

9. AIR QUALITY

9.1 Introduction

9.1.1 Background & Objectives

This chapter of the rEIAR describes and assesses the residual direct and indirect air quality impacts of peat extraction and ancillary activities, at the Application Site. The air quality impact assessment has been prepared for the Peat Extraction Phase, the Current Phase and the Remedial Phase of the Project. The baseline environment has been prepared with reference to published air quality data from the Environmental Protection Agency (EPA). For the purposes of this assessment, while the activities associated with the Project assessed have occurred over the past decades, beginning in 1988 and continuing to present day, impacts have been assessed against the most recently published air quality standards which are likely more stringent than historical standards from previous years. Therefore, if it can be determined that, based on the most recent standards, no significant effects occurred as a result of the Project, then it is unlikely that significant impacts occurred based on historical standards.

9.1.2 Statement of Authority

This chapter of the rEIAR has been prepared by the following staff of AWN Consulting Ltd:

Ciara Nolan

Ciara Nolan (Principal Air Quality Consultant) holds a BSc(Eng) in Energy Systems Engineering from University College Dublin and has also completed an MSc in Applied Environmental Science at UCD. She is a Member of the Institute of Air Quality Management (MIAQM) and the Institution of Environmental Sciences (MIEnvSc). Ciara has over 9 years of experience in the field of air quality consultancy. She has prepared the air quality and climate EIAR chapters for a range of developments including wind energy, industrial, pharmaceutical, data centre, residential and commercial.

This chapter was reviewed by Dr. Jovanna Arndt, a Principal Environmental Consultant in the Air Quality & Climate section of AWN Consulting. She has been specialising in the area of air quality and climate over 9 years and has prepared air quality and climate assessments for inclusion within EIARs for residential developments, commercial and industrial developments, as well as renewable energy developments. She also specialises in assessing air quality impacts using air dispersion modelling of transportation schemes such as, major Highways England Road schemes and major rail infrastructure in the form of High Speed 2 (HS2 in the UK). She has prepared air dispersion modelling assessments of emissions from data centres, energy centres and the chemical industry as part of EPA Industrial Emissions Licences. She has also provided Air Quality Action Plan (AQAP) and Air Quality Management Area (AQMA) support to several UK councils and assessed the air quality impacts of potential Clean Air Zones in the UK.

9.1.3 Project Description

A full description of the Project is provided in Section 4.2 in Chapter 4: Project Description. A brief summary pertaining to Air Quality of the Project Phases, as detailed in Section 4.2.1 in Chapter 4, is provided in the following sections.

9.1.3.1 Peat Extraction Phase (July 1988-June 2020)

Site preparation works including the implementation of drainage channels commenced at the Application Site in 1935. This was followed by industrial peat extraction which continued across the Application Site over the following decades. The majority of drainage and site clearance works were complete at the Application Site by July 1988 and peat extraction was well-established at the Application Site at that point. Dust emissions and vehicle and machinery exhaust emissions were the primary impacts to air quality as a result of the peat extraction and ancillary activities during the Peat Extraction Phase. The Peat Extraction Phase is described in detail in Sections 4.4 to Section 4.7 of Chapter 4

9.1.3.2 Current Phase (June 2020 to Present Day)

Peat extraction ceased at the Application Site in June 2020. During the Current Phase, the activity on the Application Site is much reduced in comparison to the Peat Extraction Phase, and included the removal and transportation off site of any remaining peat stockpiles, which was completed in October 2021. Other activities ongoing during the Current Phase include environmental monitoring associated with the Integrated Pollution Control (IPC) Licence (Ref. P0503-01) (Appendix 4-1) requirements as well as decommissioning activities. There are some vehicle and machinery related exhaust emissions associated with the current works, primarily as a result of the removal of the peat stockpiles and ongoing monitoring. Exhaust emissions have the potential to impact air quality, however, to a lesser degree than during the Peat Extraction Phase. In addition, there were likely some minor dust emissions associated with the removal of the peat stockpiles which would have an impact on air quality. However, these dust emissions would be significantly less than those which would have arisen during the Peat Extraction Phase. The Current Phase is described in detail in Section 4.7 and 4.8 of Chapter 4.

9.1.3.3 Remedial Phase

It is a requirement of ‘Condition 10 Cutaway Bog Rehabilitation’ of the IPC Licence that following decommissioning of use of all or part of their bogs, BnM prepares (to the satisfaction of the EPA) and implements a Cutaway Bog Decommissioning and Rehabilitation Plan – see Appendix 4-2 for details.

There will likely be minimal use of diggers to assist in drain blocking activities, and due to the short-term duration of the drain blocking activities and the low volume of machinery involved (likely 1 no. digger and 1 no. tractor) impacts to air quality from exhaust emissions will be imperceptible. Ecologists and site managers will visit the Application Site regularly for monitoring purposes which will also result in air emissions from vehicles, however these will be minimal due to the low number of vehicles required. The Remedial Phase is described in detail in Section 4.9 of Chapter 4.

9.2 Methodology

9.2.1 EPA Description of Effects

The significance of effects of peat extraction and ancillary activities will be described in accordance with the EPA guidance document *Guidelines on the information to be contained in Environmental Impact Assessment Reports (ELAR)*, May 2022. Details of the methodology for describing the significance of the effects are provided in Chapter 1: Introduction.

The effects associated with peat extraction and ancillary activities are described with respect to the EPA guidance in the relevant sections of this chapter.

9.2.2 Assessment Criteria

9.2.2.1 IPC Licence Criteria

There are no statutory limits on dust deposition and the focus is on the prevention of nuisance and minimising air borne dust emissions where practicable. Although coarse dust is not regarded as a threat to health, it can create a nuisance by depositing on surfaces. Condition 5 of the IPC Licence (Ref. P0503-01) issued to Bord na Móna Biomass Limited in April 2000 is specific to Emissions to Atmosphere, including dust emissions. The following conditions apply:

- 5.2 *The licensee shall ensure that all operations on-site shall be carried out in a manner such that air emissions and/or dust do not result in significant impairment of, or significant interference with amenities or the environment beyond the site boundary.*
- 5.3 *Within three months of the date of grant of the licence, the licensee shall submit to the Agency for agreement, a proposal for the identification and monitoring of Dust Sensitive Locations (DSL's) on and off site for dust deposition. A report on this monitoring shall be submitted annually as part of the AER.*
- 5.4 *Activities on-site shall not give rise to dust levels off site at any Dust Sensitive Location which exceed an emission limit of 350 mg/m²/day. [The sampling method to be in accordance with German TA Luft Emission Standards for Particle Deposition (IW1)].*

The dust emission limit value of 350 mg/m²/day is applicable to the Peat Extraction Phase, Current Phase, and Remedial Phase of this assessment.

9.2.2.2 Air Quality Standards

In addition to the above licenced condition in relation to dust emissions and dust deposition, emissions of nitrogen dioxide (NO₂), particulate matter less than 10 microns (PM₁₀) and particulate matter less than 2.5 microns (PM_{2.5}) also have the potential to impact air quality at sensitive locations as a result of activities associated with the Peat Extraction Phase, the Current Phase and Remedial Phase.

In 1996, the Air Quality Framework Directive (96/62/EC) was published. This Directive was transposed into Irish law by the Environmental Protection Agency Act 1992 (Ambient Air Quality Assessment and Management) Regulations 1999. The Directive was followed by four Daughter Directives, which set out limit values for specific pollutants:

- The first Daughter Directive (1999/30/EC) addresses sulphur dioxide, oxides of nitrogen, particulate matter and lead;
- The second Daughter Directive (2000/69/EC) addresses carbon monoxide and benzene. The first two Daughter Directives were transposed into Irish law by the Air Quality Standards Regulations 2002 (SI No. 271 of 2002);
- The third Daughter Directive, Council Directive (2002/3/EC) relating to ozone was published in 2002 and was transposed into Irish law by the Ozone in Ambient Air Regulations 2004 (SI No. 53 of 2004); and,
- The fourth Daughter Directive¹, published in 2004, relates to polyaromatic hydrocarbons (PAHs), arsenic, nickel, cadmium and mercury in ambient air and was

¹ IEEP Fourth Daughter Directive 2004. Available at: <https://ieep.eu/publications/the-fourth-air-quality-daughter-directive-impacts-and-consequences-of-mandatory-limits/>

transposed into Irish law by the Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations, 2009 (S.I. No. 58 of 2009).

