Proposed Derrygreenagh Power Project
Environmental Impact Assessment Report

Chapter 1: Introduction

Prepared for:
Bord na Móna Powergen PLC
Main Street
Newbridge
Co. Kildare
W12 XR59

Prepared by:
AECOM
4th Floor, Adelphi Plaza
Georges Street Upper
Dun Laoghaire
Co. Dublin
A96 T927

T: +353 (0) 1 238 3100
aecom.com

1.0 INTRODUCTION

1.1 Background

1.1.1 This Environmental Impact Assessment Report (EIAR) has been prepared by AECOM Ireland Limited on behalf of Bord na Móna Powergen Limited ('the Applicant') in relation to a planning application for a Combined Cycle Gas Turbine (CCGT) unit and an Open Cycle Gas Turbine (OCGT) unit, Electricity Grid Connection including substations and associated buildings and transmission infrastructure ('the Proposed Development'). The Proposed Development is located entirely within Co. Offaly, primarily on Bord na Móna land (i.e., Drumman, Derryarkin and Ballybeg Bogs which are located in the Derrygreenagh Bog Group), with the exception of an area of agricultural land required for a loop-in connection to the Oldstreet-Woodland 400kV line. A connection to the high-pressure gas network will be required as part of the Overall Project. A Gas Connection Corridor has been considered as part of the 'Overall Project' (as defined below and in Chapter 5 of this EIAR has been identified by Gas Networks Ireland as the preferred route at the time of writing).

1.1.2 The Gas Connection Corridor, which runs from the Dublin-Galway high pressure gas network (BGE/77) to the Power Plant Area, is not included as part of this planning application but is integral to the Overall Project and so is considered throughout the EIAR in so far as reasonably practicable. The Gas Connection Corridor may be subject to change during the detailed design and consenting process to be carried out by Gas Networks Ireland (GNI), but the preferred route, at the time of writing, has been considered (please refer to Chapter 3: Need and Alternatives for more detail on site selection process and identification of this preferred route by GNI). The Gas Connection Corridor is located in the counties of Westmeath and Offaly.

1.1.3 Details and a statement (a 'statement of competence') of the relevant expertise and qualifications of the author to the EIAR is required by EIA Regulations. In accordance with EIA Regulations and EPA Guidelines, AECOM confirms that experts involved in the preparation of this EIAR are fully qualified and competent in their respective fields and details of each relevant expert are presented in **Appendix 1B** (refer to EIAR Volume II).

1.1.4 The Proposed Development is located in the townlands of Knockdrin, Derrygreenagh, Derryarkin, Derryiron, Ballybeg, Coolcor, Barrysbrook, Clonin, Togher and Coole. The location of the Proposed Development and Overall Project is shown on Figure 1.1.

1.1.5 A full description of the existing baseline environment of the Proposed Development and Overall Project is included in Chapter 4 of this EIAR. The total area within the planning boundary of the Proposed Development is c. 312 hectares. The 'Power Plant Area' containing CCGT and OCGT units and supporting infrastructure is located within Drumman bog on the existing Derrygreenagh Works site east of the R400 road (c. 49 hectares). The Electricity Grid Connection is approximately 263 hectares in total and will be located largely to the south of the Power Plant Area, predominantly within the bogs of Derryarkin and Ballybeg (refer to Drawing S7060-8310-0002 for further detail on the location of the Electricity Grid Connection).

1.1.6 For the purposes of the EIAR and the assessment, the following terms are used to describe the Proposed Development and its wider project context (including the Overall Project):

- **'Proposed Development'** – relates to the components for which planning permission is being sought (i.e., the 'red line boundary') – this includes the Power Plant Area and Electricity Grid Connection as defined below;

- **'Power Plant Area' –** relates to the main thermal power plant area east of the R400 road, which includes Combined Cycle Gas Turbine (CCGT) and Open Cycle Gas Turbine (OCGT) plant; a gas Above Ground Installation (AGI) ('Derrygreenagh AGI'); water abstraction and water treatment infrastructure; respective surface and process water discharge connection routes; and a permanent peat and spoil deposition area for overburden material excavated from the Power Plant Area. The process water discharge pipe will extend west of the R400 road before ultimate discharge south into the Yellow River;
- **Industrial Emissions Licence Area'** - relates to a sub boundary within the Power Plant Area required for the operational phase under Class activity 2.1 of the First Schedule of the EPA Act as amended and excludes components such as the Derrygreenagh AGI and requirements limited to the construction phase, namely upgrades to the public road network and peat deposition area. While the Industrial Emissions Licence Area will likely comprise a smaller area within the footprint of the Power Plant Area once operational, for the purposes of this EIAR, the entirety of the wider Power Plant Area has been considered in respect of the overall assessments of the construction, operational and decommissioning phases, for completeness.
- **'Electricity Grid Connection' -** this is part of the Proposed Development and will consist of the 220 kV substation west of the R400 road, pylon towers, overhead lines, Line-Cable Interface Compound, underground cabling, associated cabling and connections to a new loop-in 400kV substation site and compound;
- **'Gas Connection Corridor'** - this is part of the Overall Project, as defined below, and will enable the Proposed Development to connect to the existing high pressure Gas Pipeline to the West (BGE/77), c. 10km north of the Power Plant Area via AGI at tie-in location and underground routing of pipeline. The underground gas connection is not being applied for in the planning application for the Proposed Development (as it will be applied for by Gas Networks Ireland (GNI) under separate consenting processes). However, the Gas Connection Corridor, identified by GNI during the preliminary design stage, is assessed in this EIAR as part of the Overall Project for completeness, as it will be integral to the operation of the Proposed Development. The route of the Gas Connection Corridor is the preferred route, as indicated by GNI, at the time of writing but may be subject to change as part of the detailed design process to be carried out;
- **'the Overall Project' –** relates to the Proposed Development (*i.e.* the components for which planning permission is being sought), and to ensure a robust environmental assessment, includes the Gas Connection Corridor as described above;
- **'Secondary Fuel' –** While the Power Plant Area, once operational, will run primarily on natural gas supplied by GNI through the Gas Connection Corridor, the plant will also have dual fuel capability for firing off secondary fuel stored onsite. This 'Secondary Fuel' will comprise of either Distillate and/or HVO.

1.2 Objective of the EIAR

1.2.1 This EIAR is provided in accordance with the EU EIA Directive 2011/92/EU, as amended by EIA Directive 2014/52/EU (assessment of the effects of certain public and private projects on the environment) and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018, in order to inform the consideration of the Application and provide the Consenting Authority with the environmental information that must be taken into account when determining the Application. The Proposed Development meets the threshold for Strategic Infrastructure Development set out in the 7th Schedule in accordance with Section 37E of the Planning and Development Act as amended. The EIAR is being provided to An Bord Pleanála (ABP) as part of a planning application as the development has been formally determined by ABP to be Strategic Infrastructure Development (SID) (refer to **Appendix 6A**, EIAR Volume II for confirmation of the ABP determination). The Proposed Development lies entirely within the administrative boundary of Offaly County Council and notice of the application has been served to Offaly County Council.

