Planning and Environmental Consultants

Remedial Environmental Impact Assessment Report: Non-Technical Summary

Peat Extraction at Ballydermot, Co. Offaly and Co. Kildare

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NON-TECHNICAL SUMMARY

1.1 Introduction

This remedial Environmental Impact Assessment Report (rEIAR) has been prepared by MKO on behalf of Bord na Móna Biomass Ltd, a subsidiary of Bord na Móna plc. (hereafter 'the Applicant'), as part of an application for the Substitute Consent for peat extraction and ancillary activities from July 1988 to the present day that have been carried out at Ballydermot within the Allen Bog Group (Ticknevin, Glashabaun North, Glashabaun South, Codd 1, Codd 2, Ballydermot North, Ballydermot South, Blackriver, Lullymore, Lullybeg, Barnaran, Killina, Derrybrennan and Lodge Bogs) located in Counties Kildare and Offaly (which are hereafter referred to as the 'Application Site'). Section 177E of the Planning and Development Act 2000, as amended, permits an application to be made for substitute consent in respect of development which has been carried out where an Environmental Impact Assessment (EIA), screening for EIA and/or Appropriate Assessment (AA) was or is required.

Neither the European Union Council Directive 85/337/EEC of 27th June 1985 on the assessment of the effects of certain public and private projects on the environment (hereafter referred to as the 'EIA Directive') nor the European Union Council Directive 92/43/EEC of 21st May 1992 on the conservation of natural habitats and of wild fauna and flora (hereafter referred to as the 'Habitats Directive') has retrospective effect; neither Directive imposes legal requirements to have carried out prior assessments of projects which had already commenced or been completed. There was, therefore, no legal requirement for EIA, screening for EIA or Appropriate Assessment in respect of any project prior to the latest dates for transposition of the Directives. In the case of the EIA Directive, the latest date for transposition was 3rd July 1988. In the case of the Habitats Directive, the latest date for transposition was 10th June 1994.

The application for substitute consent is seeking consent for development which took place from July 1988,[1] the timeframe for when the EIA Directive was required to be transposed into Irish Law, to present day.

Table 1 Townlands within which the Application Site is located.

Bog Reference	County	Townlands - Kildare	Townlands - Offaly
Ballydermot North	Kildare/Offaly	Killinthomas	Clonbrown, Cushaling, Ballydermot, Clonmel
Ballydermot South	Kildare/Offaly	Rathangan, Killinthomas, Cushaling, Ballysooghan North, Ballinure	Clonbrown, Coolygagan, Clonroosk Big, Clonroosk Little
Blackriver	Kildare	Cappanargid, Killinthomas, Cushaling, Killyguire, Lullybeg	N/A
Lullybeg	Kildare	Lullymore West, Lullybeg	N/A

[1] *Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment*

Bog Reference	County	Townlands - Kildare	Townlands - Offaly
Lullymore	Kildare	Lullymore West, Lullybeg	N/A
Lodge	Kildare	Killina Upper, Ballybrack, Killina Lower, Lullymore East, Allenwood South	N/A
Killina	Kildare	Lullymore West, Derrybrennan	N/A
Barnaran	Kildare	Cappanargid, Killyguire, Lullymore East, Barnaran, Lullybeg	N/A
Derrybrennan	Kildare	Ticknevin, Ballybrack, Kilpatrick, Derrybrennan	N/A
Glashabaun North	Kildare/Offaly	Ticknevin, Cushaling, Derries	Codd
Glashabaun South	Kildare/Offaly	Ticknevin, Cushaling, Lullymore West, Lullybeg, Derrybrennan	N/A
Ticknevin	Kildare/Offaly	Clonkeen	Derries, Cloncanon
Codd 1	Kildare/Offaly	Cushaling	Cloncant, Shean, Ballydermot
Codd 2	Offaly	N/A	Cushaling, Codd, Shean
Total Spatial Footprint	**5,448ha**		

Applicant

Bord na Móna Biomass Ltd is an Irish, semi-state climate solutions company helping lead Ireland towards a climate neutral future. Bord na Móna (BnM) has been serving communities for over 90 years, always rising to meet the needs of the day. It was founded in 1934 as The Turf Development Board to enhance national energy security through peat harvesting and became Bord na Móna in 1946.

The functions of BnM as set out under Section 17(1) of the 1946 Act were:

> *"(a) to produce and market turf and turf products, and*
> *(b) to foster the production and use of turf and turf products, and*
> *(c) to acquire bogs and other lands, and*
> *(d) to manage, develop and work bogs and other lands vested in the Board, and*
> *(e) generally, to do all such other things as arise out of, or are consequential upon, the duties mentioned in the preceding paragraphs of this section."*

Today, the company has radically changed its approach to face an even greater challenge: climate change. BnM have ended peat harvesting and now focus on developing climate solutions in renewable energy, carbon storage, and biodiversity conservation. Ireland has committed to ambitious climate goals and BnM's climate solutions are helping to achieve them. BnM's vision is to help Ireland reach net zero greenhouse gas emissions by 2050.

To power a net zero future, BnM are expanding its renewable energy infrastructure. Although they have been constructing and maintaining large-scale infrastructure for decades, the company is now

using that experience to build renewable energy developments across the country. These developments are transforming the way the nation generates and consumes energy. Ireland has committed to generating 80% of electricity from renewable sources by 2030 and BnM is working across wind, solar, biomass and biogas to help achieve this target and to provide energy security for future generations.

BnM currently provides employment for approximately 1,500 people and manages a land holding of over 80,000 hectares located mainly in the Irish midlands. At their peak, employment numbers exceeded 7,400 in the early 1960s, with the workforce dropping to approximately 2,000 by the late 1990s.

The Project

This rEIAR is prepared in support of an application for substitute consent for peat extraction and ancillary activities carried out by BnM on lands at the Application Site since July 1988. The Application Site is comprised of 5,448 hectares across 14 no. bogs located within Counties Offaly and Kildare.

Peat extraction and ancillary activities undertaken at the Application Site, which comprise the Project for which substitute consent is being sought and for which this rEIAR is prepared, consist of the following:

- Industrial scale peat extraction (milled peat, sod peat, sod moss and bin sod) at the Application Site from 1988 to June 2020;
- Installation, use and maintenance of surface water drainage infrastructure (drains, silt ponds, pumps) at the Application Site to facilitate peat extraction activity from 1988 to present day;
- Vegetation clearance to facilitate peat extraction activity from 1988 to June 2020;
- Provision of 1 no. welfare building, 1 no. handwashing facility, a toilet cubical building and an associated septic tank, 19 no. containers, 2 no. sheds, 8 no. vehicular bridges and 7 no. rail bridges;
- Use and maintenance of pre-existing railway infrastructure to facilitate peat extraction from 1988 to present day;
- Control Measures associated with the above, inclusive of the IPC Licence for the Allen Bog Group (Reg. No. P0503-01) which commenced from 2000 onwards to the present day; and,
- All associated site development and ancillary works.

These peat extraction and ancillary activities are referred to as the 'Project' as appropriate. For the purposes of this rEIAR, the Project is defined under three different timeframes termed 'phases':

- **'Peat Extraction Phase':** peat extraction and ancillary activities at the Application Site from July 1988 to the cessation of peat extraction in June of 2020 (July 1988 – June 2020).
- **'Current Phase':** the management of the Application Site since June 2020 (June 2020 to present).
- **'Remedial Phase':** the activities intended to be carried out at the Application Site into the future.

Purpose and Scope of this rEIAR

The purpose of this rEIAR is to document the current state of the environment in the vicinity of the Application Site and to assess, in accordance with the requirements of the EIA Directive, the likely significant effects which have occurred, or which are occurring, or which can reasonably be expected to occur on the environment due to peat extraction and peat extraction ancillary activities at the Application Site. The scope of the impact assessment is peat extraction and all peat extraction ancillary activities from July 1988 to the present day.

The rEIAR submitted by the Applicant provides the relevant environmental information to enable the Environmental Impact Assessment (EIA) to be carried out by the competent authority, in this case An Coimisiún Pleanála. The information to be contained in the rEIAR is prescribed in Article 5 and Annex IV of the revised EIA Directive and Article 94 and Schedule 6 of the Planning and Development Regulations 2001 (as amended).

This rEIAR uses the grouped structure method to describe the existing environment, the potential impacts of the Project thereon and the proposed control and mitigation measures. Background information relating to the Project, scoping and consultation undertaken and a description of the Project are presented in separate sections. The grouped format sections describe the impacts of the Project in terms of population and human health, biodiversity, with specific attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EEC; land, soils and geology, water, air quality, climate, noise and vibration, landscape and visual, cultural heritage and material assets such as traffic and transportation, together with the interaction of the foregoing, schedule of mitigation and monitoring, and risk of major accidents and vulnerability to disasters.

The chapters of this rEIAR are included in Volume 1 of this rEIAR, and are as follows:

1. *Introduction*
2. *Background*
3. *Consideration of Reasonable Alternatives*
4. *Project Description*
5. *Population and Human Health*
6. *Biodiversity (including Ornithology)*
7. *Land, Soils and Geology*
8. *Hydrology and Hydrogeology*
9. *Air Quality*
10. *Climate*
11. *Noise and Vibration*
12. *Landscape and Visual*
13. *Archaeology and Cultural Heritage*
14. *Material Assets (including Traffic and Transport)*
15. *Vulnerability to Major Accidents and Natural Disasters*
16. *Interactions of the Foregoing*
17. *Schedule of Mitigation and Monitoring Measures*

Appendices to the chapters listed above are included in Volume 3 of this rEIAR.

This NTS is laid out in a similar format to the main rEIAR document and comprises a description of the Project (as part of the Development) followed by the existing environment, impacts and control/mitigation measures presented in the grouped format.

1.2 Background

Chapter 2 of the rEIAR provides an extensive historical and operational overview of the Application Site, detailing its inception, development, and transition over several decades. This summary focuses on the significant milestones and operational changes that have shaped the trajectory of the Application Site, with particular attention to the policy influences that guided these changes.

Peat extraction undertaken by the Applicant has a long history, beginning with the establishment of the Turf Development Board Ltd. and evolving through multiple development programs under BnM and its subsidiaries. Peat as an energy source was crucial on a national scale during the war years and beyond.

Recent updates to substitute consent legislation are presented in the Chapter 2 - Background, highlighting changes in regulatory requirements that affect ongoing and future peat extraction activities. The chapter emphasizes the need for compliance with these updated regulations to ensure sustainable and legally sound operations.