The Air Quality Framework Directive and the first three Daughter Directives have been replaced by the Clean Air for Europe (CAFE) Directive (Directive 2008/50/EC on ambient air quality), which encompasses the following elements:

- The merging of most of the existing legislation into a single Directive (except for the Fourth Daughter Directive) with no change to existing air quality objectives;
- New air quality objectives for particulate matter less than 2.5 micrometres (μm) referred to as $\text{PM}_{2.5}$ including the limit value and exposure concentration reduction target;
- The possibility to discount natural sources of pollution when assessing compliance against limit values; and,
- The possibility for time extensions of three years for particulate matter less than $10\mu\text{m}$ (PM_{10}) or up to five years (nitrogen dioxide, benzene) for complying with limit values, based on conditions and the assessment by the European Commission.

The CAFE Directive was transposed into Irish legislation by the Ambient Air Quality Standards Regulations 2022 (S.I. No. 739/2022). These regulations supersede the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011), which previously superseded the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), the Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004), and the Ambient Air Quality Assessment and Management Regulations 1999 (S.I. No. 33 of 1999).

The Air Quality Standards Regulations 2022, which incorporate EU Directive 2008/50/EC, set similar or more stringent limit values in relation to the air pollutants outlined in the previous directives and also set limit values in relation to $\text{PM}_{2.5}$.

In October 2024 the EU formally adopted Directive (EU) 2024/2881 *of the European Parliament and of the Council of 23 October 2024 on ambient air quality and cleaner air for Europe (recast)*. This Directive supersedes EU Directive 2008/50/EC and sets out air quality standards for pollutants to be reached by 2026 and 2030.

The ambient air quality limit values for pollutants are set out in Annex I of Directive (EU) 2024/2881. Table 1 of Annex I in Directive (EU) 2024/2881 sets out the updated air quality limit values for pollutants to be achieved by 1 January 2030, which are more closely aligned with the Interim Target 4 (IT4) of the 2021 WHO air quality guidelines. Table 2 of Annex I in Directive (EU) 2024/2881 sets out the limit values for air pollutants which are to be achieved by 11 December 2026 and are also applicable up to 2030. The limit values in Table 2 of Annex I are the same as the limits set under Directive 2008/50/EC and the Air Quality Standards Regulations 2022.

The Air Quality Standards Regulations 2022 (S.I. 739 of 2022) transposed EU Directive 2008/50/EC. With the adoption of Directive (EU) 2024/2881, Ireland must transpose this Directive into national law within the statutory two-year period, i.e. update the Air Quality Standards Regulations before December 2026.

The ambient air quality standards applicable for NO_2 , PM_{10} and $\text{PM}_{2.5}$ outlined in Table 1 of Annex I in Directive (EU) 2024/2881 (see Table 9-1) have been used in this assessment to determine the impact of the Peat Extraction Phase, the Current Phase and the Remedial Phase on air quality, as these limits are more stringent than previous limits this ensures a conservative approach for the assessment. The use of the more stringent post-2030 limit values is recommended by Transport Infrastructure Ireland (TII) in their air quality guidance document Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106 (TII, 2025).

Air quality impacts are assessed at sensitive receptors off-site (see Section 9.2.4 in relation to assessment study area). Sensitive receptors for the purposes of this assessment are any occupied dwelling house, hostel, health building or place of worship and may include areas of particular scenic quality or special recreational amenity importance. Areas of ecological importance where designated species may be adversely impacted by dust soiling are also considered sensitive locations.

Table 9-1 Ambient Air Quality Limit Values

Pollutant	(EU) 2024/2881 Annex I Table 2		(EU) 2024/2881 Annex I Table 1	
	Limit Type	Limit Value (to be achieved by 2026 and applicable until 2030)	Limit Type	Limit Value (applicable from 2030)
Nitrogen Dioxide (NO ₂)	Hourly limit for protection of human health - not to be exceeded more than 18 times/year	200 µg/m ³	Hourly limit for protection of human health - not to be exceeded more than 3 times/year	200 µg/m ³
	n/a	n/a	24-hour limit for protection of human health - not to be exceeded more than 18 times/year	50 µg/m ³
	Annual limit for protection of human health	40 µg/m ³	Annual limit for protection of human health	20 µg/m ³
Particulate Matter (as PM ₁₀)	24-hour limit for protection of human health - not to be exceeded more than 35 times/year	50 µg/m ³	24-hour limit for protection of human health - not to be exceeded more than 18 times/year	45 µg/m ³
	Annual limit for protection of human health	40 µg/m ³	Annual limit for protection of human health	20 µg/m ³
Particulate Matter (as PM _{2.5})	n/a	n/a	24-hour limit for protection of human health - not to be exceeded more than 18 times/year	25 µg/m ³
	Annual limit for protection of human health	25 µg/m ³	Annual limit for protection of human health	10 µg/m ³

9.2.3 Scoping and Consultation

The scope for this rEIAR has been informed by consultation with statutory consultees, bodies with environmental responsibility and other interested parties such as the Department of Housing, Local Government and Heritage, the Environmental Protection Agency, Transport Infrastructure Ireland, and the Sustainable Energy Authority of Ireland, as outlined in Section 2.5 of Chapter 2: Background of the rEIAR. Scoping for the Project was undertaken in January 2025. No specific consultation with regard to air quality was conducted.

9.2.4 Study Area

In relation to potential dust impacts, the Institute of Air Quality Management in the UK (IAQM) guidance document '*Guidance on the Assessment of Dust from Demolition and Construction*' (IAQM, 2024) states that dust impacts to people and property can occur up to 250m from the source. In addition, the guidance states that dust impacts to vegetation can occur up to 50m from a site and 50m from site access roads, up to 250m for a site entrance (IAQM, 2024). As a result, the study area with respect to dust impacts extends to 250m from the Application Site boundary for the purposes of this assessment (hereafter referred to as the 'Study Area'). Figure 9-1 shows the sensitive receptors within the Study Area.

In relation to air quality impacts from vehicle emissions, the Transport Infrastructure Ireland (TII) PE-ENV-01106 guidance (TII, 2025) states that a detailed air quality assessment is required where there are sensitive receptors (human or ecological) within 200m of affected road links. However, as noted in Section 9.2.5.1 below a detailed assessment of traffic related air emissions has been screened out of this assessment as the changes in traffic are below the threshold requiring a detailed assessment.

For the purposes of this assessment, high sensitivity receptors to dust soiling or dust-related human health effects are regarded as residential properties where people are likely to spend the majority of their time, schools, hospitals and residential care homes. Commercial properties and places of work are regarded as medium sensitivity while low sensitivity receptors are places where people are present for short periods or do not expect a high level of amenity. In relation to potential dust related ecological impacts, high sensitivity receptors are designated areas of conservation (either Irish or European designation) and where dust sensitive species are present.

Specific sensitive receptors are discussed in detail in Section 9.3.3.