1.2.2 This Environmental Impact Assessment Report (EIAR) presents:

- Description of the Proposed Development;
- Description of the Overall Project;
- Details of the Site, location and layouts considered;
- The likely significant environmental effects of the construction, operation (including maintenance) and decommissioning phases;
- Likely cumulative effects;
- Likely residual effects; and
- Measures to avoid or reduce such effects.

1.2.3 This chapter is supported by **Figure 1.1** which illustrates the location of the Proposed Development (refer to end of chapter).

1.2.4 The purpose of the report is to inform the Competent Authority (An Bord Pleanála), the Licensing Authority (Environmental Protection Agency), statutory consultees, other interested parties including the general public about the likely effects of the project on the environment. The overall objective of this EIAR is to provide the necessary information to the Competent Authorities to conduct their environmental impact assessment of the project.

1.3 Overview of the Proposed Development and Overall Project

1.3.1 The Proposed Development will develop flexible, fully dispatchable gas-fired technology for the production of electrical power for export to the National high voltage transmission grid. This development will support the intermittent nature of renewable energy generation and the security of the electrical grid network by providing for the replacement of older conventional power systems with lower carbon gas-fired technology. The Proposed Development will have capability to operate off renewable gas blends, including biomethane and hydrogen, from supply chains that are expected to be developed in the future, in accordance with the Hydrogen Strategy for Ireland.

1.3.2 The power plant has been designed in accordance with Best Available Techniques (BAT) for Large Combustion Plant (LCP) (Commission Implementing Decision (EU) 2021/2326. The Power Plant Area includes both CCGT and OCGT technology, which will operate primarily off natural gas with dual fuel capability for firing off back-up Secondary Fuel stored onsite.

1.3.3 The OCGT process operates on the Brayton thermodynamic cycle in order to produce electricity. Air for the gas turbine is drawn in from the atmosphere across an intake filter where it enters the compressor. The air is then compressed through a multistage axial flow compressor to the final pressure required for combustion. Upon exiting the compressor, the compressed air enters the combustion chamber where it is mixed with fuel, either natural gas or secondary fuel, and ignited. The energy contained in the fuel-air mixture is released through the process of combustion with the resulting hot combustion gases expanding through a turbine. This provides the mechanical power to drive the turbine compressor section and the attached electrical generator, where it is converted to electrical energy. The exhaust gases exiting the gas turbine are discharged to atmosphere via an exhaust stack.

1.3.4 The CCGT process consists of two thermodynamic cycles, the Brayton thermodynamic cycle and Rankine cycles working together to produce electricity through a combined cycle. The process will operate off a 'single shaft' arrangement consisting of gas turbine, steam turbine and generator arranged on a single shaft or power train. It is possible to generate approximately 50% more power output through capturing heat from hot exhaust gases (otherwise discharged to atmosphere in the OCGT) to create steam from water in the Heat Recovery Steam Generator (HRSG) to power a steam turbine generator to produce electricity.

1.3.5 The plant units will comply with requirements of CO_2 emission limits as detailed in the Electricity Regulation (EU) 2019/943, Article 22 paragraph 4 and the requirements of BAT for LCP (2021/2326/EU) in both OCGT and CCGT plants.

1.3.6 Electrical outputs from generating assets (i.e. OCGT and CCGT plant) will be fed to transformers where the voltage will be stepped up to 220 kV. The power will be transferred via underground cables linking the Power Plant Area (east of R400 road) to the Electricity Grid Connection 220 kV substation (west of the R400 road) via an existing road underpass along the former light railway line.

1.3.7 The Electricity Grid Connection has been designed in accordance with EirGrid Transmission policies and requirements. The connection method is a new 220 kV substation with associated transmission system in the form of a 220 kV double circuit hybrid transmission infrastructure, comprising of c. 5km of overhead line (OHL) and c. 3.3km of underground cable (UGC), which will connect to a new 400 kV substation which will connect into the national grid (400 kV Oldstreet-Woodland overhead transmission line) via a loop-in connection. The proposed 400kV substation will consist of a 4-bay C-type design and is located adjacent to the existing 400 kV Oldstreet-Woodland overhead transmission line. The transfer from OHL to UGC will be facilitated by a line-cable

interface compound. The proposed connection method has been selected and designed in response to the requirements as set out by EirGrid for the connection point into the national grid network (i.e. Oldstreet-Woodland 400 kV).

1.3.8 A planning application is being submitted for the Proposed Development, which will comprise of the following main components:

- Combined Cycle Gas Turbine (CCGT) Unit, including CCGT Turbine Hall and buildings, Heat Recovery Steam Generator (HRSG);
- Open Cycle Gas Turbine (OCGT) Unit and emissions stack;
- Secondary Fuel Storage and Unloading Facility;
- Gas Connection Corridor Above Ground Installation (AGI) Compound;
- Associated buildings and infrastructure and subsidiary items of plant / equipment;
- Electricity Grid Connection, including 220 kV Substation, 220 kV Overhead Line, 220 kV Line-Cable Interface Compound, 220 kV Underground Connection and 400 kV 'Loop-in' Substation at entry point to the 400 kV transmission network.

1.3.9 The Gas Connection Corridor will contain the underground gas connection pipe to be constructed between the Gas Pipeline to the West (BGE/77) and the Derrygreenagh AGI in the Power Plant Area and includes a requirement for an AGI on the high-pressure pipeline c. 9.7km to the north of the Power Plant Area. The Gas Connection Corridor is part of the Overall Project. The Gas Connection Corridor is not being applied for as part of the planning application for the Proposed Development as the connection will be subject to a separate future consenting process to be carried out by Gas Networks Ireland. However, the preferred Gas Connection Corridor at the time of writing, as indicated by GNI, is assessed throughout this EIAR as part of the Overall Project, due to the integral nature of this connection to facilitate the operation of the Proposed Development. The preferred Gas Connection Corridor is 1km wide and traverses through public road network (c. 1.4km to be routed within the R400 road) and agricultural land (c. 9.7km total in length) to the west of Rochfortbridge. The Gas Connection Corridor will require crossing of 2 no. local roads, 1 no. regional road, the M6 motorway, and will cross 2 no. streams. The route of the Gas Connection Corridor considered within this assessment has been determined by GNI following the identification of technical and environmental constraints.

1.3.10 The Gas Connection Corridor, assessed for the purposes of this EIAR, is approximately 970 hectares in total in the townlands of Derrygreenagh, Farthingstown, Castlelost, Castlelost West, Kilbrennan and Calverstown.

1.3.11 The Gas Connection Corridor route assessed in this EIAR is mostly through agricultural land, c. 9.7km total in length with c. 1.4km proposed to be routed within the R400 road. The Gas Connection Corridor will include a suitable tie-in location to the Gas Pipeline to the West (BGE/77) at a new AGI. There will be a requirement for a trenchless crossing under the M6 motorway and open cut construction method through the R400 road to deliver the pipeline to the AGI on the Power Plant Area.