Planning Policy Context

The planning policy context is a critical section of Chapter 2 - Background, outlining the national, regional, and local policies that influence the commencement and regulation of peat extraction at the Application Site. A summary of the various strategic documents and plans that shaped the operational framework of peat extraction at the Application Site, as outlined in full in Chapter 2, is provided below.

Policy Background

As outlined above, the Turf Development Board was founded in 1934 to enhance national energy security through peat harvesting. The Turf (Use and Development) Act 1936 (hereafter 'the 1936 Act') was subsequently passed by the Dáil in June 1936. One of the more significant provisions of the 1936 Act was Section 22(1) which gave the Minister power to acquire land required for the Turf Development Board's operations (i.e. 'production, the preparation for sale, or the storage of turf, or any purpose ancillary to such production, preparation, or storage') by compulsory purchase. The utilisation of peat as an indigenous fuel resource came into prominence during the 2nd World War as a consequence of depleted coal reserves within the UK. The 2nd World War highlighted the risks of over-reliance on imported fuel resources within the Irish State; and in 1944, the Turf Development Board was instructed to prepare a comprehensive development programme to implement industrial scale peat production across the state. In 1947, BnM proposed to the Government the doubling of the output of the ongoing First Development Programme, which was well-received. BnM was established as a statutory authority responsible for the '*development of the nation's peat resources*' under the Turf Development Act 1946. BnM began implementing its first development programme (First Post War Plan / First Development Programme), as referred to above, in 1946, which included the commencement of bog development works across peatlands within its management, such as the Allen Bog Group, within which the Application site is located.

The increasing demand for electricity in the post-war period indicated that peat production processes would need to be further enhanced and expanded upon to adequately meet national demand. The Turf Development Act 1950, which came into effect in July 1950, contained provisions for the expansion of BnM activity and the initiation of the Second Development Programme (Second Post-War Plan).

The growing need for resources by the country's electricity generating stations, and the latter oil crisis emerging in the 1970s, highlighted the importance of indigenous fuel resources, and furthermore, BnM's role in supporting the provision of a robust power system. Against this backdrop, the Turf Development Act 1975 was passed by the Dáil in August 1975 which gave legislative effect to BnM's Third Development Programme.

National Policy

Once a significant contributor to the national fuel mix, the use of peat as an energy source has been in decline over the last few decades, as national policy focus turned to supporting the generation of energy from renewable sources, thereby displacing the use of fossil fuels. The National Climate Change Strategy (2000) highlighted plans for more efficient peat use with new plants replacing older, low-efficiency ones. By 2007, government policy supported mixing biomass with peat to reduce emissions and diversify the national fuel mix. These strategies show peat's historical importance in power generation and its role in supporting rural economies.

The National Planning Framework (NPF), published in February 2018, is Ireland's 20-year strategic plan for economic development and infrastructure investment. The NPF has recently undergone a first revision (hereafter referred to as the 'Revised NPF'), approved by Government on the 8th of April 2025, to reflect and address the changes that have occurred in Ireland since 2018. The Revised NPF supersedes the NPF. The Revised NPF is a 20-year planning framework designed to a focus on economic development and investment in housing, water services, transport, communications, energy, health and education infrastructure. The Revised NPF forms the top tier of the national planning policy structure and establishes the policy context for the Regional Spatial and Economic Strategies and local level development plans.

The Revised NPF notes that in the period between 2022 and 2040 it is expected that there will be roughly an extra one million people living in Ireland. This population growth will place further demand on both the built and natural environment, and subsequently, the services required to meet said demands.

Key regional priorities include harnessing renewable energy (wind, solar, biomass, wave energy) and developing greenways and blueways to support rural and regional economies. The NPF aims to integrate climate action into planning decisions, emphasizing renewable energy infrastructure and carbon sink protection. National Policy Objective 66 focuses on reducing Ireland's carbon footprint by aligning climate action with planning systems. National Strategic Outcome 8 highlights the need for new energy systems and grids to support distributed energy generation from renewable sources. The NPF also underscores the importance of rural areas, like the Application Site, in providing sustainable renewable energy. It acknowledges the significant contributions of these areas to the nation's energy needs and their potential for future renewable energy projects.

Published in October 2021, the National Development Plan (NDP) outlines major public investment projects addressing challenges such as climate change. It emphasizes the government's commitment to decarbonization and renewable energy, with significant financial resources allocated to support the Midlands region through the Just Transition. The NDP prioritizes peatland conservation, restoration, and management to reduce carbon emissions and enhance biodiversity. It also aims to establish a low-carbon electricity system, increasing renewable electricity to 80% by 2030.

The National Peatlands Strategy (NPS), published in 2015, provides a framework for managing Irish peatlands to optimize their social, environmental, and economic contributions. It addresses issues related to climate change, forestry, energy, and agriculture, emphasizing the role of peatlands in carbon storage and climate regulation. The NPS advocates sustainable peatland use, minimizing environmental damage, and exploring options for renewable energy on cutover peatlands. It supports peatland rehabilitation to transition towards carbon sequestration and biodiversity enhancement.

The National Biodiversity Action Plan (NBAP), published by the NPWS in 2024 sets objectives to conserve and restore Ireland's biodiversity. It identifies climate change and peat extraction as major threats to biodiversity. The NBAP promotes actions like BnM's peatland rehabilitation to support biodiversity and climate goals. The rehabilitation of the Application Site aligns with national policies, contributing to climate action and biodiversity objectives by transitioning from peat extraction to renewable energy and ecosystem restoration.

The National Energy and Climate Plan (NECP) 2021-2030 aims to diversify and decarbonise Ireland's electricity generation sector, with the long-term objective of decarbonising the energy sector and achieving an economic transformation with a carbon neutral agriculture and land use sector by 2050. The NECP reiterates the plan to move away from peat-fired power generation and the implementation of the Just Transition Plan for the midland's region particularly in response to the closure of two ESB power stations and the decision to cease all peat extraction a number of years earlier than had been planned. BnM's Edenderry Power Station ceased burning peat at the end of 2023 but continues to operate, firing biomass to produce electricity.

Regional Policy

The Eastern and Midlands Regional Spatial & Economic Strategy (2019) provides a regional planning framework that supports balanced development and environmental sustainability. It integrates local policies and national objectives, ensuring that regional development aligns with broader strategic goals. The RSES acknowledges the need for a low-carbon power system and the potential of cutaway peatlands for renewable energy and other beneficial uses, in line with BnM's vision. The regularisation and rehabilitation of the Application Site align with these objectives and guiding principles.

Local Policy

The local policy context includes various County Development Plans from County Offaly and County Kildare, outlining specific regulations and guidelines for development activities, including peat extraction. These plans cover different time periods, reflecting evolving priorities and regulatory frameworks.

Spanning from 1967 to 2027 for County Offaly, and from 1967 to 2029 for County Kildare, these plans provide a detailed regulatory framework for development activities in Offaly and County Kildare, including land use, environmental protection, and sustainable development goals.

Cumulative Impact Assessment

The EIA Directive mandates assessing cumulative impacts, considering factors like population, biodiversity, land, water, air, climate, material assets, landscape and cultural heritage. Each rEIAR chapter addresses potential cumulative effects.

A cumulative impact assessment of the peat extraction and ancillary activities and other relevant development was undertaken with the purpose of identifying what influence the Project has had, or potentially could have, on the surrounding environment when considered cumulatively and in combination with relevant permitted, proposed and constructed projects and other land-uses in the vicinity of the Application Site.

The four aims are as follows:

1) *To establish the range and nature of existing projects within the cumulative impact study area;*
2) *To summarise the relevant projects which have a potential to create cumulative impacts;*
3) *To establish anticipated cumulative impact findings from expert opinions within each relevant field. Detailed cumulative impact assessments are included in each relevant section of the rEIAR; and*
4) *To identify the projects that hold the potential for cumulative interaction within the context of the proposed development and discard projects that will neither directly or indirectly contribute to cumulative impacts.*

Searches were conducted using data from Offaly County Councils, Kildare County Councils and An Coimisiún Pleanála's planning portals. All granted planning applications within 5km of the Application Site boundary from 1988 to May 2026 (inclusive) were identified. Relevant developments include quarrying, industrial projects, agriculture, forestry, and renewable energy (including the existing Cushaling Wind Farm and proposed Ballydermot Wind Farm).

Scoping and Consultation

A scoping report, providing details of the Application Site and the Project, was prepared by MKO and circulated in 2022. MKO requested the comments of the relevant personnel/bodies in their respective capacities as consultees with regards to the EIAR process. Following the recent updates made to

legislation on governing Substitute Consent, a request for comments on the scoping report was recirculated in January 2026 with follow up requests sent in February and March 2026.

Members of the project team and the prospective Applicant met with representatives from An Coimisiún Pleanála on the 19th of June 2026 as part of a pre-application consultation in relation to the substitute consent application. The project team gave an overview of the Project and discussed matters including the works for which substitute consent is being sought, drainage, scoping and updates to legislation.

Conclusion

The chapter underscores the complex regulatory environment governing peat extraction at the Application Site. It highlights the interplay between national, regional, and local policies in shaping sustainable development practices. By adhering to these policies, BnM aims to regularise (without prejudice) the planning status of peat extraction and ancillary activities at the Application Site with the aim of balancing economic activities with environmental stewardship and community interests.

1.3 Consideration of Alternatives

This chapter of the rEIAR contains details of the project justification and alternatives considered. The consideration of alternatives typically refers to alternative design, technology, location, size and scale. A 'Do-Nothing Scenario' (i.e., an outline of what was likely to happen to the environment should the Project not have been implemented), is included in the Consideration of Reasonable Alternatives chapter.

As discussed above, the assessment period of this rEIAR commenced 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. Peat extraction activities commenced at the Application Site in 1935 with the installation of drainage. The 'Do-Nothing' scenario is defined as the Project having ceased at the Application Site in 1988. Alternatives prior to 1988 are also provided for context, to illustrate how and why, by 1988, peat extraction was so extensively developed as an activity at the Application Site, and how previously explored scenarios informed the continuation of peat extraction beyond 1988 until 2020. It is important to note that while the alternatives to the continuance of the Project after 1988 are examined, as the Project has already taken place, these alternatives are no longer possible.