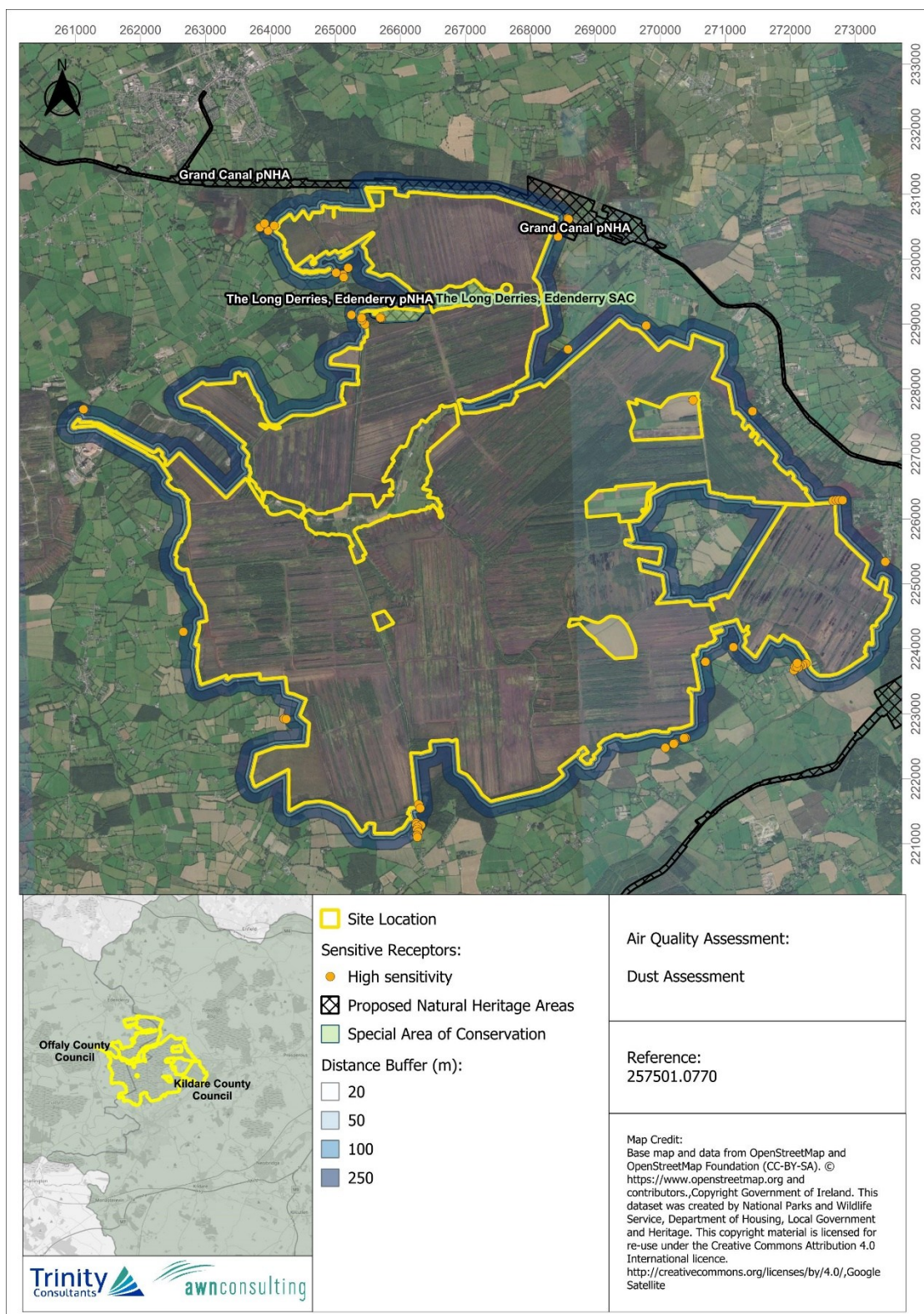


Figure 9-1 Sensitive Receptors within 250m of Application Site

9.2.5 Assessment Methodology

With respect to air quality, dust deposition impacts affecting nearby human or ecological receptors as a result of the extraction, movement and transport of peat, is the most significant impact identified as part of this assessment. In addition, a high-level review was conducted of the potential impact due to traffic emissions of the transportation of peat from the Application Site via rail link and public roads.

9.2.5.1 Vehicle Emissions

Emissions from cars, Heavy Goods Vehicles (HGVs) (including tractors and excavators) and railway movements associated with all phases have the potential to impact local air quality. The Transport Infrastructure Ireland (TII) scoping criteria outlined in their guidance document *Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106* (TII, 2025) can be used to determine the need or otherwise for a detailed air quality assessment. The TII guidance is specific to TII road and infrastructure projects, however the criteria can be applied to any development that causes a change in traffic and is considered best practice guidance.

The TII guidance (2025) states that a detailed air quality assessment is required where there are sensitive receptors within 200m of impacted road links. The guidance states that road links at a distance of greater than 200m from a sensitive receptor will not influence pollutant concentrations at the receptor. The TII *PE-ENV-01106* guidance (2025), states that road links meeting one or more of the following criteria can be defined as being ‘affected’ by a proposed development and should be included in the local air quality assessment:

- Annual average daily traffic (AADT) changes by 1,000 or more;
- Heavy duty vehicle (HDV) AADT changes by 200 or more;
- Daily average speed change by 10 kph or more;
- Peak hour speed change by 20 kph or more;
- A change in road alignment by 5 m or greater.

Chapter 14: Material Assets has been reviewed in order to inform this assessment. As discussed in Chapter 14, during the Peat Extraction Phase, peat extracted from the Application Site between 1988 and June 2020 was delivered to end users via Bord na Mona’s internal private rail network as well as via public road using HGVs. Full details of the methodology and assumptions required for the traffic assessment are detailed in Section 14.1.2 and Section 14.2.2 of Chapter 14.

In relation to rail emissions, these are unlikely to have had a significant impact on the local air quality at sensitive receptors in the vicinity of the Application Site. The rail network is primarily internal to the site and further than 200 m from nearby sensitive receptors. Additionally, there are no sensitive receptors located within 200 m of the relevant level crossings (see Figure 14-1 of Chapter 14).

During the Peat Extraction Phase, there were HGV movements associated with transport of peat from the Application Site and other ancillary activities as well as vehicle movements from site staff. Section 14.2.4.1 of Chapter 14 states that there were on average 5 HGVs per day associated with the Peat Extraction Phase and 256 LGV movements per day from site staff associated with the Peat Extraction Phase.

The Current Phase is assessed as having lesser vehicle movements than during the Peat Extraction Phase. Chapter 14 states that on average there were a maximum of 9 HGV movements per day and a daily average of 7 LGVs during the Current Phase. This reduces again once stockpiled peat removal from the site ceased. The Remedial Phase is assessed as having on average 1 LGV movement per day.

The traffic figures for the Peat Extraction Phase, Current Phase and Remedial Phase are significantly less than the TII criteria listed above and therefore, a detailed air quality assessment of traffic emissions can be scoped out and it can be concluded that there were no significant air quality impacts from vehicle emissions in the Peat Extraction Phase, Current Phase and Remedial Phase.

9.2.5.2 Dust Emissions

The greatest potential impact on air quality associated with the Peat Extraction Phase, Current Phase and Remedial Phase of the Project is as a result of dust emissions, PM₁₀/PM_{2.5} emissions and the potential for nuisance dust. Large particle sizes (greater than 75µm) fall rapidly out of atmospheric suspension and are subsequently deposited in close proximity to the source. Particle sizes of less than 75µm are of interest as they can remain airborne for greater distances and can give rise to the potential dust nuisance at the sensitive receptors. This size range can broadly be described as silt.

The Institute of Air Quality Management in the UK (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 (hereafter referred to as the ‘IAQM Guidance’). The IAQM Guidance methodology has been applied to the Peat Extraction Phase, the Current Phase and the Remedial Phase of the Project. This methodology has been used to predict the likely risk of dust impacts as a result of the Project. The use of the IAQM Guidance is recommended by TII in their air quality guidance PE-ENV-01106 (TII, 2025) and is considered best practice.

The major dust generating activities are divided into four types within the IAQM Guidance to reflect their different potential impacts. These are:

- Demolition
- Earthworks
- Construction
- Trackout (movement of heavy vehicles).

The magnitude of each of the four categories is divided into Large, Medium or Small scale depending on the nature of the activities involved. The magnitude of each activity is combined with the overall sensitivity of the area to determine the risk of dust impacts from site activities. The categories of demolition, construction and trackout are not applicable to the Application Site. The category of earthworks can be applied to the peat extraction and ancillary activities as the activities involved would be similar to those required for excavation and earth moving works on construction projects.

9.2.6 Difficulties Encountered

Data pertaining to the baseline year of 1988 were not available in relation to air quality. Published air quality monitoring data from the EPA is available online as far back as 2006. Data for the period 2006 – 2024 was used in the assessment in order to estimate the background air quality in the vicinity of the Application Site.

In relation to the traffic movements which would have generated dust and pollutant emissions over the Project Phases, please see Section 14.1.2 in Chapter 14 for the assumptions and limitations for the traffic and transport assessment in this rEiAR.

9.3 Establishment of Baseline (July 1988)

The baseline environment has been established as July 1988 for the purpose of this assessment. Historical data for air quality from this time period was investigated in order to establish the relevant

baseline. However, published data for this exact time period were not available for every source and therefore, data from as far back as possible has been used in establishing the baseline.

9.3.1 Review of EPA Air Quality Monitoring Data

Air quality monitoring programs have been undertaken in the past by the EPA and Local Authorities. The EPA website details the range and scope of monitoring undertaken throughout Ireland and provides both monitoring data and the results of previous air quality assessments (EPA, 2026). Monitoring data for the period 2006 – 2024 is available on the EPA website. The results of previous air quality monitoring are published in annual reports by the EPA (EPA, 2025).

As part of the implementation of the Framework Directive on Air Quality (1996/62/EC), four air quality zones have been defined in Ireland for air quality management and assessment purposes. Dublin is defined as Zone A and Cork as Zone B. Zone C is composed of 23 no. towns with a population of greater than 15,000. The remainder of the country, which represents rural Ireland but also includes all towns with a population of less than 15,000 is defined as Zone D. In terms of air monitoring the Application Site is within the area categorised as Zone D (EPA, 2026). The long-term air monitoring data has been reviewed and used to determine background concentrations for the key pollutants of NO₂, PM₁₀ and PM_{2.5} in the region of the Application Site. The background concentrations account for all non-traffic derived emissions (e.g. natural sources, industry, home heating etc.). Representative rural Zone D sites have been reviewed as these are deemed the most appropriate in relation to the location of the Application Site which is in a predominantly rural area. There are monitoring stations in closer proximity to the Application Site however, these were not considered representative sites for background air quality purposes. The closer sites are not within the Zone D category, and are suburban monitoring stations or background traffic monitoring stations which are not within a rural setting and, therefore, do not represent the background air quality environment in proximity to the Application Site.

