

NON-TECHNICAL SUMMARY

1.1

Introduction

This remedial Environmental Impact Assessment Report (rEIA) has been prepared by MKO on behalf of Bord na Móna Energy Ltd, a subsidiary of Bord na Móna plc. (hereafter ‘the Applicant’), as part of an application for substitute consent for peat extraction and ancillary activities from July 1988 to the present day that have been carried out within Lemanaghan Bog (hereafter referred to as the ‘Application Site’), located in County Offaly. 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
Lemanaghan	Offaly	Cooldorragh, Kilnagarnagh, Cappanalosset, Tumbeagh, Killaghintoher, Castlearmstrong, Leabeg, Cornafurrish and Corrabeg, Lemanaghan, Kilnagoolny, Straduff, Lisdermot, Derrica More, Rosfaraghan, Ballydaly, Derrynagun, Curraghalassa, Rashinagh, Cor Mor and Cor Beg, and Corbane
Total Spatial Footprint		1,111ha

Applicant

Bord na Móna Energy Ltd. a subsidiary of Bord na Móna plc. is an Irish, semi-state climate solutions company helping lead Ireland towards a climate neutral future. Bord na Móna 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 Bord na Móna as set out under Section 17(1) of the 1946 Act were:

“(a) to produce and market turf and turf products, and

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

- (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. Bord na Móna have ended peat harvesting and now focus on developing climate solutions in renewable energy, sustainable waste management, carbon storage, and biodiversity conservation. Ireland has committed to ambitious climate goals and Bord na Móna’s climate solutions are helping to achieve them. Bord na Móna’s vision is to help Ireland reach net zero greenhouse gas emissions by 2050.

To power a net zero future, Bord na Móna 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 Bord na Móna is working across wind, solar, biomass and biogas to help achieve this target and to provide energy security for future generations.

Bord na Móna 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.

Project Description

Substitute consent is being sought by the Applicant of their own volition to regularise, without prejudice, the planning status of the Application Site to facilitate appropriate future uses of these lands in compliance with the requirements of the planning system. Substitute consent is being sought for the relevant peat extraction and ancillary activities and related activities that were undertaken at the Application Site from 1988 onwards, including the following:

- (i) Industrial scale peat extraction (milled peat) at the Application Site from 1988 to June 2020;*
- (ii) 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;*
- (iii) Provision of a welfare facility building and associated septic tank, 2 no. storage containers;*
- (iv) Use and maintenance of pre-existing railway infrastructure to facilitate peat extraction activity from 1988 to present day;*
- (v) Control Measures associated with the above, inclusive of the IPC measures (Ref. P0500-01) which commenced from May 2000 onwards to the present day; and,*
- (vi) 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 rEIA, 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 ancillary activities at the Application Site. The scope of the impact assessment is peat extraction and 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.

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 control measures, 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 to the Development*
3. *Consideration of Reasonable Alternatives*
4. *Description of the Development*
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.

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 Bord na Móna 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.

National Policy

As outlined above, the Turf Development Board was founded in 1934 to enhance national energy security through peat harvesting. 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. Bord na Móna was established as a statutory authority responsible for the ‘*development of the nation’s peat resources*’ under the Turf Development Act 1946. Bord na Móna 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 Ballivor Bog Group.

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 Bord na Móna 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, Bord na Móna’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 Bord na Móna’s Third Development Programme.

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. It addresses various sectors, including housing, water, transport, energy, health, and education. The NPF serves as the top tier of the national planning policy framework, guiding regional and local development plans. Ireland's population is expected to grow by about 1 million by 2040, reaching approximately 5.7 million. This growth will increase demand on both built and natural environments and the services needed to support them. The NPF emphasizes the need to transition to a low carbon, climate-resilient economy by 2050, leveraging Ireland's renewable energy potential.

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.

The draft NPF, published in July 2024, emphasizes green and blue adaptation, including nature-based solutions. It supports a just transition from peat extraction to renewable energy, advocating a shift from fossil fuels to renewable sources.

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) 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 Bord na Móna'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.

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 Bord na Móna'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, 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, these plans provide a detailed regulatory framework for development activities in Offaly, 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 rEIA 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 rEIA; 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 and An Coimisiún Pleanála's planning portals. All granted planning applications within 5km of the Application Site boundary from 1988 to 2025 were identified. Relevant developments include quarrying, industrial projects, agriculture, forestry, and renewable energy (including the proposed Lemanaghan Wind Farm).