The location, nature, landcover and scale of the Application Site determined its selection by BnM, under powers vested by the Turf Development Act, 1946, as a strategic and important national asset to generate considerable fuel sources for the State.

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). Subsequently, other land-use practices may also have taken place on the Application Site such as agricultural or commercial forestry, or other commercial or non-commercial uses. Under this 'Do-Nothing' scenario, IPC Licence Ref. P0503-01 and associated ongoing decommissioning and planned rehabilitation would not have occurred.

For those lands which as of 1988 had been subject to the installation of drainage in preparation for peat extraction and ancillary activities 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. Minor third party turbary activities likely would

have occurred along the intact bog edges as was common practise at the time, at sites such as the Application Site.

As peat extraction was already ongoing in 1988 and continued until June 2020, a 'Do-Nothing' scenario was not the chosen scenario. Peat extraction and all ancillary activities 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.

With the implementation of BnM's 'Brown-to-Green' Strategy and the permanent cessation of peat extraction at the Application Site in June 2020, the Applicant recognises the opportunity to transform the site into a sustainable, clean, and renewable energy source while simultaneously facilitating the Draft Cutaway Bog Decommissioning and Rehabilitation Plans for Ballydermot bog, Barnaran bog, Blackriver bog, Codd bog, Derrybrennan bog, Glashabaun bog, Killinagh bog, Lullybeg bog, Lullymore bog, Ticknevin bog, alongside the finalised Cutaway Bog Decommissioning and Rehabilitation Plan for Lodge Bog (2022) at the site and providing opportunities for amenity, tourism and employment. Thus, the selected future proposal for the Application Site includes a proposed wind energy development which can maximise the Application Site's renewable energy potential without significant environmental impact and can coincide harmoniously with the Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plans which are a statutory obligation of BnM under Condition 10 of the IPC Licence. The compatibility of both rehabilitation works associated with Condition 10 of the IPC Licence, and the proposed Ballydermot Wind Farm is cumulatively assessed in this rEIAR. The proposed Ballydermot Wind Farm is currently subject to a standalone Environmental Impact Assessment Report which takes full consideration of the compatibility of the proposed wind farm with peatland rehabilitation in the environmental impact assessment.

The regularisation of the planning status of the Application Site is a significant facilitator in ensuring the sustainable use and management of these peatlands. If this does not occur, the opportunity to continue employment and alternative use of the Application Site for the potential resources and activities mentioned above will be significantly restricted.

1.4 Project Description

This chapter of the rEIAR provides a description of the activities at the Application Site from 1935 at the onset of site preparation works up to July 1988, a description of the baseline as of July 1988, a description of activities from 1988 to the cessation of peat extraction in June 2020, the management of the Application Site since June 2020 and the activities intended to be carried out at the Application Site into the future. The elements of the Project as described in this chapter are the baseline as of July 1988, the activities from July 1988 to the cessation of peat extraction in June 2020, the management of the Application Site since June 2020, and the activities relating to historic peat extraction intended to be carried out into the future. As described in Chapter 1, July 1988 is taken as the baseline assessment year for this rEIAR as this is the latest date that the EIA Directive (Council Directive 85/337/EEC) was required to be transposed into Irish legislation. This approach has been taken on a precautionary basis and strictly without prejudice, as EIA may not have been a legal requirement at that time. The assessment period for the rEIAR is from July 1988 to the present day.

July 1988 – rEIAR Baseline

The Application Site was drained with milled, sod moss and sod peat extraction were taking place across most of the Application Site in 1988. Railway infrastructure was also established throughout the Application Site by 1988. The main entrance points to the Application Site were at the Ballydermot Works entrance on the L-3001 road in the southwest of the Application Site, and from a local road (L-

2506-3) which crosses the Grand Canal, passing the Lullymore Briquette Factory before cutting through Killina Bog in the northeast. Other access points include entrances off the L3001 Rathangan to Edenderry Road which cuts through the Application Site in a north to west direction and off the Allenwood to Rathangan Road (designated R414 in 1993) which cuts through the southeast of the Application Site. Ballydermot Works, which comprised welfare facilities, storage sheds, offices and maintenance buildings is still in situ at present day. The following ancillary infrastructure was established at the site by July 1988:

- *Railway infrastructure;*
- *Internal machine passes/tracks;*
- *Silt ponds and drains; and*
- *Pumping stations.*

Peat Extraction Phase (July 1988 – June 2020)

Peat extraction continued at the Application Site from July 1988 until June 2020 when peat extraction ceased across the Application Site. Improvements and modernisation of machinery occurred between 1988 and 2020 which increased the efficiency and speed of operations over this time period. For the Peat Extraction Phase, i.e. from July 1988 to June 2020, peat extraction levels varied year to year and then ceased permanently in June 2020 across the Application Site with the related reduction in fuel handling/refuelling, machinery maintenance and stockpile development. Stockpile removal was completed by October 2021, and drainage/silt pond maintenance is currently ongoing in line with IPC Licence requirements.

The volumes of peat removed from the Application Site varied from year to year and were mainly weather dependent. BnM records indicate that the total volume of peat extracted (sod, milled and horticultural peat) from July 1988 to 2020 is estimated to be 11,174,206 tonnes.

Environmental Monitoring and Conditions under IPC Licence

BnM was granted an IPC Licence (P0503-01) for the Allen Bog Group (in which the Application Site is situated) in May 2000. The conditions of the IPC Licence are intended for the protection of the environment and apply from the time of grant of the IPC Licence.

The IPC Licence is subject to 14. No conditions pertaining to the ongoing monitoring and maintenance to ensure any emissions from site activities will comply with and not contravene, any of the requirements of Section 83(3) of the Environmental Protection Agency Act, 1992.

Conditions 1-4 of the Licence outlined the Scope, Management, Interpretation and Notification procedures required by the Applicant, respectively. Conditions 11 to 14 detail the Monitoring (equipment use), Recording and Reporting, Emergency Response and Financial Provisions duties of the Applicant. Conditions 5 to 10 pertain to environmental monitoring and management:

- Condition 5 Emissions to Atmosphere
- Condition 6 Emissions to Water
- Condition 7 Waste Management
- Condition 8 Noise
- Condition 9 Water Protection
- Condition 10 Cutaway Bog Rehabilitation

As stated in Table 4-12 of Chapter 4 it is the intention of the Applicant to track implementation and enforcement of the relevant IPC Licence conditions, the mitigation measures (where required), and other environmental control measures during the implantation of the rehabilitation plan.

Current Phase (June 2020 – Present Day)

Decommissioning and Rehabilitation Process

In January 2021, BnM formally announced that peat extraction across all bogs within its landholding had ceased, although peat extraction at the Application Site had ceased prior to this in June 2020. The Application Site still operates under the requirements of IPC Licence P0503-01, and any decommissioning works undertaken with respect to peat extraction activities and all ancillary works are in accordance with Condition 10 of the IPC Licence.

From mid-2020 to October 2021 the operations at the Application Site reduced to the stockpiling of peat prior to transportation to various end users around the country.

Remedial Phase

It is also a requirement of '*Condition 10 Cutaway Bog Rehabilitation'* of the IPC Licence that following the above 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.

BnM have produced Draft Cutaway Bog Decommissioning and Rehabilitation Plans for Ballydermot bog, Barnaran bog, Backriver bog, Codd bog, Derrybrennan bog, Glashabaun bog, Killinagh bog, Lullybeg bog, Lullymore bog, Ticknevin bog, alongside the finalised Cutaway Bog Decommissioning and Rehabilitation Plan for Lodge Bog (2022), each of which are within the Application Site, and it is the intention of BnM to rehabilitate the bogs in a phased approach under IPC Licence. Please see Appendix 4-2 for details.

Potential Future Land-Use

Bord na Móna Powergen Ltd. are proposing a wind energy development consisting of 47 no. turbines, 20 no. turbines will have a maximum blade tip height of 200 metres (m) above the top of the foundation and 27 no. turbines will have a maximum blade tip height of 220 metres (m) above the top of the foundation[2]. This application will be made directly to An Coimisiún Pleanála as 'Strategic Infrastructure Development' (SID) under the provisions of Section 37E of the Planning and Development Act 2000, as amended (the Act). At the time of writing, this position has not been confirmed by An Coimisiún Pleanála in correspondence to the Applicant though has been discussed in pre-application consultations with An Coimisiún Pleanála under Section 37B of the Act (ACP-310844-21). 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 had not yet been made by An Coimisiún Pleanála with regards this application.

It is the intention of the Applicant to integrate the peatland rehabilitation measures with the proposed future wind farm. The key objectives of environmental stabilisation and re-wetting of the cutaway areas will occur between and surrounding the proposed windfarm infrastructure.

As discussed in Section 4.8 of Chapter 4 and Condition 10 of the IPC Licence (P0503-01), decommissioning and rehabilitation will be carried out as standard remedial measures associated with peat extraction and ancillary activities at the Application Site.

[2] https://www.ballydermotwindfarm.ie/

1.5 Population and Human Health

This chapter of the rEIAR addresses the impacts on population and human health of peat extraction and ancillary activities occurring at the Application Site. The assessments in this chapter determined any likely significant effects that occurred on population and human health (or are likely to occur) namely employment, air quality, dust, noxious emissions, water quality, traffic and transport and general health and safety during the Peat Extraction Phase, Current Phase and Remedial Phase. Furthermore, a baseline assessment of population and human health for the year 1988 was carried out supplemented by Central Statistics Office (CSO) data.

The assessment on population considers the current and historical land use of the Application Site, the current activities occurring within and in the vicinity of the Application Site, and their impacts, if any, on local population and employment. The assessment on human health includes literature review of health impact assessment and the EIA process and a review of the past, current and future activities on air quality, dust, noxious emissions, traffic and transport and general health and safety. CSO data has been used to inform the population and human health assessment and identify any impacts that may arise as a result of the Project.

There is no dust, water quality, noxious gas emission data prior to the commencement of the IPC Licence condition compliance requirements in 2000. Since 2000, the Applicant has undertaken dust monitoring in the Allen Bog Group (in which the Application Site is located) to comply with the requirements 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. Dust monitoring typically takes place between April to September of each year to correspond to the peat extraction season.

Monitoring results for 2001-2020 are reported in their respective Annual Environmental Report (AER), 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. IPC Licence for the Allen Bog Group (Reg. No. P0503-01) required 3 no. locations to be monitored onsite. Between 2001 and 2021 between 3 to 6 no. locations were monitored. These locations include Killinagh Bog, Derrybrennan Bog, Ballykeane Bog, Moore Household (Lullymore), Murphys Dwelling, and Blackriver Bog. The locations monitored vary year to year. DM01 Killinagh Bog and DM02 Derrybrennan Bog are within the Application Site.