Long-term NO₂ monitoring has been carried out at the rural Zone D locations of Kilkitt Co. Monaghan and Emo, Co. Laois with data available for the period 2006 – 2024. Data from 2006 – 2024 has been reviewed in the absence of older historic data. Over the period 2006 – 2024 annual mean concentrations of NO₂ at the rural background stations of Kilkitt and Emo ranged from a maximum of 6 µg/m³ to a low of 2 µg/m³ (see Table 9-2) (EPA, 2025). The average annual mean concentration for the 2006 – 2024 period is 3.1 µg/m³ which is significantly below the current annual limit value of 40 µg/m³ and the post-2030 limit of 20 µg/m³. In addition, there were no exceedances of the 1-hour limit value of 200 µg/m³ (18 exceedances are allowed per year). Based on the above information a conservative annual mean baseline concentration of 6 µg/m³ has been used in this assessment.

Long-term PM₁₀ monitoring has been carried out at the rural Zone D location of Kilkitt Co. Monaghan with data available for the period 2006 – 2024. Over the period 2006 – 2024 annual mean concentrations of PM₁₀ ranged from a maximum of 11 µg/m³ in 2013 to a low of 7 µg/m³ in 2019, 2023 and 2024 (see Table 9-3) (EPA, 2025). The average annual mean concentration for the 2006 – 2024 period is 8.7 µg/m³ which is significantly below the current annual limit value of 40 µg/m³ and the post-2030 limit value of 20 µg/m³. In addition, there were at most 3 exceedances of the daily limit value of 50 µg/m³ (35 exceedances are allowed per year). Based on the above information a conservative annual mean baseline concentration of 11 µg/m³ has been used in this assessment.

Monitoring of PM_{2.5} is undertaken at the rural Zone D location of Claremorris Co. Mayo. Data is available for the period 2011 – 2024 on the EPA website (EPA, 2026). Annual mean concentrations of PM_{2.5} ranged from 4 - 8 µg/m³ over the period 2011 – 2024 which are significantly below the annual mean limit value of 25 µg/m³ and below the post-2030 limit of 10 µg/m³ (see Table 9-4). Based on this information, a conservative annual mean baseline PM_{2.5} concentration of 8 µg/m³ was used in this assessment.

While specific pollutant concentrations prior to 2006 are not available it can generally be assumed that historical air quality dating back to 1988 was of a lesser quality than in more recent years. The EPA state that air quality is improving over time (EPA, 2025) as a result of the introduction of various policies and measures particularly in relation to road transport emissions and the use of cleaner fuels and the gradual introduction of hybrid and electric vehicles. Therefore, the use of the maximum monitored annual average concentration for NO₂, PM₁₀ and PM_{2.5} from the available EPA data as an estimate of baseline air quality in 1988 is considered appropriate.

Table 9-2 Baseline Air Quality – NO₂ (µg/m³)

Station	Averaging Period	Year																		
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Kilkitt, Co. Monaghan	Annual Mean NO ₂ (µg/m ³)	6	2	4	3	3	3	4	4	3	2	3	2	3	5	2	2	2	2	2
	1-hr Mean NO ₂ values >200 µg/m ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emo, Co. Laois	Annual Mean NO ₂ (µg/m ³)	-	-	-	-	-	-	-	4	3	3	4	3	3	4	3	4	3	2	3
	1-hr Mean NO ₂ values >200 µg/m ³	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0

Table 9-3 Baseline Air Quality – PM₁₀ (µg/m³)

Station	Averaging Period	Year																		
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Kilkitt, Co. Monaghan	Annual Mean PM ₁₀ (µg/m ³)	10	10	10	8	10	9	9	11	9	9	8	8	9	7	8	8	9	7	7
	24-hr Mean > 50 µg/m ³	0	2	1	1	0	1	1	3	2	1	0	0	0	1	0	0	0	0	0

Table 9-4 Baseline Air Quality – PM_{2.5} (µg/m³)

Station	Averaging Period	Year													
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Claremorris, Co. Mayo	Annual Mean PM _{2.5} (µg/m ³)	6	6	8	5	6	6	6	6	4	5	8	6	5	5

9.3.2 Dust Deposition Monitoring

Monitoring for dust deposition has been undertaken in the Allen Bog Group (in which the Application Site is located) in the past as a requirement of the IPC licence. The monitoring results are reported in the Annual Environmental Report (AER) each year, which are included as Appendix 4-3 of this rEiAR. Monitoring typically takes place between April to September of each year to correspond to the peat extraction season. Monitoring was conducted at 5 no. locations in the Allen Bog Group: DM01 Killinagh Bog (located within the Application Site to the east), DM02 Derrybrennan Bog (c. 40 m outside the Application Site to the north of Derrybrennan Bog), DM03 Ballykeane Bog (c. 12 km west of the Application Site), DM04 Cloncreen Bog (not within the Application Site) and DM05 Blackriver Bog (not within the Application Site). The monitoring locations for points DM01, DM02 and DM03 are shown graphically in Figure 9-2. Monitoring locations DM01 was within the Application Site while DM02 was just outside the Application Site. While monitoring was not specifically conducted at all locations within the Application Site, the five monitoring locations within the Allen Bog Group (within which the Application Site is located) are considered representative of the Application Site and it is likely that dust emissions were similar due to the similar nature of activities. Therefore, the dust deposition monitoring results from Killinagh (DM01), Derrybrennan (DM02), Ballykeane (DM03), Cloncreen (DM04) and Blackriver (DM05) have been utilised in this assessment to indicate the baseline dust deposition conditions for the Application Site. Monitoring results for location DM01, DM02, DM03, DM04 and DM05 are available in the AERs for 2001 – 2020 inclusive. No dust monitoring was carried out in the Allen Bog Group in 2000 as the dust monitoring locations did not receive approval in time; monitoring commenced for the 2001 peat extraction season. No dust monitoring was carried out from 2021 – 2025 due to the cessation of peat extraction in June 2020, and resultingly it was deemed unnecessary to continue monitoring for dust. Table 9-5 details the maximum annual result recorded at the monitoring locations as reported in the previous AERs for the Allen Bog Group.

There have been a small number of exceedances of the limit value of 350 mg/m²/day over the period 2001 – 2020 inclusive. There were 2 no. exceedances at DM01, 1 no. exceedance at DM02, 10 no. exceedances at DM03, 4 no. exceedances at DM04 and 4 no. exceedances at DM05 over the 2001 – 2020 period. There are no dust monitoring results presented in the AER for 2020, but it is noted that there were 3 no. exceedances of the limit value of 350 mg/m²/day. Of these exceedances 1 no. was at Derrybrennan, 1 no. was at Blackriver and 1 no. was at Ballykeane. As no extraction was carried out in 2021 – 2025, no dust monitoring took place, however it is assumed no exceedances occurred due to the lack of activity on the Allen Bog Group (within which the Application Site is located).

There have been a number of dust-related complaints reported in the AERs for the Allen Bog Group over the 2000 – 2025 period which indicates that at times there have been issues with dust emissions from the Allen Bog Group impacting local residences. The dust issues were related to either fires on site or peat extraction activities. Remedial measures were put in place to rectify any dust nuisance issues. The AERs note that training programmes with staff were implemented to raise awareness regarding dust emissions from site activities. Based on the average monitoring results within the Allen Bog Group (in which the Application Site is located) a baseline concentration of 333 mg/m²/day for dust deposition at the Application Site has been established.

Table 9-5 Maximum Annual Dust Deposition Monitoring Results (Source: Bord na Móna Annual Environmental Reports 2000 – 2024)

Year	DM01 Killinagh Bog	DM02 Derrybrennan Bog	DM03 Ballykeane Bog	DM04 Cloncreen Bog	DM05 Blackriver Bog	No. of dust complaints
2000	-	-	-	-	-	0
2001	712	83	761	74	-	1
2002	234	55	129	0	-	0

Year	DM01 Killinagh Bog	DM02 Derrybrennan Bog	DM03 Ballykeane Bog	DM04 Cloncreen Bog	DM05 Blackriver Bog	No. of dust complaints
2003	225	128	839	991	-	3
2004	178	172	947	111	-	2
2005	53	125	311	83	-	1
2006	235	166	861	61	-	2
2007	222	305	289	361	-	1
2008	1524	306	127	115	-	2
2009	101	197	148	309	-	0
2010	105	160	472	144	-	3
2011	316	191	267	190	877	4
2012	-	233	150	1344	1421	0
2013	-	149	602	128	287	3
2014	-	128	155	631	103	0
2015	-	105	589	-	150	4
2016	-	210	246	-	350	2
2017	-	150	552	-	315	2
2018	-	191	451	-	357	1
2019	-	303	231	-	195	1
2020 ^{Note 1}	-	-	-	-	-	1
2021	-	-	-	-	-	0
2022	-	-	-	-	-	0
2023	-	-	-	-	-	0
2024	-	-	-	-	-	0
2025	-	-	-	-	-	0
Average	355.0	176.7	427.7	324.4	450.6	-
No. of exceedances	2	1	10	4	4	-
Note 1: There are no dust monitoring results presented in the AER for 2020, it is noted that there were 3 no. exceedances of the limit value of 350 mg/m ² /day.						