1.3.12 The 'Gas Connection Corridor', subject to detailed design by GNI, will likely include:

- An underground high-pressure (HP) natural gas pipeline up to 400mm in diameter and with a maximum design pressure of up to 85 bar to transport natural gas from the BGE/77Transmission Pipeline to the Power Plant Area AGI;

- Connection pipeline will be at a tie-in location or node and will require new AGI at this location which will require consent to be applied for by GNI under the Planning and Development Act (as amended);
- A cathodic protection (CP) system; and
- Aerial gas pipeline identification marker posts and CP test posts.

1.3.13 The objective of the Proposed Development and Overall Project is to facilitate targets for a net zero future through provision of gas-fired power stations in support of a high variable renewable electricity system as part of the transition in meeting these targets. The Proposed Development and Overall Project will provide support to the electricity network during periods when there is a gap between renewable power generation and power demand. The Proposed Development and Overall Project will help ensure national security and stability of electricity supply (including through expected growth in energy demand from increased activity by energy intensive industries and the electrification of heat and transport) and facilitate replacement of older less efficient conventional technology with lower carbon technology. The Proposed Development and Overall Project will facilitate a sustainable transition, by allowing for combustion of renewable fuels such as hydrogen, in line with commitments for blending renewable fuels into the gas network through selection of technology compliant with best available techniques for large combustion plant. Details of the alternatives considered, and how the Proposed Development and Overall Project layout was selected, are presented in Chapter 3 of this EIAR.

1.3.14 A description of the existing site of the Proposed Development and Overall Project and the site history is set out in Chapter 4: Existing Site and Conditions. A detailed description of the Proposed Development and Overall Project is described in detail in Chapter 5: The Proposed Development and Overall Project of this EIAR.

1.4 The Applicant

1.4.1 The Applicant for the Proposed Development is Bord na Móna Powergen Ltd., a subsidiary of Bord na Móna PLC.

1.4.2 Bord na Móna PLC is a publicly owned company, originally established in 1946 to develop and manage some of Ireland's extensive peat resources on an industrial scale, in accordance with government policy at the time. Bord na Móna lands extend to approximately 80,000 hectares in total and are located mainly in the Irish midlands. Bord na Móna currently manages and operates a portfolio of thermal and renewable assets, namely Edenderry Power Plant (a biomass fired electricity generating unit), Cushaling peaking plant, Cloncreen, Sliabh Bawn, Bellacorick, Mountlucas, Bruckana and Oweninny wind farms, Derrinlough windfarm (under construction), Timahoe North solar farm (under construction) and the Drehid landfill gas facility.

1.4.3 In 2015, Bord na Móna published its 'Sustainability Statement 2030', which sets out the company's commitment to transition to peat-free electricity generation by 2030. Renewable energy generation, including solar power, biomass and wind power, is a key component of this transition. In October 2018, Bord na Móna announced its strategy to decarbonise its portfolio, accelerating moves away from its traditional peat business into renewables, resource recovery and new sustainable businesses. Bord na Móna's target is for a 80% reduction in carbon emissions by 2030 based on 2015 levels and to accelerate the development of renewable energy by providing up to 2GW of renewable energy generating assets by 2030 in support of national climate and energy policy targets.

1.4.4 Bord na Móna has a long track record of developing energy projects, dating back to the development of the first generation of peat-fired power stations. In recent times, the business has gone through radical change, announcing the new "Brown to Green" strategy, committing to the cessation of peat harvesting, and focusing on developing climate solutions in renewable energy, sustainable waste management, carbon storage and biodiversity conservation. A key objective of this strategy involves using the land to continue to underpin Ireland's energy independence by developing green, sustainable energy sources to assist with Ireland's commitment to achieve 80% renewable electricity by 2030.

1.4.5 It is recognised that to achieve these targets there is a requirement for gas-fired power plants in support of a high variable renewable electricity system as part of the transition to 80% reduction in carbon emissions by 2030 and ultimately a carbon net zero emissions by 2050. It is appropriate for Bord na Móna in its role in development of renewable energy projects up to 2GW, that it would support variability in supply through development of efficient flexible gas-fired electricity supply. Gas-fired power generation will help ensure security and stability of supply to underpin demanding renewable targets and give investment certainty. Development of modern thermal gas plant technology will also facilitate replacement of older less efficient conventional technology planned for removal from the system in the short to medium term with lower carbon technology. Modern gas-fired power plant technology will facilitate a sustainable transition, by allowing combustion of renewable fuels such as hydrogen, in line with commitments for blending renewable fuels into the gas network with associated displacement of significant volumes of natural gas.

1.5 Legal Basis for the Environmental Impact Assessment Report

1.5.1 The EIAR complies with the requirements of the EIA Directive 2011/92/EU, as amended by EIA Directive 2014/52/EU and Part X of the Planning and Development Act 2000 and Part 10 of the Planning and Development Regulations 2001, as amended by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

1.5.2 In Irish legislation, Section 172 of the Planning and Development Act (as amended) establishes the requirement for EIA, stating:

> '*An environmental impact assessment shall be carried out by the planning authority or the Board, as the case may be, in respect of an application for consent for proposed development where either—*
>
> *(a) the proposed development would be of a class specified in—*
>
> *(i) Part 1 of Schedule 5 of the Planning and Development Regulations 2001,*
>
> *and either—*
>
> *(I) such development would exceed any relevant quantity, area or other limit specified in that Part, or*
>
> *(II) no quantity, area or other limit is specified in that Part in respect of the development concerned,*
>
> *Or*
>
> *(ii) Part 2 of Schedule 5 of the Planning and Development Regulations 2001*
>
> *and either—*
>
> *(I) such development would exceed any relevant quantity, area or other limit specified in that Part, or*
>
> *(II) no quantity, area or other limit is specified in that Part in respect of the development concerned,*
>
> *Or*
>
> *(b) (i) the proposed development would be of a class specified in Part 2 of Schedule 5 of the Planning and Development Regulations 2001 but does not exceed the relevant quantity, area or other limit specified in that Part.*
>
> *And*
>
> *(ii) the planning authority or the Board, as the case may be, determines that the proposed development would be likely to have significant effects on the environment.'*

1.5.3 The classes of development where an EIA is mandatory are set down in Regulations made pursuant to Section 176 of the Planning and Development Act 2000 (as amended). In addition, Schedule 5 sets out thresholds for projects, and if that threshold is exceeded an EIA must be carried out. These are mandatory requirements. Finally, where a project is of a type listed in the regulations but does not meet or exceed the applicable threshold then the likelihood of the project having significant effects on the environment – as considered against a range of prescribed criteria, must be assessed.

1.5.4 The Proposed Development, which includes a 570 MW CCGT and a 140 MW OCGT plant, 5km of overhead line (OHL) and c. 3.3km of underground cable (UGC), a 220 kV substation and a 400 kV substation falls within the descriptions of development in the Planning and Development Regulations, 2001, Schedule 5, Development for the purposes of Part 10, as per below:

Part 1, item 2. (a) A thermal power station or other combustion installation with a heat output of 300 megawatts or more.

Part 2, item 10 (dd) All private roads which would exceed 2000 metres in length.