Scoping and Consultation

A scoping report, providing details of the Application Site and the Project, was prepared by MKO and circulated in August 2022. MKO requested the comments of the relevant personnel/bodies in their respective capacities as consultees with regards to the EIA process. Following the recent updates made to legislation on governing Substitute Consent, a request for comments on the scoping report was recirculated in June 2024 with follow up requests sent in September.

Members of the project team and the prospective Applicant met with representatives from An Coimisiún Pleanála on the 12th of September 2024 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, Bord na Móna Energy Ltd 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 Reasonable 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 1950 with the installation of drainage. The ‘Do-Nothing’ option 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 options 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 Bord na Móna, under powers vested by the Turf Development Act, 1946, as a strategic and important national asset to generate considerable fuel sources for the State. Alternative industries or uses were not possible at the Application Site in 1988 and alternative locations could only be other large scale peat sites which were acquired by the State and also underwent large-scale peat extraction. Thus, alternative locations or industries are not considered a reasonable alternative. Similarly, as peat extraction was already ongoing in 1988 and continued until June 2020, a ‘Do-Nothing’ option is not credible as the Project has already occurred. Building on the success of operations from 1950 to 1988, the further expansion of peat extraction and ancillary activities was undertaken from 1988 at the Application Site in the form of the continuation of peat extraction and ancillary activities on the land which had been drained for this purpose prior to 1988.

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

With the implementation of Bord na Móna’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 Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan 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 Plan which is a statutory obligation of Bord na Móna under Condition 10 of the IPC Licence. The compatibility of both rehabilitation works associated with Condition 10 of the IPC Licence, and the proposed Lemanaghan Wind Farm is cumulatively assessed in this rEIAR. The

proposed Lemanaghan 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

Description of the Development

This chapter of the rEIAR provides a description of the activities at the Application Site from 1950 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

By 1988, land use at the Application Site was well established as industrial peat extraction. The Application Site was drained, milled peat extraction was underway, and railway infrastructure was in place. The main access point to the Application Site was off the Regional Road R436 to the south of the Application Site, into the Works area. The Lemanaghan Works, which comprised a canteen, storage sheds, and maintenance buildings, was located to the south, adjacent to the Application Site, where it is still located in present day. The following ancillary infrastructure was established at the site by July 1988:

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

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 in 2024, and drainage/silt pond maintenance is currently ongoing.

The volumes of peat removed from the Application Site varied from year to year and were mainly weather dependent. Bord na Móna records indicate that the total volume of peat extracted from July 1988 to 2020 is estimated to be 3,351,248 tonnes.

Environmental Monitoring and Conditions under IPC Licence

Bord na Móna was granted an IPC Licence (P0500-01) for the Boora 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 Decommissioning and Cutaway Bog Rehabilitation

It is the intention of the of the Applicant to continue implementing and practising the mitigation and monitoring measures as listed in the IPC Licence after the site is decommissioned, where applicable.

Current Phase (June 2020 – Present Day)

Decommissioning and Rehabilitation Process

In January 2021, Bord na Móna formally announced that peat extraction across all bogs within its landholding had ceased, although peat extraction had ceased at the Application Site prior to this in June 2020. The Application Site still operates under the requirements of IPC Licence P0500-01, and any decommissioning works undertaken with respect to peat extraction and ancillary activities are in accordance with Condition 10 of the IPC Licence.

From mid-2020 to end of 2024 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, Bord na Móna, prepares (to the satisfaction of the EPA) and implements a Cutaway Bog Decommissioning and Rehabilitation Plan.

Bord na Móna have produced a Draft Cutaway Bog Decommissioning and Rehabilitation Plan for the Application Site, and it is the intention of Bord na Móna to rehabilitate the bogs in a phased approach under IPC Licence. Please see Appendix 4-2 for details.

Potential Future Land-Use

Lemanaghan DAC, a joint venture between SSE Renewables and Bord na Móna (BnM). a subsidiary of Bord na Móna plc. (i.e the Applicant) are proposing a wind energy development consisting of 15

turbines with an overall blade to tip height of 220m.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 (ABP-310844-21). A separate EIAR and accompanying NIS are being undertaken for the proposed Lemanaghan 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.

As discussed in Section 4.8 of Chapter 4 and Condition 10 of the IPC Licence (P0500-01), decommissioning and rehabilitation will be carried out as standard remedial measures associated with peat extraction and ancillary activities at the Application Site.