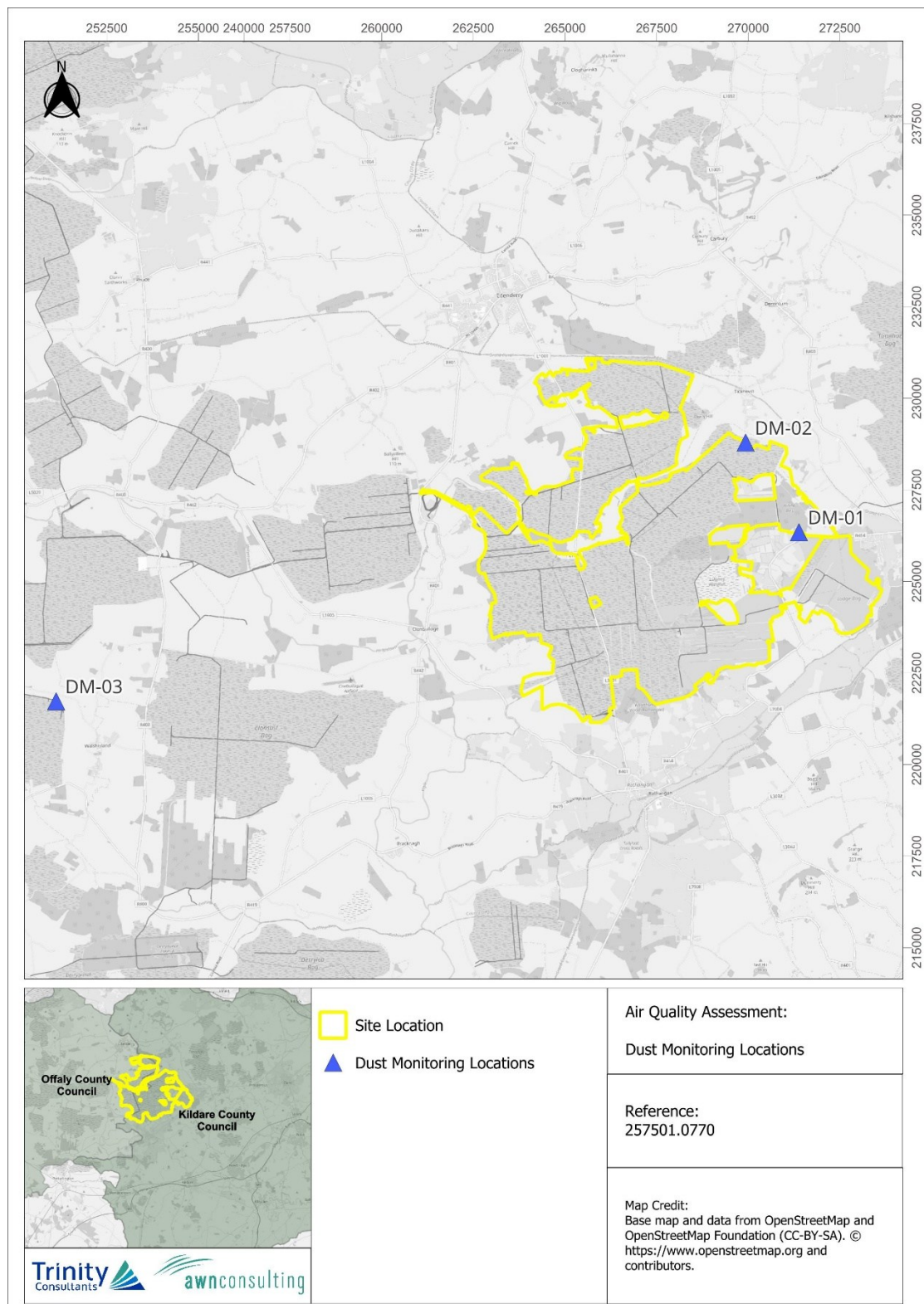


Figure 9-2 Dust Monitoring Locations

9.3.3 Sensitive Receptors

In addition to determining the baseline air quality in the vicinity of the Application Site, it is also necessary to determine the sensitivity of the surrounding Study Area (see Section 9.2.4) to dust impacts as per the IAQM Guidance. The IAQM Guidance and the below text refer to ‘area’ when considering sensitivities. In this context, when ‘area’ is referred to below it is in reference to the Study Area. Both receptor sensitivity and proximity to works areas are taken into consideration. As per Section 9.2.4, 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. Commercial properties and places of work are regarded as medium sensitivity while low sensitivity receptors are places where people are present for short periods or do not expect a high level of amenity. Dust deposition impacts can occur for a distance of 250m from works areas (i.e. areas when potential dust generating activities are taking place) but the majority of deposition occurs within the first 50m (IAQM, 2024). The number of receptors with 250m of the Application Site was established using aerial mapping. It is possible that in the 1988 baseline there were fewer properties present than there currently are, however, by basing the assessment on the current property numbers this provides a conservative assessment.

In terms of sensitive receptors there are 4 no. residential properties within 20m of the Application Site boundary; 5 no. residential properties within 21 - 50m of the Application Site boundary; 6 no. residential properties within 51 – 100m of the Application Site boundary and 41 no. residential properties within 101 – 250m of the Application Site boundary (see Figure 9-1). As per the criteria in Table 9-6 the overall sensitivity of the Study Area to dust soiling impacts is **Medium**.

Table 9-6 Sensitivity of the Study 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

Source: Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024)

In addition to sensitivity to dust soiling, the IAQM Guidance also outlines the assessment criteria for determining the sensitivity of the Study Area to human health impacts. The criteria that are taken into consideration are, the current annual mean PM₁₀ concentration, receptor sensitivity and the number of receptors affected within various distance bands from any works. For the Project, a conservative estimate of the historical annual mean PM₁₀ concentration is estimated to be significantly lower than the 24 µg/m³ threshold for annual mean concentrations (Table 9-3). There are 56 no. high sensitivity residential properties within 250m of the Application Site boundary, 4 no. of these are within 20m of the boundary. Therefore, the sensitivity of the Study Area to dust-related human health impacts is considered **Low** as per Table 9-7.

Table 9-7 Sensitivity of the Study Area to Dust Related Human Health Effects

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

Source: Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024)

The IAQM Guidance also outlines the assessment criteria for determining the sensitivity of the area to ecological impacts from dust. The criteria take into consideration whether the receiving environment is classified as a Special Area of Conservation (SAC), a Special Protected Area (SPA), a Natural Heritage Area (NHA) or a proposed Natural Heritage Area (pNHA) as dictated by the EU Habitats Directive or whether the ecological site is a local nature reserve or home to a sensitive plant or animal species. Dust impacts to ecology can occur up to 50m from the Study Area. The Long Derries, Edenderry SAC and pNHA (site code 000915) is located in the north of Glashabaun North bog and a small section of the Grand Canal pNHA (site code 002104) is located adjacent to the northern boundary of Ticknevin Bog.

It should be noted that the EU Directives and domestic legislation which designated SACs, SPAs, NHAs, and pNHAs came into force after 1988 and after much of the drainage works, construction works and a large amount of the peat extraction activities had taken place on site. Therefore, at the time of the historic peat extraction activities, many of the ecological areas were not officially designated sensitive habitats. Nevertheless, a conservative approach has been taken in this assessment and as the Long Derries, Edenderry SAC and pNHA and sections of the Grand Canal pNHA contain sensitive habitats that may be sensitive to dust deposition they are therefore conservatively considered a high sensitivity receptor. As per Table 9-8 the worst-case sensitivity of the Study Area to dust-related ecological impacts is **High**.

Table 9-8 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

Source: Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024)

9.4 Likely Significant Effects and Associated Mitigation Measures

9.4.1 ‘Do-Nothing’ Scenario

As outlined in the EPA Guidelines (May 2022), the description of ‘Do-Nothing Effects’ relates to the environment as it would be in the future should the project not be carried out. As discussed in Section 3.2.1, the assessment period of this rEIAR commenced in 1988, aligning with date for the transposition of the EIA Directive in 1988, a time at which peat extraction was already well-established at the Application Site. In the context of this rEIAR, the Project has been ongoing since the baseline assessment year of 1988. As outlined in Section 3.2.1, peat extraction activities commenced at the Application Site in 1935 with the installation of drainage. If peat extraction and ancillary activities had ceased from 1988 onwards, then consequently there would have been no further peat extraction from the site and therefore no impact on air quality.