1.5.5 An EIA for the Proposed Development is therefore mandatory.

1.5.6 The Strategic Infrastructure Development (SID) provisions of the Planning and Development Act 2000, as amended, have been considered in making this application, with a formal Pre-Application Consultation carried out between the Applicant and An Bord Pleanála (ABP) prior to the finalisation and submission of this application (Reference ABP-315916-23). A Pre-Application SID consultation was held with ABP on the 12 May April 2023 and the scope and format of the EIAR was presented. The relevant threshold established in the 7th Schedule for the current project is *'A thermal power station or other combustion installation with a total energy output of 300 megawatts or more'*. The Proposed Development will have a power output in excess of 700MW and therefore exceeds the generating capacity threshold specified in the 7th Schedule (infrastructure developments for the purposes of Section 37A and 37B of the Planning and Development Act as amended).

1.5.7 The Proposed Development was formally determined to be Strategic Infrastructure Development (SID) by An Bord Pleanála (ABP) on 5th of July 2023 (refer to **Appendix 6A**, EIAR Volume II for confirmation of the ABP determination). The planning application for the Proposed Development is therefore being submitted directly to ABP as the competent authority under Section 37E of the Act.

1.5.8 It is of strategic economic importance to the State and the region in which it is to be situated as regards of the ongoing and severe risk to the security of electricity supply for the State identified by the Commission for the Regulation of Utilities (CRU), which emphasises that development of this type is "a national priority" and that the determination of applications for such infrastructure "should be prioritised as much as possible". The Proposed Development will facilitate security of supply and supporting the integration of increased renewable generation into the electricity network and contribute significantly to the fulfilment of national and regional objectives to deliver a secure and reliable electricity network. The Proposed Development will have a significant effect on the area of more than one planning authority given the proximity of the Power Plant Area to the Westmeath County Council (WCC) administrative area and the requirement for connection to the high-pressure gas transmission line to the north of the site, which traverses the WCC area.

1.6 Environmental Impact Assessment (EIA)

1.6.1 EIA provides a system of sharing information about the environment which enables effects to be foreseen and prevented during the design and consent stages, and for residual effects to be taken into account by the relevant consenting authority. This protects the environment and informs and improves decision-making. The EIAR presents an objective and concise record of the process and the determination of significant environmental effects.

1.6.2 Scoping is integral to the EIA process, designed to focus the subsequent Environmental Impact Assessment Report (EIAR) in order to ensure that key issues are addressed and that, where appropriate, it is agreed that other issues are not considered further (*i.e.,* considered 'scoped out'). The main purpose of the scoping report is to identify potentially significant issues for detailed examination and those that can be scoped out of future assessments.

1.6.3 The EIAR requirements for consultation are defined in the EIA Directive (85/337/EEC) as amended in 2011 Directive 2011/92/EU and 2014 Directive 2014/52/EU under Article 6. Statutory Authorities referred to in Article 6 (1) will be consulted on the specific characteristics of the project, including its location, technical capacity, and its likely impacts on the environment.

1.6.4 Also, in accordance with the requirements of the Aarhus Convention, the public, statutory authorities, and relevant stakeholders were given the opportunity to participate in the decision-making process, this integration will allow for the sustainable implementation of environmental management.

1.6.5 In the development of this EIAR, the following approach to assessment has been applied:

- Scoping – compiling relevant background data and identifying issues and constraints;
- Baseline Surveys – site walkover visits, detailed specialist surveys and discussions with relevant statutory and other consultees, to determine the nature and status of the existing environment;
- Impact Assessment – predicting the likely environmental effects of the scheme during construction, operation (including maintenance) and decommissioning, and evaluating the significance of the effect;
- Determine Mitigation Measures to form part of the final design of the scheme;
- Assessment of Residual Environmental Effects and their Significance; and
- Assessment of Cumulative Environmental Effects and Inter-relationships.

1.6.6 Detailed assessment has involved impact analysis according to accepted methodologies, consultations and site visits, leading to the evaluation of the significance and magnitude of any direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects on the environment from the Proposed Development and Overall Project.

1.6.7 During and following this evaluation, mitigation measures have been developed to avoid, reduce or remediate the impacts.

1.6.8 This EIAR describes the investigations, findings and conclusions of the assessment, and any proposed monitoring of the environmental impacts that will be undertaken during and after the construction of the Proposed Development and Overall Project.

1.6.9 An explanation of the approach to undertaking the assessment and producing the EIAR is set out in this section (Section 1.7). In summary, this EIAR has compiled, evaluated

and presented the significant environmental effects of the Proposed Development and Overall Project. The assessment is designed to help produce, as far as possible, an environmentally sympathetic project by detecting likely significant adverse effects, thus leading to the identification of, and incorporation of, appropriate mitigation measures into the development design. The main steps in the assessment procedure can be summarised as follows:

- Examine the environmental character of the area likely to be affected by the development through baseline studies;
- Predict the possible effects on the environment, both beneficial and adverse, of the Proposed Development and Overall Project;
- Introduction of design and operational modifications or other measures to avoid, reduce or offset adverse effects, and where possible, achieve beneficial effects; and
- Detail the findings of the assessment in the EIAR.

Scoping

1.6.10 The purpose of the Scoping process is to determine which topics should be included in the EIAR, and the level of detail to which they should be assessed. There is no mandatory legal requirement to undertake formal scoping in the EIAR Regulations. However, the purpose of the EIAR is to protect the environment by ensuring that a Consenting Authority, when deciding whether to grant planning permission for a project, which has the likelihood to have significant effects on the environment, does so in the full knowledge of the likely significant effects and takes this into account in the decision-making process. Therefore, the identification of these likely significant effects through scoping is considered to be an important element in ensuring that all key environmental issues are identified and assessed. The process also provides the opportunity to avoid unnecessary work through 'scoping out' environmental issues that are not material to the Proposed Development and Overall Project.

1.6.11 For the Proposed Development (and Overall Project), AECOM have undertaken a Scoping Review (refer to **Appendix 1A**, EIAR Volume II). The Scoping Review has been prepared by the EIA technical teams to enable the scope of the assessment to be defined. A formal request for scoping under S37D of the PDA 2000 was not made.

Pre-Application Consultation with Statutory Stakeholders

1.6.12 As part of the pre-application consultation, meetings with several statutory stakeholders took place including:

- An Bord Pleanála (ABP);
- Environmental Protection Agency (EPA);
- Offaly County Council; and

1.6.13 The Strategic Infrastructure Development (SID) provisions of the Planning and Development Act 2000 (as amended), have been considered in making this application, with a formal pre-application consultation carried out between the Applicant and ABP prior to the finalisation and submission of this application (Reference ABP-315916-23). A request was submitted to ABP on 24 February 2023 to enter into pre-application consultation. A meeting was held with representatives from Bord na Móna Powergen Limited, their consultants and An Bord Pleanála on the 12 May 2023 (minutes issued 19 May 2023). A request for closure was made 9 June 2023 and the process was formally concluded on 5 July 2023 that the Proposed Development falls within the scope of

paragraphs 37(A)(2)(a)(b)(c) as Strategic Infrastructure Development within the meaning of Section 37A of the Planning and Development Act as amended.