While not all monitoring was specifically conducted at all locations within the Application Site, the 4 no. monitoring locations within the Allen Bog Group (within which the Application Site is located) which are not located within the Application Site are still considered representative of the Application Site.

There have been a small number of exceedances of the limit value of 350 mg/m^2/day over the period 2001 – 2020 inclusive. There were 2 no. exceedances at DM01, 9 no. exceedances at DM03, 4 no. exceedances at DM04 and 3 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/m^2/day, 2 no. of which were located within the Application Site. According to the LEAP online website, of these exceedances, 1 no. was located at Derrybrennan Bog (14/08/20) and 1 no. was located at Blackriver Bog (11/06/20), both located within the Application Site. The third exceedance was located at Ballykeane Bog (11/06/20).

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. However, as no extraction was carried out in 2021 – 2024, 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). Furthermore, no dust complaints are recorded in the AERs between 2021 – 2024.

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, 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.

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. As such, all complaints were dealt with by the Applicant.

Long term monitoring of NO_2, PM_{10} and $PM_{2.5}$ at nearby monitoring stations or comparative locations for the years 2006 – 2024 indicate there were no exceedances to the daily or annual thresholds of NO_2 and $PM_{2.5}$ in the atmosphere. There were no annual exceedances of PM_{10}, however there were at most 3 exceedances of the daily limit value of PM_{10} between 2006 – 2024 (35 exceedances are allowed per year). Since 2000, the Application Site has been operating under IPC Licence noise limits.

Review of the Annual Environmental Reports (AERs) (See Appendix 4-3) on noise monitoring shows that are no records of noise complaints received regarding the Application Site for the period 2000 to 2025.

Peat Extraction Phase (July 1988- June 2020)

The Application Site was subject to ongoing industrial peat extraction and ancillary activities from July 1988 to June 2020.

The Applicant has been the leading commercial employer for rural communities of the Midlands of Ireland since the late 1930s, employing thousands of workers permanently throughout the decades, both directly in the peat extraction industry and indirectly, through the horticultural industry. Employment numbers at the Application Site leading up to the permanent cessation of activities were significantly lower than in 1988. Since 2000, continuous environmental monitoring and maintenance has been undertaken as required under the IPC Licence for the Allen Bog Group (Reg. No. P0503-01) which has contributed to employment levels. The Applicant provided ongoing, albeit limited employment through the extraction of peat until June 2020. For details on the effects on Population and Human Health during the Peat Extraction Phase, please refer to Section 5.6.2 of Chapter 5.

Current Phase (June 2020 – Present)

Peat extraction ceased at the Application Site in June 2020; therefore, no peat extraction was occurring at the Application Site during the Current Phase. All existing stockpiles of peat were removed off the bogs by October 2021. Draft Cutaway Bog Decommissioning and Rehabilitation Plans have been prepared for several of the bogs within the Application Site, namely Ballydermot bog, Barnaran bog, Blackriver bog, Codd bog, Derrybrennan bog, Glashabaun bog, Killinagh bog, Lullybeg bog, Lullymore bog, Ticknevin bog, alongside the finalised Cutaway Bog Decommissioning and Rehabilitation Plan for Lodge Bog (2022), and these will be agreed with the EPA before being implemented during the Current Phase.

Where possible, the Applicant has provided retraining to employees at the Application Site and provided employment in other BnM departments and locations. Additionally, in the planning of the cessation of peat extraction across the BnM landbank, strategies such as the Brown to Green strategy, which involves the transformation of the Applicant from a traditional peat business into a climate solutions company, were being devised. The Applicant still provides employment at the Application Site through environmental monitoring and maintenance as required under the IPC Licence for the Allen Bog Group (Reg. No. P0503-01). For details on the effects on Population and Human Health during the Current Phase, please refer to Section 5.6.3 of Chapter 5.

Remedial Phase

The Remedial Phase of the Project involves the implementation of the Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plans as per the IPC Licence for the Allen Bog Group (Reg. No. P0503-01). The Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plans for bogs within the Application Site are presented in Appendix 4-2. The implementation of the rehabilitation plans will require 3-4 number staff for the first two years followed by 1-2 no. staff visiting monthly over 30 years.

For details on the effects on Population and Human Health during the Current Phase, please refer to Section 5.6.4 of Chapter 5.

1.6 Biodiversity

The biodiversity chapter assesses the likely effects on biodiversity (both alone and cumulatively with other projects) of the peat extraction and ancillary activities that took place at the Application Site. The assessment is based on a comprehensive desk study involving a thorough review of information available in relation to the site as well as reliance on detailed ecology surveys undertaken. Between 2021 and 2025, MKO ecologists visited the Application Site to ground-truth the results of the BnM habitat surveys and mapping and to undertake detailed habitat and botanical surveys. The habitat descriptions in Chapter 6 Biodiversity are based on the walkover surveys and detailed vegetation surveys undertaken by MKO in 2024, 2025 and 2026. A habitat map of the Application Site is provided in Figure 6-5 of Chapter 6.

Peat Extraction Phase (July 1988- June 2020)

Uncut Raised Bog and Cutover Bog and Associated Secondary Habitats

Based on the assessment, there was no significant effect on the cutover bog habitats as a result of the Peat Extraction Phase of the Project.

The residual effects on uncut raised bog habitat at Clonroosk which was drained during the Peat Extraction Phase was a significant, direct, long-term effect. Restoration works to block the drains at Clonroosk were completed by 2014, and the condition of the habitat is expected to improve over time as a result of these works.

No significant effects on any other habitats are likely to have occurred.

Aquatic Habitats and Related Species

It is considered that the Peat Extraction Phase had a moderate effect on downstream surface water quality and the aquatic fauna they support at the local scale.

The effects on water quality as a result of accidental leakages and spillages is considered to be long-term, negative, indirect, unlikely impact on local surface water quality and downstream aquatic ecosystems, and is not considered to be significant at any geographic scale.

Fauna

Otter

Assessment of significant effects on otter as a result of habitat loss/degradation during the Peat Extraction Phase of the Project was limited to indirect effects on water quality. It is considered that effects on otter due to degradation of water quality were not significant at any scale.

No significant effects on otter as a result of disturbance is likely to have occurred during the Peat Extraction Phase of the Project.

Bird Species

No significant effects on birds as a result of disturbance or habitat loss/degradation are likely to have occurred during the Peat Extraction Phase of the Project.

Designated Sites

Assessment of potential significant impacts on European Sites are presented in rNIS which accompanies this application for Substitute Consent. Based on the assessments above, no significant effects on National Sites are likely to have occurred during the Peat Extraction Phase of the Project.

Current Phase (June 2020 – Present)

Uncut Raised Bog and Cutover Bog and Associated Secondary Habitats

No significant effects on habitats are likely to have occurred as a result of the Current Phase of the Project.

Aquatic Habitats and Related Species

For the reasons outlined above and with the implementation of the IPC Licence conditions it is considered that no significant effects on downgradient surface waterbodies have occurred during the Current Phase of the Project.

Fauna – Otter and Bird Species

No significant effects on fauna are likely to have occurred as a result of the Current Phase of the Project.

Designated Sites

Assessment of potential significant impacts on European Sites are presented in rNIS which accompanies this application for Substitute Consent. Based on the assessments above, no significant effects on National Sites are likely to have occurred as a result of the Current Phase of the Project.

Remedial Phase

Uncut Raised Bog and Cutover Bog and Associated Secondary Habitats

There is potential for significant positive effects on the habitats within the Application Site during the Remedial Phase of the Project.

Aquatic Habitats and Related Species

There is no potential for significant negative effects on water quality at any geographic scale. There is potential for significant positive effects on water quality at a local scale within and downstream of the Application Site during the Remedial Phase of the Project.

Fauna

Otter

No significant effects on otter, or any other fauna, are anticipated as a result of disturbance, during the Remedial Phase of the Project. There is potential for significant positive effects on supporting aquatic habitats within and downstream of the Application Site as a result of the implementation of the Cutaway Bog Decommissioning and Rehabilitation Plans.

Bird Species

There is potential for significant positive effects on bird species through the creation of new habitat, as a result of the Remedial Phase of the Project. No significant effects on birds as a result of disturbance is anticipated.

Designated Sites

Assessment of potential significant impacts on European Sites are presented in rNIS which accompanies this application for Substitute Consent. Based on the assessments above, no significant effects on National Sites are likely to occur as a result of the Remedial Phase of the Project.

1.7 Land, Soils and Geology

This chapter assesses the likely significant effects that the Project may have on land, soils and geology and was prepared by Hydro Environmental Services (HES).

The Application Site comprises 14. No. bogs located on the Offaly-Kildare County border. The bogs include: Ticknevin, Glashabaun North, Glashabaun South, Codd 1, Codd 2, Ballydermot North, Ballydermot South, Blackriver, Lullymore, Lullybeg, Barnaran, Killina, Derrybrennan and Lodge. The Application Site has a total area of 5,448 hectares (ha). The Application Site forms part of the larger Allen Bog Group (~18,235ha). The lands within this Application Site represent ~33% of this Bog Group. The Application Site is located in a low-lying landscape rural in character. The topography today ranges between 84 m above ordnance datum (AOD) at its highest point to approximately 68 m AOD at its lowest point. The site measures approximately 10 km in length from north to south, and approximately 10.7 km from east to west, at its widest point.

The baseline for the assessment of peat extraction and ancillary activities at the Application Site is July 1988, and the Peat Extraction Phase covers the period between July 1988 and June 2020. The Applicant commenced works at the Application Site in 1935. By 1988, peat extraction and ancillary activities were well established at the Application Site.

Peat Extraction Phase (July 1988- June 2020)

From a land, soils and geology perspective, the main effects occurred during the early stages of drainage and peat extraction when the acrotelm (topmost living peat layer) was removed and the extraction of the peat (catotelm) began. These site preparation works had been completed across the vast majority of the Application Site prior to July 1988 and any subsequent activities in these areas

would not have resulted in any significant changes, with the only effects resulting from minor annual topographic changes associated with peat removal, and other excavations associated with drainage maintenance. The peat extraction and ancillary activities post-dating July 1988 are therefore not considered to have resulted in a significant negative effect on the land, soils and geological environment.