The ‘Do-Nothing’ scenario is defined as the Project (as described in Section 4.2 of Chapter 4) having ceased at the Application Site in 1988. For those lands which as of 1988 had been subject to the installation of drainage in preparation for peat extraction but not peat extraction itself, it is assumed in the ‘do-nothing’ scenario that drainage would have remained in situ. Maintenance works to keep established drainage channels clear would have ceased as of 1988 in the ‘do-nothing’ scenario. It is likely that these areas would have been subject to natural recolonisation of the bog surface. In the event of the cessation of the Project at the Application Site in 1988, it is assumed that those lands within the Application Site, which by that point had not been subject to the installation of drainage and peat extraction would have remained as a relatively intact raised bog with varying raised bog habitats (such as bog woodland, fen, sphagnum mosses).

However, consideration must be given to the following:

- The legislative mandate given to Bord na Móna in the form of the Turf Development Act 1946, as amended) to acquire and develop peatlands; and
- The uncertainty with respect to the planning status of the activity did not arise until 2019 and was not evident in 1988.

Therefore, this ‘Do-Nothing’ scenario was not the chosen option. Peat extraction and ancillary activities have occurred at the Application Site from July 1988 onwards. A decision to cease peat extraction at the Application Site was taken in 2020 and the Application Site needs to be considered in the context of regularising (without prejudice) the planning status of the lands to facilitate future development (subject to planning consent as required). The Application Site has and will continue to revegetate, and there will be a change from areas of cutover peatland to revegetated peatland, as described in Section 4.8 of Chapter 4.

As part of BnM’s statutory obligations under IPC licence requirements, Cutaway Bog Decommissioning and Rehabilitation Plans will continue to be implemented for the Application Site separate to, and independent of, the Substitute Consent application. The implementation of these plans is considered in the impact assessment below.

9.4.2 Peat Extraction Phase (July 1988 - June 2020)

9.4.2.1 Dust Emissions

Peat extraction and ancillary activities during the Peat Extraction Phase would have generated dust impacts at nearby properties within the Study Area (see Section 9.2.4 and Section 9.3.3). The milling, harrowing, ridging and harvesting processes would have generated some dust emissions. Dust impacts would have typically occurred within 250m of the Application Site with the majority of deposition occurring within the first 50m. However, it is noted that the stockpiled peat was typically covered once extracted in order to keep the peat dry until required for use, and the covering of the peat would have greatly reduced the potential for dust emissions from stockpiled peat. Dust deposition monitoring carried out on the Application Site and reported within the AERs (see Section 9.3.2) indicated that there has been a total of 21 no. exceedances of the dust deposition limit value of 350 mg/m²/day across the monitoring sites. Dust emissions reported within the AER are likely somewhat lower than emissions would have been during the initial site preparation works and peat extraction works prior to 1988 but give a good indication as to general dust deposition trends over the past number of years (2000 – 2020).

As per Section 9.3.3, the Study Area is of medium sensitivity to dust soiling, of low sensitivity to dust-related human health impacts and of high sensitivity to dust-related ecological impacts. Peat extraction can be considered under the heading of 'Earthworks' within the IAQM Guidance as the activities involved would be similar to those required for excavation and earth moving works on construction projects. Peat extraction and ancillary activities during the Peat Extraction Phase can be classified as 'large' under the IAQM Guidance due to the overall area of the Application Site being greater than the maximum IAQM criteria of 110,000 m². Therefore, combining the large dust magnitude with the sensitivity of the Study Area as per Section 9.3.3 results in an overall medium risk of dust soiling and a low risk of dust-related human health impacts associated with the peat extraction and ancillary activities during the Peat Extraction Phase as per the criteria in Table 9-8. As the sensitivity of the surrounding area to dust-related ecological effects is high, using the criteria in Table 9-8 it can be concluded that there was a high-risk of dust-related ecological impacts at small sections of the Long Derries, Edenderry SAC and pNHA and Grand Canal pNHA associated with the Peat Extraction Phase.

In relation to bog fires, these would have generated air quality impacts from ash. Based on the data in the AERs there is record of bog fires at bogs within the Allen Bog group (which the Application Site is within) in 2004, 2005, 2008, 2009, 2011, 2016, and 2020. Details of the exact locations of these fires is not available in every AER and details of the causes of the fires is also not provided in every AER. Some were due to weather conditions and a small number related to trespassing incidents. The locations of fires mentioned in some of the AERs were Clonast, Garryhinch, Timahoe South and Timahoe North. A number of the AERs note that smoke and dust complaints were received in relation to bog fires. Air quality impacts from bog fires would have been short-term in nature and localised to the area in the immediate vicinity of the fire. Impacts would have occurred until the fire was brought under control and ceased burning. Due to the short-term and infrequent nature of the bog fires, air quality impacts are not predicted to have been significant.

Dust emissions during the Peat Extraction Phase were long-term, localised, negative and slight, which is overall not significant.

Table 9-9 Criteria to Determine Risk of Dust Impacts – Peat extraction and ancillary activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk

Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Source: Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024)

9.4.2.2 Vehicle Emissions

As per Chapter 14 during the Peat Extraction Phase, it is noted that extracted peat was removed from the bogs within the Application Site via private, internal rail as well as via HGV using the public road network. The average vehicle movements during the Peat Extraction Phase are low and thus a detailed assessment of potential air quality impacts is not required in line with the TII guidance (2025), see Section 9.2.5.1. As per Section 9.2.5.1 and Chapter 14, the Peat Extraction Phase generated 5 daily HGV movements on average and 256 daily LGV movements on average. This additional traffic due to the Peat Extraction Phase is below the TII PE-ENV-01106 screening criteria outlined in Section 9.5.2.1. According to the TII significance criteria for assessing air quality impacts from traffic emissions, ‘neutral’ or ‘slight’ effects are those where there is a change in concentration at a receptor of 5% or less and the background annual mean concentration is 94% or less of the ambient air quality standard. Negative effects are those where there is an increase in annual mean concentration at a receptor that does not constitute a neutral effect. The TII criteria state that ‘neutral’ or ‘slight’ increases in pollutant concentrations are considered ‘not significant’.

Therefore, in order for a potentially ‘significant’ impact to occur an increase of more than 5% for annual mean NO₂, PM₁₀ or PM_{2.5} concentrations would need to occur at a sensitive receptor. In addition, the background pollutant concentrations would need to be over 94% of the ambient air quality standard. Using the more stringent post-2030 ambient air quality standards outlined in Table 9-1, as per the TII PE-ENV-01106 guidance and ensuring a conservative approach, this would mean an annual mean concentration greater than 18.8 µg/m³ for NO₂ and PM₁₀ and a concentration greater than 9.4 µg/m³ for PM_{2.5}. As per Section 9.3.1, historical background pollutant concentrations for representative locations are significantly below these levels.

Due to the low level changes in traffic associated with the Peat Extraction Phase and the low background concentrations of pollutants, it can be concluded that the impact to air quality from traffic emissions in the Peat Extraction Phase was direct, long-term, negative and not significant.

9.4.3 Current Phase (June 2020 – Present Day)

9.4.3.1 Dust Emissions

During the Current Phase (June 2020 to present day), the activity on the Application Site is much reduced due to the cessation of the peat extraction. The activity included the removal and transportation off site of any remaining peat stockpiles which was completed in October 2021. The material was transported from the Application Site via rail as well as via the public road network (see Chapter 14 for further detail). There was the potential for dust emissions associated with the removal of stockpiled peat. The dust control measures stipulated within the IPC licence for the Application Site are required to be in place to avoid potential dust issues. As mentioned, dust emissions typically occur within 250m of works areas with the majority of deposition occurring within the first 50m. There are a total of 56 no. sensitive residential receptors within 250m of the Application Site, of which 9 no. are within 50m of the Application Site boundary (see Figure 9-1). The dust emission magnitude from the removal of stockpiled peat can be considered small due to the areas of stockpiled peat involved. Combining this with the sensitivity of the area from Section 9.3.3 results in a low risk of dust soiling and dust-related ecological impacts and a negligible risk of dust-related human health impacts (as per criteria in Table 9-9). Due to the low risk of dust impacts from the removal of the stockpiled peat from

the Application Site, dust emissions are predicted to have been short-term, negative and imperceptible, which is overall not significant.

Decommissioning works involving the removal of buildings and compounds and removal of internal railway tracks may also result in some dust emissions. However, any dust emissions are likely to be minor in nature and would have a short-term, negative and imperceptible impact on the low number of nearby sensitive receptors, which is overall not significant.

9.4.3.2 Vehicle Emissions

Traffic emissions from vehicles accessing and removing remaining peat stockpiles at the Application Site during the Current Phase are not predicted to significantly impact air quality due to the low number of vehicles. The predicted number of vehicles is less than the TII PE-ENV-01106 screening criteria set out in Section 9.2.5.1 requiring a detailed air quality assessment of traffic emissions.