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 not undertaken annual dust monitoring at the Application Site, however the closest monitoring location to the Application Site is Pollagh, located approximately 4.3km southeast of the Application Site, and there have not been any non-compliance events in relation to dust deposition recorded. Furthermore, there have been three third-party complaints to excessive dust deposition in Pollagh. All complaints were dealt with by the Applicant. Long term monitoring of NO₂, PM₁₀ and PM_{2.5} at nearby monitoring stations or comparative locations indicate there were no exceedances to the daily or annual thresholds of NO₂, PM₁₀ and PM_{2.5} in the atmosphere. Since 2000, the Application Site has been operating under IPC Licence noise limits. There have been no incidents of noise exceedances or noise complaints pertaining to peat extraction and ancillary activities at the Application Site since records began.

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 1950s, employing thousands of workers permanently throughout the decades, both directly in the peat extraction industry and indirectly, through the horticultural industry.

² <https://www.lemanaghanwindfarm.ie/>

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 P0500-01 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 the end of 2024. A Draft Cutaway Bog Decommissioning and Rehabilitation Plan has been prepared and 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 Bord na Móna departments and locations. Additionally, in the planning of the cessation of peat extraction across the Bord na Móna 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 P0500-01. 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 Plan as per the IPC Licence. The Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan is 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 on detailed ecology surveys undertaken.

The habitats on the Application Site were the subject of a detailed survey and assessment by Bord na Móna ecologists throughout 2011 and 2012 and a detailed habitat map has been produced of the entire Application Site. Multidisciplinary walkover surveys and detailed botanical and faunal surveys were undertaken by MKO ecologists between 2021 and 2025. The survey timings fall within the recognised optimum period for vegetation surveys/habitat mapping, i.e. April to September (Smith et al., 2011).

Peat Extraction Phase (July 1988- June 2020)

By 1988, peat extraction and ancillary activities at the Application Site were well established and the Application Site consisted predominantly of a large area of cutover bog, comprising bare peat and smaller areas of revegetating scrub, woodland and pioneer habitats of open cutaway bog.

The Peat Extraction Phase between 1988 and June 2020 was unlikely to have had a significant negative effect on the habitats, flora and fauna that occurred at the site as these were by 1988 highly modified from their original state, due to either drainage, fragmentation, removal of the acrotelm or peat extraction and in the case of bird species due to loss of habitat.

Current Phase (June 2020 – Present)

The Current Phase of the Project encompasses the period of time between the cessation of peat extraction and ancillary activities at the Application Site in June 2020 to the present day. The activities during the Current Phase have not given rise to additional loss, degradation or fragmentation of habitats, or flora and fauna. The Application Site has been licenced under IPC Licence (No. P0500-01) and has been subject to the conditions of that Licence. The Licence conditions, relating to operation and monitoring, emissions to water and air, water protection, waste management and bog rehabilitation, are intended for the protection, and where possible, the improvement of the environment. With the implementation of the conditions of the IPC Licence, and the much-reduced activity within the Application Site during this time, no significant effects on biodiversity are expected to have occurred during the Current Phase of the Project.

Remedial Phase

The Remedial Phase of the Project, which includes proposed rehabilitation plans for the Application Site which have also been assessed in this chapter, will generally involve the rewetting and revegetation of the bogs through natural succession. These plans will have a significant positive effect on the habitats and biodiversity within the Application Site.

A separate remedial Natura Impact Statement (rNIS) has been prepared and concluded that the Project, has not and will not have any adverse effect on the integrity of any European Site, either alone or in combination with other plans or projects.

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 is a large Bord na Móna bog which forms part of the Boora Bog Group. The Application Site comprises an area of 1,111 hectares (ha). The Application Site is located in County Offaly, approximately 3km to the northeast of Ferbane, 7.8km southwest of Clara, and 8.7km south of Moate. The current topography of the Application Site is relatively flat with an elevation range of between approximately 46m and 60mOD (metres above Ordnance Datum).

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 1950. 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 2024. The decommissioning works relating to the railway network within the Application Site are estimated to be completed in 2025. 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 activities associated with the Current Phase are considered to have had no significant negative effects on land, soils and geological environment.