Current Phase (June 2020 – Present)

During this period, activities at the Application Site have included the removal of stockpiled peat, with no peat extraction occurring. All stockpiles had been removed from the Application Site by October 2021. All BnM railway has been removed from the Application Site during the Current Phase. The drainage infrastructure, silt ponds and surface water discharge locations continue to be in operation and to be maintained as per the IPC Licence requirements. The silt ponds are maintained in accordance with Condition 6 of the IPC Licence, which states that all drainage from boglands is discharged via appropriately designed silt ponds which are desilted twice a year. The silt arising from these operations is either stockpiled a safe distance from drainage features or spread onto production fields. Environmental monitoring continues during the Current Phase of the Project in accordance with IPC licence conditions.

Please refer to Section 7.5.3.2 of Chapter 7 Land Soils and Geology for details.

Remedial Phase

The Draft Cutaway Bog and Decommissioning and Rehabilitation Plans for Ballydermot bog, Barnaran bog, Blackriver bog, Codd bog, Derrybrennan bog, Glashabaun bog, Killinagh bog, Lullybeg bog, Lullymore bog, Ticknevin bog, alongside the finalised Cutaway Bog Decommissioning and Rehabilitation Plan for Lodge Bog (2022), have also been assessed. The plans will typically involve the rewetting and revegetation of the drained bog. The plans will have a positive effect on the soils/land across the Application Site, with rewetting of bare peat areas. The Application Site will never return fully to the original raised bog which was present before commencement of the peat extraction and ancillary activities but the implementation of the Draft and Final Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plans will have a positive effect on land and soils/land, and on the coverage of vegetation at ground level when compared to the 1988 baseline condition of the lands.

The assessment confirms that there was a significant cumulative effect between the Peat Extraction Phase and the works completed previously at the Application Site between 1935 and 1988. The cumulative effect was the removal of 23,769,407 tonnes of peat from the Application Site (12,595,201 tonnes prior to July 1988 and 11,174,206 tonnes between July 1988 and June 2020). No cumulative effects will result from the implementation of the Cutaway Bog and Decommissioning and Rehabilitation Plans, nor from the proposed Ballydermot Wind Farm development at the Application Site. Effects on the land and soils environment will only occur as direct effects, local to the point of extraction/excavation, and therefore cannot extend beyond the boundary of the Application Site.

1.8 Hydrology and Hydrogeology

This chapter assesses the likely significant effects that the Project may have on hydrology & hydrogeology and was prepared by Hydro Environmental Services (HES).

Regionally, the vast majority of the Application Site is located in the River Barrow surface water catchment within Hydrometric Area 14 of the South Eastern River Basin District. A small area in the north of the Ticknevin Bog located in the River Boyne surface water catchment within Hydrometric Area 07 of the Eastern River Basin District.

Currently, the surface of the Application Site is drained by a network of field drains that are typically spaced every 15 to 20m. Larger arterial drains connect the smaller field drains and gently slope towards perimeter silt ponds and surface water outfalls. Surface water outflows from site discharge to small streams which in turn discharge into the Figile and Slate Rivers. There is no surface water outfall to the River Boyne or its tributaries to the north. Several pumping stations are located within the Application Site to assist drainage due to the lowered ground elevations.

Peat Extraction Phase (July 1988- June 2020)

The baseline for the assessment of peat extraction and ancillary works at the Application Site is July 1988, and the Peat Extraction Phase covers the period between July 1988 and June 2020. Drainage works for peat extraction commenced at its earliest at the Application Site in 1935. By July 1988 peat extraction activities were well established at the Application Site. The emerging baseline trend was a drained area of cutover bog with peat extraction having been ongoing for many years.

As a result, the potential impacts from peat extraction and ancillary works were consistent with the baseline environment, and arising potential impacts on water quality from sediment, hydrocarbons, wastewater are all assessed as having moderate potential impacts. Available water quality data of upstream and downstream watercourses, and discharge water quality monitoring from the bog, do not indicate any significant impacts on water quality occurred during the Peat Extraction Phase.

Since 2000, BnM have been operating the Application Site under IPC Licence requirements. IPC Licence for the Allen Bog Group (Reg. No. P0503-01) sets out several conditions and emission limits designed to ensure the protection of surface and groundwaters.

Current Phase (June 2020 – Present)

Peat extraction ceased at the Application Site in June 2020 and our assessment concludes that potential impacts on surface water flows and surface water quality, and groundwater quality are neutral during this period. No changes to the hydrological and/or hydrogeological environments will have occurred from Current Phase of the Project *i.e.* since the cessation of peat extraction to the present day.

Remedial Phase

The Remedial Phase has also been assessed. The implementation of the Cutaway Bog Decommissioning and Rehabilitation Plans will generally involve the rewetting and revegetation of the drained bog. The plan will have a long-term positive effect on the local peat hydrogeology within the Application Site where groundwater table in the peat bog is stabilised and closer to the bog surface. The plan will also have positive long-term effects on downstream water quality and regulation of surface water flows.

The assessment confirms that no significant cumulative effects on the hydrological or hydrogeological environments have resulted from the various phases of the Project. Similarly, no cumulative effects on the hydrological or hydrogeological environments will result from the implementation of the Cutaway Bog Decommissioning and Rehabilitation Plans, nor the proposed wind farm development at the Application Site.

1.9 Air Quality

This chapter of the rEIAR describes and assesses the residual direct and indirect air quality impacts of the peat extraction and ancillary activities, at the Application Site, and has been prepared by AWN Consulting Limited.

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.

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 less than 2.5 microns (PM2.5) 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, 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. 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.

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.

1.10 Climate

This chapter of the rEIAR describes and assesses the residual direct and indirect climate impacts of the peat extraction and ancillary activities, at the Application Site, and has been prepared by AWN Consulting Limited.

For the purposes of this assessment, while the activities assessed have occurred over the past decades, beginning in July 1988 and continuing to present day, impacts have been assessed against the most recently published climate guidance and policies which are likely more stringent than historical policies 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 climate impact assessment comprised a quantitative assessment of the carbon emissions as a result of the peat extraction and ancillary activities.

Historic climate data was reviewed in reference to Ireland's weather for the surrounding area of the Application Site over the period July 1988 to present day and was used to establish the baseline conditions for 1988. Climate is defined as the average weather over a period of time, whilst climate change is a significant change to the average weather. Climate change is a natural phenomenon but in recent years human activities, which have resulted in the release of GHGs, have impacted on the climate. Climate change has led to an increase in the frequency of extreme weather conditions such as storms, floods and droughts. Historic National greenhouse gas (GHG) emissions published by the Environmental Protection Agency (EPA) were also reviewed and used to inform the climate baseline assessment. National greenhouse gas (GHG) emissions are required to meet EU specific targets, however Ireland's annual GHG emissions have been in exceedance of these targets thus far.

Peat Extraction Activities (July 1988 – June 2020)

The CO_2 emissions associated with the peat extraction and ancillary activities over the period 1988 – 2020 were calculated. On average over this 32-year period there was 89,539 tonnes of CO_2 per annum released from the Application Site. Annually this equates to 0.045% of Ireland's 2026 – 2030 carbon budget of 200 $MtCO_2e$ or 0.059% of Ireland's more stringent 2031 – 2035 carbon budget of 151

$MtCO_2e$. The removal of the carbon store of the Application Site and the subsequent release of CO_2 as a result of peat extraction and ancillary activities during the Peat Extraction Phase resulted in a major significant adverse impact to climate as per the ISEP and TII criteria. This equates to a long-term, negative and significant impact to climate using the EPA EIA terminology.

Current Phase (June 2020 – Present Day)

As peat extraction ceased at the Application Site in June 2020, carbon losses associated with peat removal and the subsequent impact to climate are not relevant to this phase.

However, areas of degraded bog will continue to act as sources of these GHG until they are either rewetted/revegetated, the peat is removed or all the remaining peat has oxidised. In addition to the consideration of the loss of a sink due to the dewatering/removal of vegetation, consideration must be given to the dewatered peat now being a source of CO_2e. The Current Phase of the Project has the potential to emit approximately 6,265 tCO_2e each year until the land is rewetted or revegetated or developed into an alternative land use. In the context of Ireland's carbon budgets, this annual emission equates to 0.003% of Ireland's 2026 – 2030 carbon budget of 200 $MtCO_2e$ or 0.004% of Ireland's more stringent 2030 – 2035 carbon budget of 151 $MtCO_2e$.

There is the potential for some minor GHG emissions associated with vehicles accessing the Application Site for removal of stockpiled peat or for monitoring works. However, the number of vehicles accessing the Application Site will be minimal and GHG emissions associated with these are not predicted to be significant in relation to Ireland's climate budgets and sectoral emissions ceilings. The impact to climate from the Current Phase is considered major significant adverse as per the ISEP and TII significance criteria. This equates to a short-term, negative and significant impact as per the EPA EIA terminology.

Remedial Phase

The primary focus of the Final and Draft BnM Cutaway Bog Decommissioning and Rehabilitation Plans is re-wetting the bogs which will aid in restoring the carbon store function. The CO_2 reductions will increase over time as the carbon store of the land returns. In the first 0 – 5 year period there is the potential for a reduction of 47,611 tCO_2e. By years 95 – 100 there is the potential for a total cumulative reduction of 952,267 tCO_2e.

The purpose of the Remedial Phase of the Project is in line with a number of key actions and priorities within CAP24 and CAP25 in relation to the rehabilitation of peatlands, specifically those within the mid-lands area. With the restoration of the carbon sink potential of the land, albeit, to a lesser extent than the potential prior to the historic removal of the peat, the project will aid in Ireland's trajectory towards net zero by 2050.

Using the ISEP and TII assessment criteria, the Remedial Phase of the Project is considered minor adverse and not significant as the Project has complied with existing and emerging policy requirements and is in line with Ireland's trajectory towards net zero. Using the EPA EIA terminology, the impact to climate is long-term, beneficial and not significant.

1.11 Noise and Vibration

This chapter of the rEIAR describes and assesses the residual direct and indirect noise and vibration impacts of the peat extraction and ancillary activities, at the Application Site, and has been prepared by AWN Consulting Limited. Noise and vibration impacts have been identified, described and then assessed as 'not significant' for the Peat Extraction Phase and the Current Phase, and as 'imperceptible' for the Remedial Phase.