1.6.14 Pre-application engagement and consultation was undertaken with the Environmental Protection Agency (EPA) in accordance with Section 6.1 of EPA Guidance (Licence Application Form Guidance, Industrial Emissions (IE), Integrated Pollution Control (IPC) and Waste Version 2.1 - June 2021) to discuss requirements in relation to EIA and the approach to the project with regard to licencing. Meetings were held on the 07 July 2022 and 27 March 2023 attended by Bord na Móna Powergen Limited and their consultant team.

1.6.15 Pre-application consultation meeting was held with Offaly County Council (19 June 2023) to discuss the principle of the Proposed Development and Overall Project, the preliminary design proposal, the environmental assessment of the proposal and the Applicant's opinion regarding SID (*i.e.* that the proposal does constitute SID, but this would be subject to a determination by ABP) with the Council's Planning and Environmental team. The meeting was attended by Bord na Móna Powergen Limited and their consultant team. Pre application meeting was requested to Westmeath County Council but no response from council was received.

1.6.16 Details of pre-application meetings and engagement is presented in Chapter 6: Consultations of this EIAR.

Consultations

1.6.17 In addition to the pre-application consultations referenced above, consultations have been undertaken prior to the submission of this EIAR in the form of:

- On-line consultation;
- Community Consultation Events; and
- Statutory and Non-Statutory Consultation (by letter and email).

1.6.18 Full details of the consultation process is presented in Chapter 6: Consultations, of this EIAR.

1.7 The Assessment Approach and Methodology

1.7.1 The 2022 EPA Guidelines 'Guidelines on the information to be contained in Environmental Impact Assessment Reports', describe the EIAR as follows:

> *"The EIAR consists of a systematic analysis and assessment of the potential effects of a proposed project on the receiving environment. The EIAR should be prepared at a stage in the design process where changes can still be made to avoid adverse effects. This often results in the modification of the project to avoid or reduce effects through redesign*."

1.7.2 This EIAR has been prepared in accordance with the requirements of information to by contained in an EIAR set out by Article 3(1) and (2), Article 5(1), and Annex IV of Directive 2014/52/EU, as well as EPA Guidelines (2022); Table 1.1 signposts where the relevant information is presented within this EIAR.

Table 1. 1: EIA Directive 2014/52/EU and EPA Guidelines (2022): Information for Inclusion in EIAR

REFERENCE	EIAR CHAPTER WHERE REQUIRED INFORMATION IS PRESENTED
Directive 2014/52/EU Article 3	
(1) The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:	Chapters 7 - 18
(1)(a) Population and human health	Chapter 15: Population and Human Health
(1)(b) Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC	Chapter 9: Biodiversity
(1)(c) Land, soil, water, air and climate	Chapters: • 7: Air Quality • 12: Water Environment • 13: Soils and Geology • 18: Climate
(1)(d) Material assets, cultural heritage and the landscape	Chapters: • 16: Material Assets • 8: Cultural Heritage and Archaeology • 10: Landscape and Visual
(1)(e) The interaction between the factors referred to in points (a) to (d)	Chapters 7 – 18, within the Cumulative Effects Section of each Chapter, and Chapter 19: Cumulative Effects
(2) The effects referred to in paragraph 1 on the factors set out therein shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned.	Chapter 17: Major Accidents and Disasters
Directive 2014/52/EU Article 5	
(3) Where an environmental impact assessment is required, the developer shall prepare and submit an	N/A

REFERENCE	EIAR CHAPTER WHERE REQUIRED INFORMATION IS PRESENTED
environmental impact assessment report. The information to be provided by the developer shall include at least:	
(3)(a) A description of the project comprising information on the site, design, size and other relevant features of the project	Chapters 1 - 6
(3)(b) A description of the likely significant effects of the project on the environment	Chapters 7 - 18
3(c) A description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment	Chapter 5: Proposed Development and Overall Project, and Chapters 7 – 18, within the Mitigation and Enhancement Measures Section of each Chapter
3(d) A description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment	Chapter 3: Need and Alternatives
3(e) A non-technical summary of the information referred to in points (a) to (d)	NTS provided as a standalone document
3(f) Any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.	See below
Directive 2014/52/EU Annex IV	
(1) A description of the project, including in particular:	Chapter 5: Proposed Development and Overall Project
(1) (a) A description of the location of the project	Chapter 4: Existing Site
(1) (b) A description of the physical characteristics of the whole project, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases	Chapter 5: Proposed Development and Overall Project
(1) (c) A description of the main characteristics of the operational phase of the project (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used	Chapter 5: Proposed Development and Overall Project
(1) (d) An estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases	Chapter 5: Proposed Development and Overall Project, and Chapters 7 – 18
(5) A description of the likely significant effects of the project on the environment resulting from, inter alia:	Chapters 7 – 18
(5)(a) the construction and existence of the project, including, where relevant, demolition work	Chapters 7 – 18, within the Predicted Impacts and Residual Effects Sections of each Chapter

REFERENCE	EIAR CHAPTER WHERE REQUIRED INFORMATION IS PRESENTED
(5)(b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;	Chapter 5: Proposed Development and Overall Project, and Chapters: • 9: Biodiversity • 12: Water Environment • 13: Soils and Geology
(5)(c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste	Chapters 7 – 18
(5)(d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)	Chapters 7 – 18
(5)(e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources	Chapters 7 – 18, within the Cumulative Effects Section of each Chapter, and Chapter 19: Cumulative Effects
(5)(f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change	Chapter 18: Climate
(5)(g) the technologies and the substances used	Chapter 5: Proposed Development and Overall Project
EPA Guidelines (2022) Section 3.5.5 (The Operation of the Project)	
This is one of the most important sections of an EIAR. While accurate descriptions are vital to ensure credibility, not all of these topics will be relevant to many projects, particularly smaller scale ones:	N/A
principal processes or activities, the scope of the project, the operations described in general terms, processes, regular activities, occasional activities, occupants, materials used	Chapter 5: Proposed Development and Overall Project
natural resources used (including energy and materials)	Chapter 5: Proposed Development and Overall Project, and Chapters: • 9: Biodiversity • 12: Water Environment • 13: Soils and Geology
residues and emissions	Chapter 5: Proposed Development and Overall Project, and Chapters: • 7: Air Quality • 11: Noise and Vibration • 12: Water Environment • 13: Soils and Geology • 16: Material Assets
waste management	Chapter 16: Material Assets
secondary processes/activities	Chapter 5: Proposed Development, and Overall Project

1.7.3 This EIAR has been completed fully in accordance with Article 5(1) and the Directive 2014/52/EU. The EIA process is summarised in Plate 1.1.