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

Remedial Phase

The proposed Draft Cutaway Bog and Decommissioning and Rehabilitation Plan for the Application Site has also been assessed. The plan will typically involve the rewetting and revegetation of the drained bog. The plan 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 Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan 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 1950 and 1988. The cumulative effect was the removal of 4,255,376 tonnes of peat from the Application Site (904,128 tonnes prior to July 1988 and 3,351,248 tonnes between July 1988 and June 2020). No cumulative effects will result from the implementation of Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan, nor from the proposed Lemanaghan 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 Application Site is located in a total of 3 no. surface water catchments. The vast majority of the Application Site is located in the Lower Shannon surface water catchment within Hydrometric Area 25A of the Shannon Irish River Basin District (Shannon IRBD). Meanwhile, a small area in the northwest of the Application Site is located within the Lower Shannon surface water catchment within Hydrometric Area 25B of the Shannon IRBD. Furthermore, a small section towards the north of the Application Site is located in the Upper Shannon surface water catchment within Hydrometric Area 26G of the Shannon IRBD (www.epa.ie). Therefore, all surface waters draining the Application Site will eventually discharge to the River Shannon.

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 Boor River to the northwest and the Brosna River to the south.

2 no. pumping locations are situated at the Application Site with all other outfalls are drained by gravity.

Peat Extraction Phase (July 1988- June 2020)

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. Bord na Móna commenced drainage works at the Application Site in 1950. By July 1988 peat extraction was 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 activities 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 or 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, Bord na Móna has been operating the Application Site under IPC Licence requirements. The IPC Licence (P0500-01) 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 Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan 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 the 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 Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan, nor the proposed Lemanaghan Wind Farm development at the Application Site.

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 (PM_{2.5}) for representative rural locations was reviewed. The air quality in the region of the Application Site is of generally good quality with concentrations of pollutants below the ambient air quality standards. Historic dust deposition monitoring results for the Boora Bog Group (in which the Application Site is located) indicate that in general dust nuisance was 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 6 no. complaints in 2011). 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 receptors. The Study Area was deemed of medium sensitivity in relation to dust soiling and of low sensitivity to dust related human health impacts. It was determined that there was an overall medium risk of dust soiling impacts and an overall low risk of dust-related human health 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 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. The historical traffic figures were reviewed, and it was determined that the traffic generated during the Peat Extraction Phase had an imperceptible impact on the local traffic flows in the context of the air quality assessment.

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

Current Phase (June 2020 – Present Day)

During the Current Phase (June 2020 to Present Day), activities included the removal and transportation off site of any remaining peat stockpiles which was completed in 2024. The material was transported from the Application Site via rail to a peat tippler located north of the Application Site in Bellair Bog, where it was then tipped into HGVs and transported by road to its end destination. 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 and human health 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 CO₂ 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 16,391 tonnes of CO₂ per annum released from the Application Site. Annually this equates to 0.006% of Ireland's 2021 – 2025 carbon budget of 295 MtCO₂e or 0.01% of Ireland's more stringent 2030 – 2035 carbon budget of 151 MtCO₂e. The removal of the carbon store of the Application Site and the subsequent release of CO₂ 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. Additionally, the indirect CO₂ emissions associated with the extracted peat resulted in annual emissions of 77,602 tCO₂. Annually this equates to 0.026% of Ireland's 2021 – 2025 carbon budget of 295 MtCO₂e or 0.051% of Ireland's more

stringent 2030 – 2035 carbon budget of 151 MtCO_{2e}. This is a major significant adverse impact to climate.

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 GHGs 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 1,275 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 0.0004% of Ireland's 2021 – 2025 carbon budget of 295 MtCO_{2e} or 0.0008% 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 Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan is re-wetting the bogs which will aid in restoring the carbon store function. The CO₂ 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 12,783 tCO_{2e}. This has the potential to increase to a reduction of 255,663 tCO_{2e} in years 95 – 100.

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, negative 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 the end of 2024. The types of noise generating machines during the Current Phase are listed in Table 11-8 of Chapter 11 Noise and Vibration. Following the cessation of peat extraction in June 2020, stockpiled peat from the Application Site was supplied to the Derrinlough Briquette Factory until its closure in June 2023, nearby ESB West Offaly Power Station, and to a 3rd party. A majority of the stockpiled peat was moved from the Application Site to end-users by rail until 2023, where the remaining stockpiles were delivered via HGV using the public road network. 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, as listed in Table 11-12 of Chapter 11 Noise and Vibration. 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.