Peat Extraction Activities (July 1988 – June 2020)

A variety of items of machinery were in use for the purposes of peat extraction and ancillary activities. There were vehicular movements to and from the Application Site that made use of existing roads. Potential noise impacts are discussed in the following sections. It should be noted that peat extraction was seasonal, with peat extraction occurring during summer months when weather permitted. Potential noise impacts from machinery and equipment would have been experienced intermittently during the active periods due to the continuous movement of machinery around the Application Site, i.e., no machinery operated continuously in the one location near Noise Sensitive Locations (NSLs).

Impacts from noise and vibration is assessed as negative, not significant and long-term for the Peat Extraction Phase.

Current Phase (June 2020 – Present Day)

Peat extraction ceased at the Application Site in June 2020. During the Current Phase, the activity on site is much reduced when compared to the Peat Extraction Phase. On site activities are limited to removal of the existing peat stockpiles from the Application Site, which was completed by October 2021. Following the cessation of peat extraction in June 2020, stockpiled peat from the Application Site was supplied to Edenderry Power Station by rail. The remaining stockpiles of horticultural peat were removed from the Application Site via HGV using the public road network to Ballivor, Derrinlough, Cúil na Móna, Dublin Port and other horticulture customers. Vehicular traffic also arose from the movement of personnel to and from the Application Site in the mornings and evenings.

Impacts from noise and vibration is assessed as negative, not significant and short-term for the Current Phase.

Remedial Phase

The main activity associated with the Remedial Phase comprises the blocking of drains across the Application Site and involves a limited amount of machinery. The drain blocking is expected to occur in years 1 and 2. During this phase, ecologists and site managers will oversee the works and therefore, personnel vehicles will travel to and from the site daily. From year 3 onwards, monthly site visits by ecologists and site managers will occur to monitor the rehabilitation works.

Impacts from noise and vibration is assessed as neutral, imperceptible, and long-term for the Remedial Phase.

1.12 Landscape and Visual

This chapter has addressed the significance of landscape and visual effects occurring at the Application Site since the 1988 baseline. A vast majority of the Application Site was already subject to peat extraction in 1988 and the greatest landscape and visual effects had already occurred prior to the 1988 baseline. No significant landscape or visual effects occurred in these areas during the Peat Extraction Phase.

Peat Extraction Activities (July 1988 – June 2020)

Landscape Effects

In terms of direct landscape effects, the removal of peat from the Application Site throughout the Peat Extraction Phase changed the physical fabric of the landscape by removing material and altering the topographical profile of the landform year on year. The magnitude of change in these areas would have

been deemed to be 'Moderate', this is balanced with a 'Low' sensitivity, resulting in negative landscape effects of 'Slight' significance, which is not significant in the context of EIA.

Whilst the majority of the Application Site was subject to peat extraction, parts of Lodge, Glashabaun South, Lullybeg, and Lullymore bogs were comprised of lands drained but not subject to peat extraction, where extraction had previously ceased. Within Codd 1 bog, an area in the west had been drained in advance of the Peat Extraction Phase, but extraction of peat had not yet started in this area at the time. There were small pockets of bog which were neither drained nor subject to peat extraction. On balance, the landscape value and landscape sensitivity of these portions of the bogs would have been deemed to be 'Low'.

In the years immediately following 1988 during the Peat Extraction Phase, the area of bog in the east (north-west of Lullymore) of the Application Site that was drained but not subject to peat extraction continued to expand up until 2020. The extraction of peat would continue in the Application Site but the area subject to peat extraction decreases overtime. These areas slowly returned to a natural state as revegetation occurred. A small portion of Codd 1 bog transitioned from 'drained but not subject to peat extraction' to 'subject to peat extraction' between 2004 and 2020. Similarly, in 2013 the west portion of Ballydermot South bog transitioned from 'neither drained nor subject to peat extraction' to 'drained but not subject to peat extraction'. This would result in loss of vegetated ground cover, extraction of peat and associated extraction activities in this small portion of the bog, causing 'Significant' magnitude of change for this small area. Overall, activities on the Application Site caused a 'Substantial' magnitude of change to the landscape. 'Substantial' change to the landscape balanced with 'Low' sensitivity equates to 'Moderate' 'Negative,' direct landscape effects. On balance, these effects would have been not significant in the context of EIA.

Control Measures and Mitigating Factors.

Planting and retention of boundary vegetation surrounding the Application Site served to reduce visibility of operations during the Peat Extraction Phase. Once boundary vegetation had matured, this reduced and eliminated effects on the character of the wider landscape. Prior to the peat extraction on the small portion of Codd 1 bog, this area had already been drained and therefore, works had previously been carried out at this area of the bog. In addition, prior to 1988, the majority of the Application Site had already been subject to peat extraction.

Residual Effects.

With the implementation of the control measures, and as the changes would only be an addition to the existing trend of peat extraction in the area, it is considered that residual landscape effects were 'Negative', 'Long-term' and 'Slight' for the majority of the Application Site. On balance, these effects would have been not significant in the context of EIA.

Visual Effects

The magnitude of visual change occurring on the areas already subjected to peat extraction would be 'Negligible'. As established in the visibility appraisal in Section 12.4 of Chapter 12, there is very limited visibility into the Application Site from sensitive visual receptors. For example, there are portions of KCDP Scenic Routes 34 and 08 having limited instances of open visibility into the Application Site. No Significant visual effects are determined to have occurred at the Application Site during the Peat Extraction Phase.

The visibility appraisal in Section 12.4 of Chapter 12 determined that views towards the Application Site from most locations are limited due to generally flat nature of the surrounding landscape, and visual screening occurring from mature vegetation along field boundaries and roadsides existent within the agricultural landscape surrounding the Application Site.

There are some open views of the Application Site from the L-3001 local road which passes through the centre of the Application Site. There are also parts of the R414 regional road that have visibility of the Application Site as it passes through the east section of the Application Site. These receptors are local road users considered to be of 'Low' sensitivity. KCDP Scenic Routes 08 and 34 are designated scenic amenities and are of 'High' sensitivity. The transition of the small area of Codd 1 bog from lands drained but not subject to peat extraction to a cutover bog, as well as the visibility of regular peat extraction and ancillary activities, would cause a 'Moderate' magnitude of change to views from occasional instances from the L-3001 local road, R414 regional road, KCDP Scenic Route 34, and 'Slight' magnitude of change for KCDP Scenic Route 08. This amounts to 'Slight' visual effect on local road users, and 'Moderate' visual effects on KCDP Scenic Route 08, which would not have been significant in the context of EIA. There would be 'Significant' visual effects on KCDP Scenic Route 34, which would have been significant in the context of EIA.

Control Measures and Mitigating Factors.

Planting and retention of boundary vegetation surrounding the Application Site served to reduce visibility of operations during the Peat Extraction Phase. Once boundary vegetation had matured, this reduced and eliminated visual effects from large numbers of visual receptors surrounding the Application Site including KCDP Scenic Route 34, and local road users. Views of the Application Site from KCDP Scenic Route 34 would be limited and temporary as they are experienced over a short stretch of the route. KCDP Scenic Route 08 is sited at a relatively set-back distance with panoramic views over the landscape, where the activities at the Application Site would be seen as minor changes in the overall composition of the view.

Residual Effects.

With the implementation of the control measures, and as the changes would only be an addition to the existing trend of peat extraction in the area, it is considered that the overall residual visual effects were 'Negative', 'not significant' and 'Long-term'. For KCDP Scenic Route 34, the residual visual effects were 'Negative', 'Moderate' and 'Long-term'. For KCDP Scenic Route 08, residual visual effects were 'Negative', 'Slight' and 'Long-term'. On balance, these effects would have been not significant in the context of EIA.

Visual Effects on the Residential Receptors in the Lullymore Area and the townland of Allenwood South

Open visibility into the Application Site occurs from residential receptors within the Lullymore area and the townland of Allenwood South, located in the east of the Application Site where there are clear and open views across Lodge Bog. There may also be views available to the west from residential receptors in the Lullymore area from upper storey windows overlooking the Application Site. These receptors are considered to be of 'High' sensitivity, and the magnitude of change deemed to be 'Moderate' as views of the landscape transitioned from areas that were drained but not subject to peat extraction to areas subject to peat extraction. Overall, the visual effects on this small number of residential receptors during the Peat Extraction Phase was 'Significant', although highly localised.

Control Measures and Mitigating Factors

Many of the residential properties in this area were built after the 1988 baseline and are well set back from the Application Site, with visibility in the direction of the Application Site partially restricted by boundary vegetation and localised landform undulations. The landscape change seen by the receptors would not obstruct or visually intrude upon their scenic amenity.

Residual Effects

In the few highly localised instances where the northern area of the bog was visible from a very small number of residential receptors, residual visual effects are considered to be 'Negative', 'Long-term' and 'Moderate', which would have been not significant in the context of EIA. This part of the bog that has changed after the 1988 baseline, is consistent and contiguous with the development that had occurred throughout the wider landscape and elsewhere at the Application Site prior to the 1988 baseline. As such, this change was considered as part of emerging trends of peat extraction within the Application Site.

Visual Effects on the Residential Receptors along the L-3002 local road (Drinnanstown North)

Open visibility towards the Application Site occurs from residential receptors at elevated vantage points along the L-3002 local road, located approximately 3.3km southeast of the Application Site where there are clear and open views of the area where most landscape change occurred. These receptors are considered to be of 'High' sensitivity, and the magnitude of change deemed to be 'Slight'. Overall, effects on these residential receptors during the Peat Extraction Phase was 'Moderate', which is not significant in the context of EIA.

Control Measures and Mitigating Factors. Many of the residential properties in this area were built after the 1988 baseline. They are also well set back from the Application Site, with wide open views over the surrounding landscape where the Application Site would consist of a small portion of it. The landscape change seen by the receptors would not obstruct or visually intrude upon their scenic amenity.

Residual Effects. Residual visual effects are considered to be 'Negative', 'Long-term' and 'Slight', which would have been not significant in the context of EIA. This part of the bog that has changed after the 1988 baseline, is consistent and contiguous with the development that had occurred throughout the wider landscape and elsewhere at the Application Site prior to the 1988 baseline. As such, this change was considered as part of emerging trends of peat extraction within the Application Site.