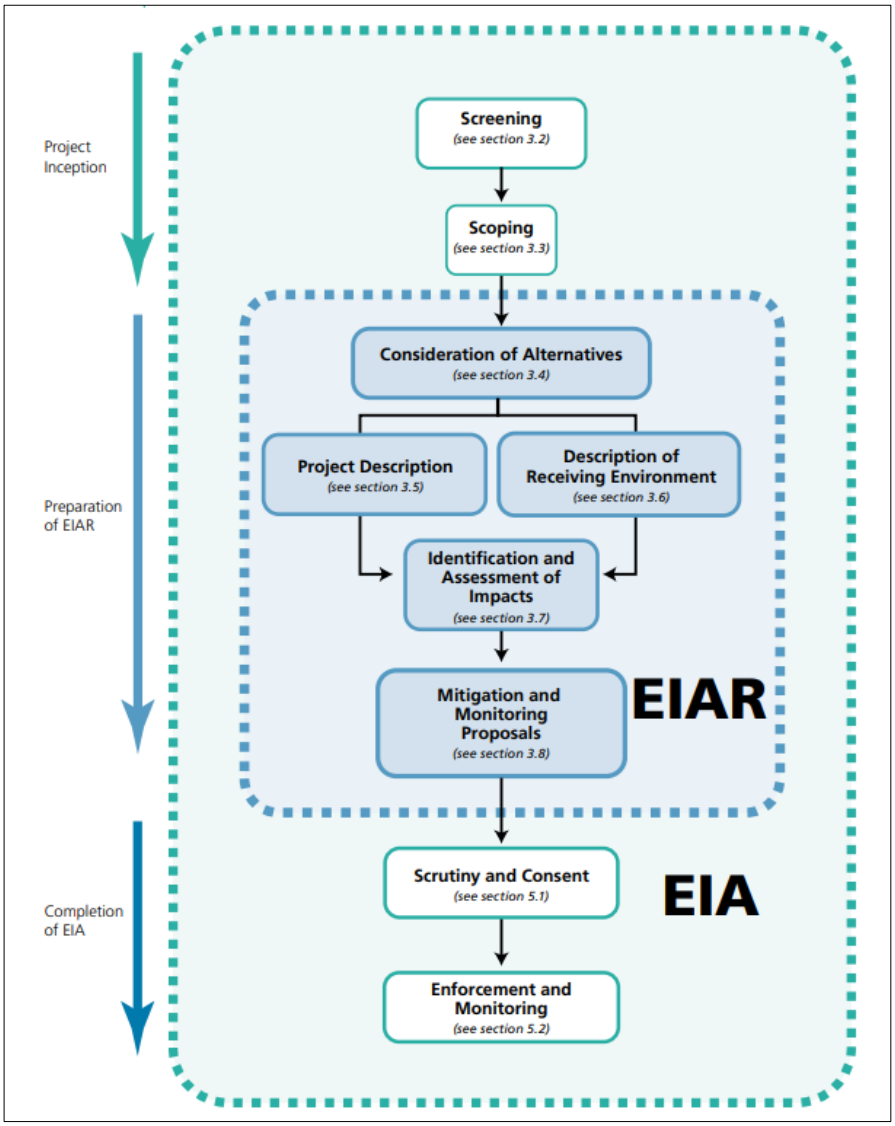

Plate 1.1: The Position of an EIAR within the EIA Process *(Source: EPA Guidelines, 2022)*

1.7.4 The assessment of impacts has been conducted in accordance with EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (May 2022) with reference to the following general approach. The specific methodology adopted for each assessment is contained in the individual technical chapters.

1.7.5 Likely significant effects arising from the Proposed Development and Overall Project have been identified and described and an assessment of the level of significance for each effect determined. Determination of the significance of the effects is a key stage in the assessment. In general, the significance of an effect has been defined using a combination of the sensitivity (e.g., high, medium, low and negligible) of the environmental receptor and the magnitude of impact (e.g., high, medium, low, and negligible). The criteria for assessing sensitivity and magnitude level have been defined for each environmental topic in the appropriate section of the EIAR and may vary from the general approach set out in this section. The overall significance of an effect, taking the relationship between sensitivity and the magnitude level of impact into consideration, is also defined for each environmental subject.

Description of Effects

1.7.6 The term 'significance of effects' generally refers to the importance of the outcome of the effects which are the consequences of changes. Significance is determined by a combination of scientific (objective) and social (subjective) factors.

1.7.7 Table 1.2 outlines the approach to describing environmental impacts and effects in this EIAR. The methodology adopted closely follows that detailed in the EPA Guidelines (2022).

Table 1. 2: Description of Effects (Table 3.4 EPA, 2022)

Quality of Effects It is important to inform the non-specialist reader whether an effect is positive, negative, or neutral.	**Positive Effects** A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
	Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
	Negative/Adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance)
Describing the Significance of Effects 'Significance' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see Determining Significance).	**Imperceptible** An effect capable of measurement but without significant consequences.
	Not significant An effect which causes noticeable2 changes in the character of the environment but without significant consequences.
	Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
	Significant Effects An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
	Very Significant An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
	Profound Effects An effect which obliterates sensitive characteristics
Describing the Extent and Context of Effects Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly, or increasingly experienced.	**Extent** Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
	Context Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions.

Describing the Probability of Effects Descriptions of effects should establish how likely it is that the predicted effects will occur.	**Likely Effects** The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Describing the Duration and Frequency of Effects 'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.	**Momentary Effects** Effects lasting from seconds to minutes
	Brief Effects Effects lasting less than a day
	Temporary Effects Effects lasting less than a year.
	Short-term Effects Effects lasting one to seven years.
	Medium-term Effects Effects lasting seven to fifteen years.
	Long-term Effects Effects lasting fifteen to sixty years.
	Permanent Effects Effects lasting over sixty years
	Reversible Effects Effects that can be undone, for example through remediation or restoration
	Frequency of Effects Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)
Describing the Types of Effects	**Indirect Effects or Secondary Effects** Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative Effects The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
	'Do-Nothing Effects' The environment as it would be in the future should the subject project not be carried out.
	`Worst case' Effects The effects arising from a project in the case where mitigation measures substantially fail. It can also be a worst-case assumption where there is uncertainty in the assessment or in the effectiveness of mitigation measures.
	Indeterminable Effects When the full consequences of a change in the environment cannot be described.
	Irreversible Effects When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost.

	Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
	Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents, (e.g., combination of SO_x and NO_x to produce smog).

Significance Criteria

1.7.8 Table 1.2. provides seven categories by which to determine the significance of an impact. Plate 1.1 is an illustration provided in the EPA Guidelines (2022) of how comparing 'the character of the predicted effect to the sensitivity of the receiving environment can determine the significance of the effect.

1.7.9 For each environmental assessment chapter, the classification and significance of effects will be evaluated with reference to definitive standards, accepted criteria and legislation where available. Where it is not possible to quantify effects, qualitative assessments will be carried out, based on well-reasoned professional judgement supported by evidence. Where uncertainty exists, this will be noted in the relevant EIAR chapter.

1.7.10 Plate 1.2 shows how the magnitude of impact and sensitivity of the receptor combine to evaluate the significance of effect.