Other elements of the Current Phase include environmental monitoring and the implementation of the Peatland Climate Action Scheme as outlined in Chapter 4, which does not generate significant air emissions.

The impact to air quality during the Current Phase is direct, short-term, neutral and not significant.

9.4.4 Remedial Phase

There are minimal works involved in the Remedial Phase that have the potential to impact air quality. The primary activities will involve targeted drain blocking. Ongoing monitoring of the Application Site will continue to ensure that the measures outlined in the Draft Cutaway Bog Decommissioning and Rehabilitation Plan are successful.

As per Section 9.3.3 the Study Area is of medium sensitivity to dust soiling, of low sensitivity to dust-related human health impacts and of high sensitivity to dust-related ecological impacts at sections of the Long Derries Edenderry SAC and pNHA and Grand Canal pNHA adjacent to the Application Site. These sensitivities are also applicable to the Remedial Phase. There is a worst-case low risk of dust soiling, dust-related human health and dust-related ecological impacts as a result of dust emissions during the Remedial Phase based on the minimal activities involved. The impact to air quality from dust emissions will be short-term, negative and imperceptible which is overall not significant.

There will also be a low number of vehicles and machinery required for drain blocking activities and for ongoing monitoring of the site. Emissions from site machinery and vehicles accessing the site during the Remedial Phase will result in a long-term, neutral and imperceptible impact to air quality due to the low volume of vehicles involved (see Chapter 14: Material Assets), which is overall not significant. The predicted number of vehicles is less than the TII PE-ENV-01106 scoping criteria set out in Section 9.2.5.1 requiring a detailed air quality assessment of traffic emissions.

9.5 Control and Monitoring Measures

9.5.1 Peat Extraction Phase (July 1988 – June 2020)

Dust Emissions

Dust emissions are dramatically reduced where rainfall has occurred due to the cohesion created between dust particles and water and the removal of suspended dust from the air. High levels of moisture either retained in soil or as a result of rainfall help suppress the generation of dust due to the cohesive nature of water between dust particles. Rain also assists in removing dust from the atmosphere through washout. It is typical to assume no dust is generated under ‘wet day’ conditions where rainfall greater than 0.2mm has fallen (USEPA, 2006). A review of data for Mullingar meteorological station which is located approximately 32km northwest of the Application Site states that there were 209 days (57% of the year) with greater than 0.2mm rainfall annually over a 30-year averaging period (1979 – 2008) (Met Eireann, 2026). Therefore, the majority of the time dust emissions were reduced naturally due to meteorological conditions.

The following control measures were undertaken as part of general site management and daily operation procedures at the Application Site from the onset of extraction in the 1930s to the cessation in 2020.

- Stockpiles were compacted on either side by large rollers drawn by tractors;
- Stockpiles were covered with polythene film gauge sheets and secured in position by spreading an even layer of high moisture content milled peat;
- Extraction was avoided during windy weather;
- Headlands were kept clean and loose peat removed;
- Slow driving speeds were used along dusty headlands; and,
- Road crossings were kept clean.

From July 1988 to June 2020, it is considered that the majority of the time, dust emissions were reduced naturally due to meteorological conditions. Condition 5.5 of the IPC licence which came into effect in May 2000 for the Application Site specifies the following dust control measures were to be implemented on the Application Site within 6 months of granting of the licence.

Condition 5 Emissions to Air:

5.5 In relation to Dust Control the licensee shall, within six months of date of grant of this licence, develop and implement procedures to ensure that:

- shelter belts are planted in sensitive areas,
- harvesting in sensitive areas is avoided during windy weather,
- where possible machinery use grassed pathways,
- headlands are kept clean and free of excessive loose peat,
- stockpiles are sheeted where possible,
- moving machinery maintains slow speeds when travelling along dusty headlands,
- when harvesting, the jib is maintained low to the stockpile,
- shelter belts are planted around outloading facilities,
- road transported peat is adequately covered (sheeted or similar),
- *wind breaks are planted where-ever possible.*

Vehicle Emissions

Chapter 4 Project Description outlines general control measures that were in place on site prior to 2000 with the implementation of the IPC licence and the measures imposed with the granting of the IPC licence for the site. In relation to vehicles and machinery, the below measure was implemented on the Application Site:

- Site vehicles and machinery were regularly inspected and serviced to ensure they were in good working order.

9.5.2 Current Phase (June 2020 – Present Day)

The dust control measures outlined under condition 5.5 of the IPC licence for the Application Site (see Section 9.5.1) are required to be implemented throughout the Application Site until the licence is surrendered.

9.5.3 Remedial Phase

The dust mitigation measures outlined under condition 5.5 of the IPC licence for the Application Site (see Section 9.5.1) should be implemented throughout the Remedial Phase of the Application Site to ensure dust emissions are minimised until the licence is surrendered.

9.6 Residual Effects

9.6.1 Peat Extraction Phase (July 1988 - June 2020)

9.6.1.1 Dust Emissions

Peat extraction and ancillary activities during the Peat Extraction Phase would have led to some dust emissions with the potential to cause soiling, human health impacts and ecological impacts at nearby sensitive receptors. It has been established that the peat extraction and ancillary activities during the Peat Extraction Phase had an overall **Medium Risk** of dust soiling impacts, a **Low Risk** of human health impacts and a **High Risk** of dust-related ecological impacts. As part of the IPC licence for the Application Site a number of dust control measures were required to be implemented. In addition, dust monitoring was required to ensure dust emissions were not causing issue at nearby sensitive receptors. As per Section 9.3.2 dust monitoring results available for the period 2001 – 2020 indicated there were very few exceedances of the emission limit value of 350 mg/m²/day at the representative monitoring locations at the Application Site. There have been some historic dust complaint issues from nearby sensitive properties in the area indicating that at times there have been dust issues from site activities. Additionally, there were a number of bog fires at the Application Site which would have impacted air quality, however, due to their short-term and infrequent nature impacts to air quality from fires are not predicted to have been significant. It can be concluded that the activities on site had a long-term, localised, direct, negative and slight impact on air quality, which is overall not significant.

9.6.1.2 Vehicle Emissions

Emissions from vehicles during the Peat Extraction Phase would have impacted air quality. The impact of additional vehicles on the local road network was considered with reference to the TII screening criteria outlined in their PE-ENV-01106 guidance document (TII, 2025). It was concluded that the worst-case impact of traffic emissions associated with peat extraction and ancillary activities during the Peat Extraction Phase was long-term, localised, negative and not significant.

9.6.2 **Current Phase (June 2020 – Present Day)**

There are a low number of sensitive receptors within close proximity to the Application Site. With the implementation of the dust control measures stipulated within the IPC licence for the Application Site, dust emissions associated with the activities in the Current Phase will be short-term, negative and imperceptible which is overall not significant.

Due to the low volume of vehicles and machinery involved in the Current Phase, exhaust emissions are predicted to have direct, short-term, neutral and not significant impact on air quality.

9.6.3 **Remedial Phase**

The impact to air quality from dust emissions during the Remedial Phase will be direct, long-term, localised, negative, and imperceptible. Impacts from vehicle emissions will be long-term, neutral and imperceptible due to the low number of vehicles required for the works, which is overall not significant.

9.7 **Significance of Effects**

9.7.1 **Peat Extraction Phase (July 1988 - June 2020)**

9.7.1.1 **Dust Emissions**

Impacts to air quality were long-term, localised, negative and slight with respect to dust emissions, this is considered not significant in EIA terms.

9.7.1.2 **Vehicle Emissions**

The impact of traffic emissions associated with peat extraction and ancillary activities during the Peat Extraction Phase is considered not significant in EIA terms.

9.7.2 **Current Phase (June 2020 – Present Day)**

No significant impacts to air quality are predicted during the Current Phase. Impacts are short-term, negative and not significant with respect to air quality, which is overall not significant in EIA terms.

9.7.3 **Remedial Phase**

No significant impacts to air quality are predicted for the Remedial Phase. Impacts from dust emissions will be direct, long-term, localised, negative, and imperceptible. Impacts from vehicle emissions will be long-term, neutral and imperceptible. The impact to air quality from the Remedial Phase is not significant in EIA terms.

9.7.4 **Summary**

Table 9-10 details a summary of all identified impacts for the Project relating to air quality.

