanent in duration.

9.4.3.1.2 Mitigation and Monitoring Measures

1. During the Operational Phase, vehicles or plant brought onsite shall be maintained in good operational condition and must comply with the Road Traffic Acts 1961, as amended.
2. When a vehicle is stationary, vehicles must turn off engines.
3. Waste material shall be transferred to a licensed/permitted MRF by a fully licensed waste contractor. The waste will be organised into separate waste streams for recycling, recovery or disposal. The MRF will be located within relatively close proximity to the Proposed Grid Connection.

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9.4.3.1.3 Residual Effects

Based on the above, the impact on air quality from exhaust emissions during the operational phase is imperceptible negative impact and permanent in duration.

9.4.3.1.4 Significance of Effects

Based on this assessment above the effects on air quality from exhaust emissions generated at the Site during the operational phase will be imperceptible.

9.4.3.2 Dust Emissions

The Proposed Grid Connection will be operated and maintained by EirGrid who will be required to visit the site 1-2 times per day. HGVs may be required to visit the site for substation component replacement on occasion as required. The increase in traffic volumes will increase dust emissions within the surrounding area.

The potential effect will be Imperceptible and will be permanent in nature.

9.4.3.2.1 Mitigation and Monitoring Measures

1. Maintenance vehicles brought onsite during the operational phase will be maintained in good operational order, thereby minimising any dust emissions that arise.
2. Waste material will be transferred to a licensed /permitted MRFs by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal. The MRF will be local to the Site to reduce the emissions associated with vehicle movements.

9.4.3.2.2 Residual Effects

Based on the above, the impact on air quality from dust emissions during the operational phase is a permanent imperceptible negative impact.

9.4.3.2.3 Significance of Effects

Based on this assessment above the effects on air quality from dust emissions generated at the site during the operational phase will be imperceptible.

9.4.4 Carbon Offsetting

The Proposed Grid Connection will indirectly contribute to offsetting of 58,808 tonnes of CO₂ per annum, or 1,764,240 tonnes for the operational phase of the Consented Wind Farm. Refer to Chapter 10: Climate for details.

9.4.5 Decommissioning Phase

Should the Consented Wind Farm be decommissioned, the Proposed Grid Connection will remain in place as it will be under the ownership and control of ESB/EirGrid. As such, there is not envisaged to be a decommissioning phase associated with the Proposed Grid Connection and the effects will be neutral.

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9.4.6 Cumulative and in-combination Effects

The potential for impact between the Proposed Grid Connection with proposed or consented wind projects within the surrounding landscape, and other relevant non-wind projects (existing, permitted or proposed) has been carried out with the purpose of identifying what influence the Proposed Grid Connection will have on air quality as well as the interactions between these factors, when considered cumulatively and in combination with relevant permitted or proposed projects in the vicinity of the Site. Please see Chapter 15: Interactions and Cumulative Effects for the detailed cumulative assessment methodology. Please refer to Appendix 15-1 for a comprehensive listing of the considered cumulative and in combination with relevant existing, permitted or proposed projects and plans in the vicinity of the Site.

The Consented Wind Farm (ABP Reference: 318704) will be constructed at the same time as the Proposed Grid Connection, however, there will be no significant effects arising from the construction or operation of the Proposed Grid Connection in combination with the construction, operation or decommissioning of the Consented Wind Farm or with any other permitted or proposed project listed in Chapter 15: Interactions and Cumulative Effects. The closed substation proposed, permitted, or in operation is an operational 38kv substation located on Mary Street, within Templemore town, approximately 4km west of the Proposed Grid Connection. Due to the separation distance, intervening screening from residential and commercial development, cumulative operational effects – traffic, noise, dust (from maintenance visits) and visual are not possible.

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References

1. DEFRA, 2018. Part IV of the Environment Act 1995: Local Air Quality Management, LAQM.TG (16), s.l.: s.n.
2. Department of Climate, Energy and the Environment, 2023. Clean Air Strategy, s.l.: s.n.
3. DOEHLG, 2004. Quarries and Ancillary Activities: Guidelines for Planning Authorities, s.l.: s.n.
4. Environmental Protection Agency, 2024. Air Quality in Ireland 2023, s.l.: s.n.
5. EPA, 2024. Air Quality in Ireland 2023, s.l.: s.n.
6. German VDI, 2002. Technical Guidelines on Air Quality Control, s.l.: s.n.
7. IAQM, 2024. Guidance on the Assessment of Dust from Demolition and Construction , London: s.n.
8. NRA, 2022. Guidelines for Assessment of Ecological Impacts of National Roads Schemes, s.l.: s.n.
9. Paul, T., Sheils, J., O'Regan, B. & Moles, R., 2007. Environmental Management Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals, s.l.: EPA.
10. TII, 2022. Air Quality Assessment of Proposed National Roads, s.l.: s.n.
11. TII, 2022. Air Quality Assessment of Proposed National Roads – Standard PE-ENV-01107 , s.l.: s.n.
12. TII, 2022. Air Quality Assessment of Specified Infrastructure Projects - Overarching Technical Document, s.l.: s.n.
13. TII, 2022. Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106, s.l.: s.n.
14. UKHA, 2019. Design Manual for Roads and Bridges, s.l.: s.n.
15. WHO, 2005. Air Quality Guidelines for Particulate Matter, Ozone, Nitrogen Dioxide and Sulfur Dioxide Global Update 2005, s.l.: s.n.
16. WHO, 2021. WHO Global Air Quality Guidelines: Particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, , Geneva: s.n.