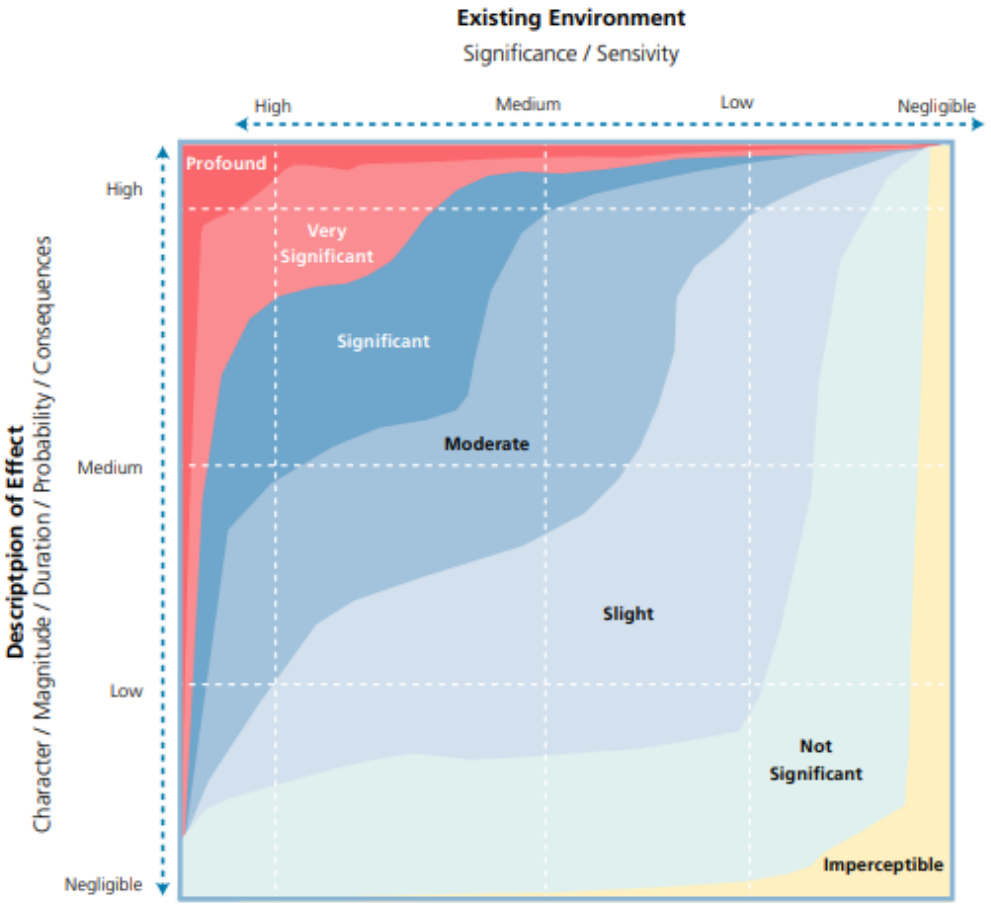

Plate 1.2: Chart showing typical classification of the Significance of Effects (Figure 3.4 of EPA EIAR Guidelines)

1.7.11 The EPA Guidelines 2022 (Page 53) state that "*there are seven generalised degrees of effect significance that are commonly used in EIA those being Imperceptible, Not Significant, Slight, Moderate, Significant, Very Significant and Profound. When more specific definitions exist within a specialised factor or topic, e.g., biodiversity, these should be used in preference to these generalised definitions. (ref. Advice Notes68.)"*.

1.7.12 Each chapter considers the magnitude of impacts and the sensitivity of the resources/receptors that could be affected in order to classify the effect and has regard to the EPA Guidelines 2022. While each technical discipline has its own method based on applicable standards and approaches, which are detailed in a transparent and understandable way within the EIAR chapter, all assessments have been undertaken with consideration and cognisance of the EPA Guidelines 2022. All EIA topics are presented below and those topics that follow its own method based on applicable standards and approaches (with consideration to the EPA Guidelines) are presented in Table 1.3.

Table 1. 3: EIA Methodology per Technical Topic

EIAR TECHNICAL TOPIC	EIAR METHODOLOGY
Air Quality	The topic specific guidance for the different elements of the air quality assessment, including EPA guidance on dispersion modelling assessments and TII guidance on road traffic air quality assessments. The EIAR also refers to UK guidance for some aspects of the assessment, however this is only undertaken in the absence of specific national guidance. The differences between the effect descriptor scale in Table 3.4 of the EPA guidance and the scale used in the air quality assessment is discussed in paragraphs 7.2.44 to 7.2.46 of Chapter 7.
Cultural Heritage	Methodology aligns with Environmental Protection Agency, Guidelines on the information to be contained in Environmental Impact Assessment Reports (May 2022).
Biodiversity	Methodology aligns with Environmental Protection Agency, Guidelines on the information to be contained in Environmental Impact Assessment Reports (May 2022).
Landscape & Visual	Methodology aligns with Environmental Protection Agency, Guidelines on the information to be contained in Environmental Impact Assessment Reports (May 2022). In addition, the following guidelines are utilised in the assessment of this topic: • Landscape Institute and Institute of Environmental Management and Assessment - Guidelines for Landscape and Visual Impact Assessment, Third Edition (2013). • Transport Infrastructure Ireland, Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Specified Infrastructure Projects - Overarching Technical Document, PE-ENV-01101, December 2020 • Landscape Institute - Visual Representation of Development Proposals Technical Guidance Note 06/19, 17 September 2019
Noise & Vibration	The noise chapter refers to the tables presented in the new EPA 2022 Guidelines for Significance or Effect and Duration of Effects, and each impact pathway concludes with a determination of the significance of effect. However, the “description of effect” as it referred to in Plate 1.2 is influenced primarily by the “magnitude” and “duration” of effects but with “context” providing a project specific calibration of the significance where appropriate. Irish guidance and policy don’t provide a clear way to map magnitude exceedances (or absence of) from the established standards typically adopted I.e. BS 8233, CRTN, BS4142 and NG4 into the EPA 2022 Guideline paradigm. i.e. when NG4 criteria is exceeded we assign that as “Significant” as it affects people who are usually considered as “High” sensitivity receptors, If there is no exceedance it is considered Not Significant meaning it is Moderate or better. Alternatively, we could reasonably state that a small exceedance (< 1dB) is actually Moderate Significance of Effect for a High sensitive receptor, but there is no precedent or guidelines to support this, hence we are more conservative in how we map predicted level into magnitudes and significance of effect in that regard and we use the context argument to calibrate outcomes where it is appropriate to do so.