Table 9-10 Assessment Classification Summary

Topic	Pre-Mitigation Effect (EPA, 2022 Classification)	Mitigation Section Reference	Residual Effect (EPA, 2022 Classification)	EIA Significance Threshold
Peat Extraction Phase				
Dust emissions	Long-term, localised, negative, slight, not significant	Section 9.5.1	Long-term, localised, negative, slight, not significant	not significant
Vehicle emissions	Long-term, localised, negative, not significant	None	Long-term, localised, negative, not significant	not significant
Current Phase				
Dust emissions	Short-term, negative, not significant	Section 9.5.2	Short-term, negative, not significant	not significant
Vehicle emissions	Short-term, neutral not significant	None	Short-term, neutral not significant	not significant
Remedial Phase				
Dust emissions	Long-term, direct, localised, negative, imperceptible	Section 9.5.3	Long-term, direct, localised, negative, imperceptible	not significant
Vehicle emissions	Long-term, neutral, imperceptible	None	Long-term, neutral, imperceptible	not significant

9.8

Cumulative and In-Combination Effects

In line with Bord na Móna, i.e. the Applicant's, vision to assist in achieving a climate neutral Ireland by 2050, it is intended to utilise the Application Site for both peatland remediation and wind energy infrastructure and to facilitate environmental stabilisation of the Application Site and the optimisation of climate action benefits.

Bord na Móna Powergen Ltd. are proposing a wind energy development consisting of 47 no. turbines at the Application Site. A separate EIAR and accompanying NIS are being undertaken for the proposed Ballydermot Wind Farm development. At the time of writing, the planning application for this development has not yet been submitted to An Coimisiún Pleanála, therefore a decision has not yet been made by An Coimisiún Pleanála with regards this application.

Lodge Bog has undergone rehabilitation as part of the Peatland Climate Action Scheme (PCAS) which began in 2022 and was largely completed in 2023. In total 365.7 ha of Lodge Bog underwent decommissioning and rehabilitation. Table 4-10 of Chapter 4 sets out the areas for rehabilitation measures at the Application Site in addition to the 365.7 ha of Lodge Bog that have been rehabilitated to date under PCAS. With regard to air quality, given the scale and nature of the works undertaken to facilitate PCAS during the Current Phase of the Project, as described in Chapter 4. It is considered that there was no potential for impacts to arise cumulatively or in-combination with the Project.

There is the potential for cumulative impacts to air quality as a result of the proposed Ballydermot Wind Farm and the rehabilitation plans for the Application Site. Dust emissions associated with the construction phase of the Ballydermot Wind Farm development may occur in combination with dust emissions associated with the drain blocking activities as part of the rehabilitation plans for the Application Site should these activities occur at the same time. These cumulative emissions have the potential to impact nearby residential receptors. However, dust control measures will be in place during the Remedial Phase and dust mitigation measures will be implemented throughout the construction phase of the wind farm development. Therefore, no significant cumulative dust impacts to nearby receptors are predicted. Cumulative dust emissions will be short-term, negative and slight which is overall not significant in EIA terms.

Due to the low volume of vehicles and machinery involved in the Remedial Phase cumulative air quality impacts associated with vehicle emissions from the construction or operation of the wind farm development are not predicted.

In addition, a planning application was submitted to An Coimisiún Pleanála (ACP) in December 2025 for an Uisce Éireann Water Supply Project for the Eastern and Midlands Region (ACP Ref. PA92.323980)². The Applicant is in consultation with Uisce Éireann regarding the water supply project. The pipeline for this project is proposed to traverse the Application Site, through Codd 2, Glashabaun South and Derrybrennan. Based on the estimated timeline for the construction of the water supply project, it is expected that the short-term rehabilitation actions at the Application Site (see Draft BnM Cutaway Bog Decommissioning and Rehabilitation Plans (Appendix 4-2)) will be completed. The remaining long-term rehabilitation works will comprise monitoring, aftercare and maintenance to validate the efficacy of the rehabilitation measures in achieving environmental stabilisation, as described in rEIAR Chapter 4, Section 4.9. In terms of air quality, the vehicle and dust emissions from the Application Site during these long-term Remedial Phase works will be imperceptible, thus are not expected to interfere with the construction phase of the Water Supply Project, therefore the cumulative or in combination effects on air quality are assessed as the same.

There is no potential for cumulative impacts to air quality as a result of the development which took place on the Application Site before 1988. Similar impacts to those described for the Peat Extraction Phase July 1988 – June 2020, would have occurred in the period before 1988, however, these impacts did not coincide and therefore, cumulative impacts to air quality did not occur.

9.9

Conclusion

This chapter of the rEIAR describes and assesses the residual direct and indirect air quality impacts of the Project, at the Application Site. The air quality impact assessment has been prepared for the Peat Extraction Phase, the Current Phase and the Remedial Phase.

For the purposes of this assessment, while the activities associated with the Project have occurred over the past decades, beginning in 1988 and continuing to present day, impacts have been assessed against the most recently published air quality standards which are likely more stringent than historical standards from previous years. Therefore, if it can be determined that, based on the most recent standards, no significant effects occurred as a result of the Project, then it is unlikely that significant impacts occurred based on historical standards.

The baseline environment has been established with reference to published air quality data from the Environmental Protection Agency (EPA). Historic air quality monitoring data from the EPA for the pollutants nitrogen dioxide (NO₂), particulate matter less than 10 microns (PM₁₀) and particulate matter

² <https://www.water.ie/projects/national-projects/water-supply-project-east-1>

less than 2.5 microns (PM_{2.5}) for representative rural locations was reviewed. The air quality in the region of the Application Site is of generally good quality with concentrations of pollutants below the ambient air quality standards. Historic dust deposition monitoring results for the Allen Bog Group (in which the Application Site is located) indicate that in general dust emissions were not an issue in the Study Area however, at times high concentrations of dust deposition were observed and there were a small number of dust-related complaints from neighbouring properties over the years (maximum of 4 no. complaints in 2011 and 2015). Additionally, there were a small number of historical bog fire events at the Application Site which would have resulted in air quality impacts localised to the vicinity of the fires. Air quality has continued to improve in recent years as a result of the implementation of national plans and policies.

Peat Extraction Phase (July 1988 – June 2020)

Dust emissions during the Peat Extraction Phase had the potential to impact nearby human and ecological receptors. The Study Area was deemed of medium sensitivity in relation to dust soiling, of low sensitivity to dust-related human health impacts and of high sensitivity to dust-related ecological impacts within sections of the Long Derries Edenderry SAC and pNHA and the Grand Canal pNHA. It was determined that there was an overall medium risk of dust soiling impacts, an overall low risk of dust-related human health impacts and a high-risk of dust-related ecological impacts. As part of the IPC licence for the Application Site a number of dust control measures were required to be implemented. In addition, dust monitoring was required to ensure dust emissions were not causing issue at nearby sensitive receptors, the results of which indicated that dust emissions from site works were elevated on occasion but the majority of the time were insignificant.

In relation to bog fires, these would have generated air quality impacts from ash. There is record of bog fires at the Application Site in 2004, 2005, 2008, 2009, 2011, 2016, and 2020. Impacts to air quality would have occurred until the fire was brought under control and ceased burning. Due to the short-term and infrequent nature of the bog fires, air quality impacts are not predicted to have been significant.

Vehicle exhaust emissions from vehicles accessing the Application Site had the potential to impact air quality. The historical traffic figures were reviewed, and it was determined that the traffic generated during the Peat Extraction Phase had an not significant impact on the local traffic flows in the context of the air quality assessment.

The impact to air quality as a result of the Peat Extraction Phase was assessed to have a long-term, negative, localised and slight residual effect, which is overall not significant in EIA terms.

Current Phase (June 2020 – Present Day)

During the Current Phase (June 2020 to Present Day), activities included the removal and transportation off site of any remaining peat stockpiles which was completed in October 2021. There was the potential for dust emissions associated with the removal of stockpiled peat. The dust control measures stipulated within the IPC licence for the Application Site are required to be in place to avoid potential dust issues. Due to the low number of sensitive receptors and the minimal works involved in removing the stockpiled peat from the Application Site, dust emissions are predicted to have been imperceptible.

Due to the low volume of vehicles and machinery involved in the Current Phase, exhaust emissions are predicted to have an imperceptible impact on air quality.

The impact to air quality as a result of the Current Phase was assessed to have a short-term, negative and imperceptible residual effect, which is overall not significant in EIA terms.

Remedial Phase

There are minimal works involved in the Remedial Phase that have the potential to impact air quality. The primary activities will involve re-vegetation of the Application Site, drain blocking and re-wetting of the bogs where possible. There is a worst-case low risk of dust soiling, dust-related human health impacts and dust-related ecological impacts as a result of dust emissions during the Remedial Phase. The impact to air quality from dust emissions will be short-term, negative and imperceptible.

Emissions from site machinery and vehicles accessing the Application Site during the Remedial Phase will result in a neutral impact to air quality due to the low volume of vehicles involved.

The impact to air quality as a result of the Remedial Phase was assessed to have a short-term, negative and imperceptible residual effect, which is overall not significant in EIA terms.