A background noise survey was undertaken at the Application Site as part of the proposed Lemanaghan Wind Farm development to determine baseline noise levels in the receiving environment. The noise monitoring at sensitive receptors was undertaken during the Current Phase. The representative background noise levels taken at sensitive locations around the Application Site are used to ascertain typical background noise levels during the Peat Extraction Phase and Current Phase. If the proposed Lemanaghan Wind Farm is consented, it is extremely unlikely the drain blocking activities of the Remedial Phase will occur concurrently to the operation of the wind farm. However, in the unlikely event they occurred at the same time, the noise criteria for the Remedial Phase (day-time) activities are 55 dB LAeq which is below the IPC Licence limit value for Noise and below the proposed operational noise limit for the Lemanaghan Wind Farm. Therefore, based on the limits for the proposed wind farm which are identified in Section 11.6.5 and are in line with best practice guidance, it is considered that there is no significant potential for cumulative effects should the two events run concurrently.

The assessment of noise and vibration due to each of the three phases has been conducted in accordance with best practice guidance contained in BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Noise* and BS 5228-2:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Vibration*.

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 effects occurred in these areas during the Peat Extraction Phase.

Peat Extraction Activities (July 1988 – June 2020)

The greatest landscape and visual effects during the Peat Extraction Phase occurred at the north of the Application Site where the lands were cleared of vegetation, and industrial peat extraction occurred. ‘Significant’ landscape effects occurred here where a substantial change occurred within the landscape; these areas of drained peatlands of ‘Medium’ sensitivity transitioned to a landscape of bare cutover peat, which is of ‘low’ landscape sensitivity. Considering the visibility of these peat extraction and ancillary activities from residential receptors in the townland of Cooldorragh, to the north of the Application Site, significant visual effects occurred, these were highly localised and only occurred for a very small number of residential receptors.

Some areas of the Application Site have not been subject to peat extraction for considerable time and these areas show signs of revegetation. Peat extraction ceased at the Application Site in June 2020 which has further enabled the landscape of the entire Application Site to continue to re-vegetate. However, the landscape is still currently categorised as a degraded bare cutover peat site of low sensitivity.

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, and it is not a functioning wetland. Revegetation has caused both a ‘Slight’ degree of change to the landscape and ‘Slight’ degree 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 ‘Positive’, ‘Not Significant’ and ‘Short-term’.

Remedial Phase

The primary activity of the Remedial Phase is to rewet cutover peatland in order to re-establish a naturally functioning wetland and peatland ecosystem. With the full implementation of the Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan, there will be Not Significant, Positive, Long-term landscape and visual effects when compared to the 1988 baseline.

Cumulative landscape and visual effects will likely occur between the proposed Lemanaghan Wind Farm development and the proposed implementation of the Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan. As discussed previously, the Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan is a positive intervention from a landscape and visual perspective. Should the wind farm be developed on this Application Site, the overall infrastructure footprint of the proposed Lemanaghan Wind Farm development will be approximately 3% of the total area of the Application Site. Therefore it is not likely that it will significantly or materially alter the positive landscape and visual effects of the Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan.

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 488 recorded monuments are located within the Application Site boundary. The majority of these monuments were identified as a result of peatland surveys carried out within the Application Site by the Irish Archaeological Wetland Unit (IAWU) in 1993-4 as part of the Archaeological Survey of Ireland Peatland Survey. A direct, negative and permanent effect to many of the monuments as a result of the Peat Extraction Phase is identified. A large number of stray finds are recorded from within the Application Site. The finds were largely recorded during the 1993-4 peatland surveys or during subsequent excavations carried out within the Application Site. In this regard the finds were retrieved from the site in accordance with the relevant approved methodology for the survey or excavation activity being carried out and are ultimately deposited with the National Museum of Ireland in line with best practice. Peatlands were utilised throughout all periods of history and the anaerobic conditions therein preserve organic matter, such as wood and leather, which does not often survive in more typical terrestrial conditions. Objects, features and structures may be preserved in peatlands because of the acidity of peat and the anaerobic environment which exists within peatland deposits. The Peat Extraction Phase has the potential to have had a direct, significant, negative and permanent effect on unrecorded sub-surface sites. This is particularly the case between 1988 and 1993 prior to the Archaeological Survey of Ireland peatland surveys. Prior to 1993 it is possible that the Peat Extraction Phase had a direct, significant, negative and permanent effect on unrecorded sub-surface archaeological sites.

This negative effect was mitigated, however, by the Peatland Surveys 1993-4 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 archaeological finds and features from 1993 to 2020 were direct negative Slight to Moderate and permanent while residual effects between 1988 and 1993 may have been direct negative Moderate to Significant and permanent.