Current Phase (June 2020 – Present Day)

Cessation of peat extraction in June 2020 has enabled the landscape of the Application Site to continue to re-vegetate and to some degree mitigate landscape and visual effects over time. However, the landscape is still a degraded, bare – cutover peat site of 'Low' sensitivity overall, and it is not a functioning wetland. Revegetation has caused both a 'Slight' magnitude of change to the landscape and 'Slight' magnitude of change to the visual aesthetic of the Application Site and surrounding visual amenity. On-going decommissioning activities cause a 'Slight' magnitude of change. Landscape and visual effects during the Current Phase are deemed to be 'Neutral', 'Direct', 'not significant' and 'Short-term'. On balance, these effects are not significant in the context of EIA.

Control Measures. Retention of boundary vegetation surrounding the Application Site helps to reduce visibility of decommissioning operations in the Application Site, reducing effects on the character of the wider landscape and effects on visual receptors in the surrounding area. Continued decommissioning activities, such as removal of man-made infrastructure will result in a positive impact as the bog is restored closer to its natural state.

Residual Effects. With the implementation of the control measures, it is considered that Residual Landscape and Visual effects are deemed to be 'Positive', 'not significant' and 'Short-term'. On balance, these effects are not significant in the context of EIA.

Remedial Phase

The primary activity of the Remedial Phase is to re-wet cutover peatland in order to re-establish a naturally functioning wetland and peatland ecosystem. This will require low level, intermittent groundworks for activities such as drain blocking. However, the landscape is still a degraded, bare cutover peat site of 'Low' sensitivity. The Cutaway Bog Decommissioning and Rehabilitation Plans also include targeted revegetation where appropriate, which will result in a 'Slight' magnitude of change to the landscape and 'Slight' magnitude of change to the visual aesthetic of the Application Site and surrounding visual amenity. Continued decommissioning works of existing peat extraction infrastructure is also included for in the Remedial Phase.

It is likely that the works required to decommission peat extraction infrastructure and implement the Remedial Phase will cause 'Temporary', 'Negative' and 'not significant' landscape and visual effects, which is not significant in the context of EIA.

As the bogland is re-wetted and the peatland ecosystem re-establishes as a result of works in the Remedial Phase there will be a positive change to the landscape of the Application Site. The visual aesthetic of the Application Site has changed since cessation of peat extraction in 2020. This is primarily attributed to the large areas of bare cutover peat which have been allowed to revegetate, consequently changing the visual aesthetic to a landscape of a more natural and wild nature. The intention of the Cutaway Bog Decommissioning and Rehabilitation Plan is to continue to encourage this process and ensure that it is successful. Provided the Cutaway Bog Decommissioning and Rehabilitation Plan is implemented, there will be a 'Slight', and 'Positive', landscape and visual change when compared to the 1988 baseline. Even in the absence of these plans, the natural revegetation process on the bare cutover peat areas will contribute to a positive landscape and visual impact, albeit at a slower rate. This recolonisation of vegetation is expected to gradually improve the visual aesthetics and landscape quality of the Application Site. Landscape and visual effects are 'Positive', 'Long-term' and 'not significant'. On balance, these effects are not significant in the context of EIA.

Mitigation Measures. Retention of boundary vegetation surrounding the Application Site serves to reduce visibility of remedial measures occurring within the Application Site, reducing potential effects on the character of the wider landscape and effects on visual receptors in the surrounding area. Continued decommissioning activities, such as removal of man-made infrastructure will result in a positive impact as the bog is returned closer to its natural state.

Residual Effects. With the implementation of mitigation measures, residual landscape and visual effects are 'Positive', 'Long-term' and 'not significant'. On balance, these effects are not significant in the context of EIA.

1.13 Archaeology and Cultural Heritage

This archaeology and cultural heritage chapter was prepared by Tobar Archaeological Services Ltd. It presents the results of an archaeological, architectural and cultural heritage impact assessment for a remedial EIAR at the Application Site.

Peat Extraction Phase

Recorded Monuments

A total of 10 no. recorded monuments are located within the Application Site boundary. Three of the monuments were partially excavated by Etienne Rynne in 1964-5 after the discovery of the toghers was reported by BnM. At least two of these monuments were identified as a result of a peatland surveys carried out within the Application Site by the Irish Archaeological Wetland Unit (IAWU) in 1997-8,

while the remaining monuments were recorded during the subsequent 2004 Peatland Survey undertaken by ADS Ltd., as part of the Archaeological Survey of Ireland Peatland A variety of monument types are located within the Application Site but are typical of those found in a peatland environment which largely comprise roads (trackways or toghers of either stone or wood), structures – peatland and a platform.

Given that these sites were initially identified in 1964-5, 1997-8 and in 2004 and the continued peat extraction and ancillary activities within the Application Site up to 2020, it is likely that the Peat Extraction Phase had a direct, significant negative and permanent effect on at least some of these monuments. In this regard a direct, significant, negative and permanent effect to such structures as a result of the Peat Extraction Phase is identified.

Overall, it is possible that significant negative effects could have taken place to sub-surface archaeological finds and features, in particular, prior to 1997-8 when the Peatland Surveys commenced. This negative effect was mitigated, however, by the Peatland Surveys carried out within the Application Site and any associated excavations which were carried out as part of the mitigation phase of that work. Subsequently, the introduction of the 2012 Code of Practice served as a mitigatory factor in the discovery of archaeological finds and features as well as their recording and excavation where required. In this regard it is considered that that residual effects on sub-surface finds and features from 1997-8 to 2020 were a direct slight - moderate negative permanent effect, while residual effects between 1988 and 1997-8 may have been direct moderate – significant, negative, permanent effects.

Built Heritage (Protected Structures and NIAH)

No Protected Structures, NIAH structures or historic gardens are located within the Application Site boundary. Effects to such structures or items as a result of the Peat Extraction Phase are therefore not identified.

Local Cultural Heritage (Shanavoola)

The small settlements indicated within the Application Site on the historic OS maps, including that named as Shanavoola, appear to be largely located in areas in which peat extraction and ancillary activities took place. Field survey did not identify any surviving visible remains of such settlements; however, vegetative overgrowth may be obscuring some surviving elements. For those historic settlements located in areas of the Application Site where peat extraction and ancillary activities took place a direct, Significant, negative and permanent effect to such settlements is identified. The significance of the effect is mitigated, however, by the low sensitivity attributed to such settlements and their lack of statutory designation or protection. In this regard the overall effect is considered to be direct, Moderate, negative and permanent.

Current Phase

Current activities at the Application Site include the transportation of previously extracted peat off the bogs and decommissioning, rehabilitation and environmental monitoring as part of the EPA Licence. In terms of archaeology, architecture and cultural heritage, since peat extraction ceased in June 2020, it is considered that the effects during the Current Phase are neutral.

Potential indirect effects (visual impacts) of the Current Phase are scoped out as the Current Phase activities are not considered to have a wider landscape negative effect on the Cultural Heritage Environment. Archaeological monuments and features of architectural heritage merit which are located away from the Application Site are not capable of having their settings affected by localised / transient works within the Application Site. No effects from 2020 to the present day are considered to have occurred since peat extraction has ceased. No mitigation measures are deemed necessary since peat extraction has ceased.

Remedial Phase

The Applicant has produced Draft Cutaway Bog Decommissioning and Rehabilitation Plans for Ballydermot bog, Barnaran bog, Blackriver bog, Codd bog, Derrybrennan bog, Glashabaun bog, Killinagh bog, Lullybeg bog, Lullymore bog, Ticknevin bog, alongside the finalised Cutaway Bog Decommissioning and Rehabilitation Plan for Lodge Bog (2022) for the Application Site, and it is the intention of the Applicant to rehabilitate the bog under IPC Licence. Remedial activities such as drain blocking or tracking over peat fields may have a negative effect on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. In the absence of mitigation measures this may result in a direct, significant, negative and permanent effect. BnM's impact on archaeology is governed under the 2012 Code of Practice agreed between the now Department of Housing, Local Government and Heritage, the National Museum of Ireland and BnM. Since rehabilitation activities associated with BnM fall under the 2012 Archaeological Code of Practice, any potential effects may be dealt with in the same way as past peat extraction and ancillary activities. The Code of Practice will mitigate against the potential for significant effects during this phase, and in this regard the overall significance of effects will be direct, permanent, negative slight – moderate.

1.14 Material Assets

Traffic and Transport

This chapter assesses the potential effects on roads and local traffic from the additional traffic and rail movements that occurred due to the Project during the Peat Extraction Phase, including that of staff personnel commute. It also looks at the potential effect that the traffic and rail movements associated with the Current and Remedial Phases at the Application Site may have on roads and traffic, namely remaining stockpiled peat deliveries, staff personnel commute and rehabilitation works.

The peat extracted during the Peat Extraction Phase and peat which was stockpiled during the Current Phase was transported via rail and trucks, respectively, to various end users around the country. An estimation of the annual number of rail and HGV movements was provided by the Applicant for the Peat Extraction Phase and Current Phase. Employment figures at the Application Site for all Project Phases were also utilised to determine the traffic movements associated with staff personnel travelling to and from the Application Site. When comparing the average annual traffic movements to and from the Application Site, these averages were assessed against the average traffic volumes counted at four identified locations in October 2025, in the vicinity of the Application Site. It is demonstrated that the additional volume of traffic generated by the Project for the Peat Extraction Phase would have a long-term, moderate, negative residual effect on road users and road conditions, i.e., for the Peat Extraction Phase this equated to 9 – 20% (HGV and LGV combined) of daily traffic volumes attributed to the Project. For the Current Phase and Remedial Phase this equated to 0.1-1.8% of daily traffic volumes attributed to the Project, which constituted a negative, short term, slight effect, on traffic volumes, roads and road users and a negative, imperceptible, long term, imperceptible effect on traffic volumes, roads and road users respectively.

By 1988, peat extraction areas were served by a dynamic network of narrow-gauge rail tracks within the Application Site. Annual Reports from 1947 and 1948 indicate that development works were underway at the Application Site, including the installation of railway infrastructure in Ballydermot, Blackriver, Lodge and Glashabaun Bogs, each of which are located within the Application Site. Aerial photographs from 1973 indicate that by this period, railway infrastructure within the peat extraction areas connecting to the Ballydermot Works was in place.