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 (Tumbeagh)

The small settlement indicated on the historic OS maps in Tumbeagh townland is located in an elevated area which was excluded from peat extraction. No effects have occurred to the structure as a result of past peat extraction and ancillary activities and it is considered that the structure and associated stone walls have become ruinous over time.

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 a Draft Bord na Móna Cutaway Bog Decommissioning and Rehabilitation Plan 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. This may result in a direct, permanent, negative and significant effect. Bord na Móna'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 Bord na Móna. Since rehabilitation activities associated with Bord na Móna 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 (presented in Appendix 13-5 of the rEiAR) 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. Based on the average annual volume of peat extracted or stockpiled per year at the Application Site and the average volume of peat transported per locomotive and truck, an estimation of the annual number of rail and HGV movements was determined 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. The average annual traffic movements to and from the Application Site were assessed against the average national traffic volumes counted at four identified Transport Infrastructure Ireland (TII) count locations surrounding the Application Site. As the earliest available data from the TII count locations is for 2021, for the Peat Extraction Phase, the average annual traffic volumes were factored to provide a more representative value for the baseline year of 1988. It is demonstrated that the additional volume of traffic generated by the Project for the Peat Extraction Phase would have a long-term imperceptible negative residual effect on road users and road conditions, i.e., for the Peat Extraction Phase this

equated to <0.1% - 1.9% of daily traffic volumes attributed to the Project. For the Current Phase and Remedial Phase this equated to <0.1% -0.36% of daily traffic volumes attributed to the Project, which constituted a negative, long term, imperceptible effect, and negative, short term, imperceptible effect respectively.

By 1988, 1 no. rail underpass in place at the Application Site beneath the R436 to facilitate access between the Application Site and the Derries Bog, also within the Boora Bog group (IPC Licence P0500-01). Over the period 1991 to 2003, 2 no. underpasses and 2 no. level crossings were consented and constructed within and adjacent to the Application Site boundary. At the level crossing locations, road users were required to stop to allow rail cars pass through, and the underpasses allowed road users and the rail movements to take place independently without interaction.

Standard level crossing lamps with light sensors that switched to light on when daylight faded were fitted across all Bord na Móna crossing gates. 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. Locomotives would have crossed the 2 no. level crossings adjacent to or within the Application Site boundary an average of 9 times per day during the Peat Extraction Phase to reach end users, and an average of 3 times per day over a 3 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 long-term, negative and slight during the Peat Extraction Phase and short-term, negative and not significant during the Current Phase

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 is no public water supply or gas infrastructure within the Application Site. The 220kV overhead line traverses the north of the Application Site as well as several telecommunication links. 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 with the Irish Aviation Authority indicates that no aviation assets are impacted by activities past, present or future at the Application Site. There has been, on average, a 17% increase in waste produced by the Boora Bog Group (IPC Licence No. P0500-01) between the Peat Extraction Phase to the Current Phase. Therefore, whilst there has been an increase in waste material produced at the Application Site since peat extraction ceased, this was due to the removal of previous ancillary infrastructure as well as waste stored on the Application Site being removed.

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 Boora 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 during the Peat Extraction Phase 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 long term, not significant and negative is considered for waste management at the Application Site.

The water supply at the Lemanaghan Works, adjacent to the Application Site, and a smaller additional welfare facility onsite is from the local mains water supply. While under operating under IPC P0500-01, 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 during all phases.

1.15

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 to facilitate a precautionary scenario. The potential for Major Accidents or Disasters has reduced since peat extraction ceased in June 2020 and reduced further when the last volumes of peat were transported offsite in 2024. 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. Finally, 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 the rEIAR identify the potential significant environmental effects that may occur in terms of Population and Human Health, Biodiversity (including Ornithology), Land, Soils and Geology, Hydrology and Hydrogeology, Air Quality, Climate, Noise and Vibration, Landscape and Visual, Archaeology and Cultural Heritage, Material Assets, and 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 main rEIAR.

However, for any development with the potential for significant environmental effects there is also the potential for interaction between these potential significant 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 Section 16.1 of Chapter 16 of the rEIAR to identify interactions between the various aspects of the environment already discussed in the rEIAR. The matrix highlights the occurrence of potential positive or negative residual effects taking control and mitigation measures into account, during the Peat Extraction, Current and Remedial Phases of the Project at the Application Site.