By 1988, peat extraction areas were served by a dynamic network of narrow-gauge rail tracks within the Application Site. Annual Reports from 1947 and 1948 indicate that development works were underway at the Application Site, including the installation of railway infrastructure in Ballydermot, Blackriver, Lodge and Glashabaun Bogs, each of which are located within the Application Site. Aerial photographs

from 1973 indicate that by this period, railway infrastructure within the peat extraction areas connecting to the Ballydermot Works, Allenwood Power Station and Lullymore Briquette Factory was in place. By 1988, 1 no. rail underpass was in place at the Application Site beneath the R401 (Offaly Co. Co. Ref. 86/184) to facilitate access between the Application Site and the Cloncreen Bog, also within the Allen Bog group (IPC Licence P0503-01). 2 no. guarded level crossings were in place along the R414 within the Application Site between 1951 and 1952. They were constructed to facilitate the connection of Barnaran, Lodge and Killina Bogs to Lullymore Briquette Factory and Allenwood Power Station. In addition, 2 no. unguarded level crossings were installed between Blackriver and Barnaran bogs and between Codd 1 and Codd 2 bogs the installation date of these level crossings are unknown, therefore they have been included in this application. The unguarded level crossings are both positioned at private roads with no access to the general public. During the Peat Extraction Phase, 7 no. railway bridges were installed within the Application Site to facilitate the narrow-gauge railway network that provided access to various areas of the Application Site, crossing rivers and drainage channels where necessary. In addition, 8 no. vehicular bridges were installed within the Application Site to facilitate vehicular access to various areas of the site, including crossings of rivers and drainage channels where required. The installation date of the vehicle bridges is unknown.

The above describes the infrastructure which was or is assumed to have been on site in 1988, in the absence of further records. However, during the Peat Extraction Phase additional infrastructure was constructed on site. There was the addition of 3 no. underpasses built between 2001 and 2005. There are 2 no. rail underpass beneath the R401, the aforementioned Offaly Co. Co. Ref. 86/184 built between 1988 and 1995, and Offaly Co. Co. Ref. 97/699 built between 2001 and 2005. There is 1 no. rail underpass located within the southwest of the Application Site (Kildare Co. Co. Ref. 97/1140), along the L3001 and facilitates the connection of Ballydermot North and South Bogs to Blackriver Bog within the Application Site itself. There is 1 no. rail underpass located within the northwest of the Application Site (Offaly Co. Co. Ref. 97/520), along the L1001 and facilitated connection between Codd 2 and Glashabaun North Bog within the Application Site itself.

At the guarded level crossing locations, road users were required to stop to allow rail cars pass through, whilst the underpasses allowed road users and the rail movements to take place independently without interaction. While standard level crossing lamps with light sensors that switched to light on when daylight faded were fitted across all BnM crossing gates, these were decommissioned when peat extraction ceased in June 2020. Catch points are also fitted into railway tracks on either side of level crossing gates as a standard safety practice to de-rail any runaway trains before reaching the level crossing. The average number of interactions between the rail network and the public road network via the 2 no. guarded level crossings are estimated to have been 8 interactions/crossings per day, and an average of 3 times per day over a 2-year period in the Current Phase to reach end users. During the Peat Extraction phase, given the low frequency of crossings, operation of the level crossing at off-peak times only and the presence of gates and sensory notification lighting, the impact on wait times for road users at these level crossings is considered negative, short term, slight effect, on road users. During the Current Phase, the effect was considered short-term negative and not significant, considering no rail movements occurred after October 2021.

During the Remedial Phase, the estimated traffic levels generated to and from the Application Site arising from future plans to decommission and rehabilitation activities is considered to have a negative, long term, and imperceptible effect on traffic volumes, roads and road users.

Other Material Assets

This chapter also reviews other material assets located within the Application Site and immediate surrounds which may have been impacted by the Project such as utilities (water, wastewater, electricity, gas), telecommunications, aviation and waste management. There are two sections of water supply pipeline within the Application Site boundary, both of which were installed in 1978. These two pipelines run along the R414, which passes through the site to southeast between Lodge Bog and Barnaran Bog, with one pipe oriented in a southerly direction, the other in a northerly direction, and

meet at a water junction (designated points where pipes meet) along the section of road within the redline. The total length of pipeline within the Application Site boundary is approximately 240m. Beyond this, the location of other underground water networks within the Application Site are unknown. There is no gas infrastructure within the Application Site. The 110kV Cushaling - Newbridge overhead power line passes the Application Site along the western edge of the boundary, and to the south of Ballydermot Works in a generally northwest to southeast orientation.

In addition, a telecommunications scoping exercise was undertaken as part of the proposed Ballydermot Wind Farm application in May 2025. During the consultation process, nineteen telecommunication operators were contacted, fourteen of which responded to the consultation request. As of 2025, there are two meteorological masts, two telecommunications towers and one telecommunications relay tower located within the Application Site. In May 2025, there were 6 no. telecommunications operators with 28 no. links or communication channels between masts traversing the Application Site.

These assets were established long after peat extraction and ancillary activities commenced at the Application Site and have been able to operate successfully and uninhibited alongside the Peat Extraction Phase and Current Phase activities and will continue to do so during the Remedial Phase of the Project.

A scoping exercise for the proposed Ballydermot Wind Farm was also undertaken with the Department of Defence (DoD) and the Irish Aviation Authority (IAA). The scoping exercise with the Irish Aviation Authority and DoD did not raise concern over any aviation assets that may have been or are impacted by activities past or present at the Application Site. It is understood that the Application Site is located within the Edenderry/Allenwood/Rathangan (Lullymore) Air Corps Low Flying Training Area, however it is not known when this area began use as a training zone for the DoD. The DoD were contacted as part of scoping, however no response beyond recognition of receipt was received from the DoD in relation to the Project.

In addition, Clonbullogue Airfield is a small private airfield located approximately 2km west of Clonbullogue and approximately 4km west of the Application Site, in County Offaly. It is owned and operated by the Irish Parachute Club, which began operating out of this airfield in 1988. Notably, peat extraction and ancillary activities have been in operation at the Application Site for decades prior to the Clonbullogue Airfield being built/established in 1988, and the Applicant's activities have and continue, to operate harmoniously with this aviation asset for decades.

Since 2000, the Application Site has been operating under IPC Licence control which requires all hazardous and non-hazardous materials to be disposed of appropriately by licenced waste management operators. Likewise, details pertaining to waste (types, volume, name and address of licenced waste removal contractor, volumes recycled and reused), are recorded in AERs and submitted to the EPA annually and included in Appendix 4-3 of the rEIAR. Over the past few decades, activity decreased at the Allen Bog Group (in which the Application Site is located) and as a consequence of the cessation of peat extraction activity in 2020 and removal of remaining infrastructure, the volume of waste produced has increased. This increase in waste production is expected to fall during the Current Phase and Remedial Phases due to limited activities occurring at the Application Site, therefore an overall residual effect of a long term not significant negative is considered for waste management at the Application Site.

The water supply at the Works, adjacent to the Application Site, and a smaller additional welfare facilities onsite is from the local mains water supply. While under operating under IPC Licence P0503-01, conditions pertaining to wastewater and water supply have been strictly adhered to, therefore overall effects on wastewater and water supply have long term, slight negative effect.

1.15 Vulnerability to Major Accidents and Natural Disasters

Chapter 15 of the EIAR describes the likely significant adverse effects on the environment arising from the vulnerability of the Project to risks of major accidents and/or natural disasters, as well as the potential of the Project itself to cause potential major accidents and/or natural disasters.

The 1988 baseline and subsequent Peat Extraction Phase, Current Phase and Remedial Phase of the Project have been described in detail in Sections 15.3, 15.4, 15.5 and 15.6 of Chapter 15. Utilising the impact assessment methodology described in Section 15.2.3 the key Major Accident and/or Disaster scenarios were identified for each phase and a risk assessment for each scenario was conducted.

All scenarios identified and assessed in Section 15.8 for each of the three phases were determined to be low risk scenarios, aside from bog fires (Industrial Accident – Fire) in the Peat Extraction Phase which was determined as medium risk. The risk assessment assumes that all proposed mitigation measures and safety procedures have failed. The potential for Major Accidents or Disasters has reduced since peat extraction and ancillary activities ceased in June 2020 and reduced further when the last volumes of peat were transported offsite in October 2021. The potential for a Major Accident or Disaster during the Remedial Phase is very low and the residual impact is determined to be imperceptible during this phase. Finaly there was no potential for significant cumulative or in combination impact with other plans or projects identified during each of the three phases.

1.16 Interactions of the Foregoing

Chapters 5 to 15 of this rEIAR identify the potential significant environmental effects that may have occurred and which are likely to occur into the future in terms of Population and Human Health, Biodiversity, Land, Soils and Geology, Hydrology and Hydrogeology, Air Quality, Climate, Noise and Vibration, Landscape and Visual, Cultural Heritage (Archaeological, Architectural and Cultural Heritage), Material Assets, and Vulnerability to/from Major Accidents and Natural Disasters as a result of the Peat Extraction Phase, Current Phase and Remedial Phase of the Project. All of the potential significant effects of the of these phases and the measures used and proposed to mitigate them have been outlined in the other chapters of this rEIAR.

However, for any development with the potential for significant environmental effects there is also the potential for interaction between these potential significant residual effects. The result of interactive effects may exacerbate the magnitude of the effects or ameliorate them or have a neutral effect.

A matrix is presented in Table 16-1 of Chapter 16 of the rEIAR to identify potential interactions between the various aspects of the environment already discussed and assessed in this rEIAR. The matrix highlights the occurrence of potential positive or negative effects taking control and mitigation measures into account, during the Peat Extraction, Current and Remedial Phases of the Project at the Application Site. The matrix is symmetric, with each environmental component addressed in the chapters of this rEIAR being placed on both axes of a matrix, and therefore, each potential interaction is identified twice.

1.17 Schedule of Mitigation & Monitoring Measures

All control measures that have been implemented at the Application Site from 1950 at the onset of site preparation up to July 1988, control and monitoring measures implemented from July 1988 to the cessation of peat extraction in June of 2020, control and monitoring measures implemented during the management of the Application Site since June 2020 and the mitigation measures proposed for the

activities intended to be carried out at the Application Site into the future are set out in the relevant chapters of this rEIAR.

All control and mitigation measures for the Project are presented in Table 17-1 of Chapter 17 of the rEIAR. The measures have been grouped together according to the relevant Phase of the Project. The Project formed part of an overall development at the Application Site which commenced many years prior to July 1988. For completeness, measures undertaken from 1950 at the onset of preparation works up to July 1988 are also presented in Table 17-1 of Chapter 17.