Water	The EPA 2022 Guidelines provides high-level guidance across multiple disciplines on the assessment of effects and recognises that *"when more specific definitions exist within a specialised factor or topic, e.g., biodiversity, these should be used in preference to these generalised definitions"*. Therefore, in the absence of specific criteria for rating receptor sensitivity and impact magnitude, the methodology for Water follows the National Roads Authority (NRA) (now Transport Infrastructure Ireland, TII) *Guidelines on Procedures for Assessment Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes* (NRA, 2008), which are also referred to in the *Institute of Geologists of Ireland (IGI) Guidelines for Preparation of Soils, Geology, Hydrogeology Chapters of Environmental Impact Statements' (IGI, 2013),* as providing steps to justify the same significance terminology as the EPA 2002 Guidelines. The NRA guidance is much more tailored to assessing impacts to the hydrological and hydrogeological environment. The sensitivity rating ranges from low to extremely high, and considers the likely adaptability, tolerance, and recoverability of the receptor, as well as their designation; the magnitude of impact rating ranges from negligible to large, and considers the likelihood, the quality and the duration of impact; and the significance of effect ranges from imperceptible to profound and considers the sensitivity rating and magnitude of impact in combination.
Land & Soils	Methodology follows the Institute of Geologists of Ireland guidance, which is much more tailored to assessing impacts to geological environment whereas the EPA 2022 guidance is more generic, high-level guidance across multiple disciplines – for example, there are only 10 instances if the word geology (including a definition of geology and its use in the word hydrogeology in the entire EPA guidance - *The Institute of Geologists of Ireland (IGI) guidance document 'Guidelines for Preparation of Soils, Geology, Hydrogeology Chapters of Environmental Impact Statements' (IGI, 2013)*
Traffic	Methodology aligns with Environmental Protection Agency, Guidelines on the information to be contained in Environmental Impact Assessment Reports (May 2022).
Population & Human Health	Methodology aligns with Environmental Protection Agency, Guidelines on the information to be contained in Environmental Impact Assessment Reports (May 2022).
Material Assets	Methodology aligns with Environmental Protection Agency, Guidelines on the information to be contained in Environmental Impact Assessment Reports (May 2022).
Major Accidents and Disasters	Generic approach described in EPA guidelines is not compatible with the assessment of MADs. There is currently limited guidance on what should be covered in MADS (this is an evolving topic), principally the IEMA primer, which was is basis for the assessment of MADs in the chapter.
Climate	Section 3.7.1 of the EPA guidance states that for climate the EIAR should contain: A description of the likely significant effects of the project on the environment resulting from, inter alia: (Part f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; The climate assessment produced for Derrygreenagh has been undertaken in line with two best practice guidance documents published by Institute of Environmental Management and Assessment (IEMA), 1)

	IEMA Guide to Assessing greenhouse Gas Emissions and Evaluating their Significance (2022) and 2) IEMA EIA Guide to Climate Change Resilience and Adaption (2020). This guidance aligns with the overarching requirements of Directive 2014/52/EU (EIA Directive) and section 3.7.1 of the EPA Guidelines on the information to be contained in EIAR and as such is considered appropriate for climate assessment. The assessment of the impact of the Scheme on the climate (GHG emissions) and the assessment of climate change on the Scheme does not however fully align with EPA guidance presented in Table 1.2 Description of Effects (Table 3.4 EPA, 2022). Given that the global climate, and as a proxy Ireland's greenhouse emissions targets and carbon budgets, is the receptor for the assessment of scheme impact on the climate the criteria in the IEMA guidance are considered more appropriate for the assessment of significance. Likewise, for the climate change resilience assessment, given that the receptor is the Scheme itself rather that the surrounding environment, the IEMA guidance is considered more appropriate for assessing the significance of impacts.

Timescales

Construction Periods

1.7.13 Full details on timelines for the construction phase are provided in Chapter 5 of this EIAR, as well as indicative Construction Phase Programme (Table 5.5). For the purposes of the assessment, it is considered that the construction period would be as follows:

- Power Plant Area – c. 3 years;
- Electricity Grid Connection – c. 2.5 years;
- Gas Connection Corridor – c. 2 years.

Operational Periods

1.7.14 With regard to the operational phase, it is envisaged that the Power Plant Area will have a design life of at least 25 years. For the purpose of the environmental assessment, the lifetime of the Power Plant is estimated as 25 years and this is based on the design life of the equipment proposed. The operational requirements of the Proposed Development will inevitably change during its design life, and it will be subject to regular reviews to identify potential modifications and amendments that would allow the asset to have a future sustainable use beyond 25 years.

1.7.15 For the purposes of the assessment, it is considered that the operational period would be as follows (noting that the Electricity Grid Connection and Gas Connection Corridor will be managed by respective national asset owners as part of national networks):

- Power Plant Area - Assumed Operational Period - 2027 to 2052.

Decommissioning Periods

1.7.16 At the end of the design life, the Power Plant Area will either be decommissioned, or the lifetime could potentially be extended. Decommissioning or extension of the lifetime of the asset would therefore be expected to commence at some point after 2052. As noted above, the Electricity Grid Connection and Gas Connection Corridor will be managed by respective national asset owners as part of national networks.

1.7.17 For the purposes of the assessment, it is considered that the decommissioning period for the Power Plant Area would be undertaken over 1 year or less.

Cumulative Impacts

1.7.18 The assessment takes into consideration cumulative impacts with consented, planned and reasonably foreseeable projects. A desktop search of proposed and existing planning applications was undertaken. The search used publicly available data from the MyPlan.ie 'National Planning Application' database, the Offaly and Westmeath planning application portal and the ABP online database and consultation with Bord na Móna Powergen Limited as regards planning history for the Derrygreenagh Bog Group lands. The relevant planning application search is included in **Appendix 4A** and the list of cumulative projects is included in **Appendix 19A** of EIAR Volume II.

1.7.19 The purpose is to inform the cumulative impact assessments within this EIAR. The cumulation of the Proposed Development and Overall Project with other existing and / or proposed developments has been assessed within each relevant chapter of this EIAR. The scope of the search was based on:

- Planning applications on the site of the Proposed Development and Overall Project;
- Planning applications (excluding individual dwellings and works to individual dwellings) within approximately 5km of the Proposed Development and Overall Project;
- Other existing developments or projects (outside the 5km radius of the Proposed Development and Overall Project site).

Indication of Difficulties Encountered

1.7.20 There were no significant difficulties encountered during the preparation of this EIAR, however where difficulties were encountered for the specialist EIAR chapters, they have been identified and discussed in their relevant chapters.

1.8 Structure of this EIAR

1.8.1 The EIAR has been prepared to satisfy the requirements of Schedule 6 of the EIA Regulations – 'Information to be contained in EIAR' and compiled in accordance with the EPA 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (EPA, 2022).

1.8.2 The format of the EIAR reflects that proposed at the EIAR scoping review stage and covers the assessment topics presented at that stage.

1.8.3 The EIAR must contain the information specified in 1(2)(g) of the Directive and Section 171A of the Planning and Development Act 2000 (as amended). It must also include any additional information specified in Schedule 6 to the 2018 Regulations which is relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.

1.8.4 This EIAR is presented as two (2) volumes:

- Volume I – Environmental Impact Assessment Report (Main Text); and
- Volume II – Appendices.

1.8.5 This specific document is Volume I which contains the EIAR main text. A Non-Technical Summary (NTS) is also provided as a standalone document.

1.8.6 Chapter 1 of the EIAR (this chapter), provides an introduction to the assessment process and approach, in addition to outlining the structure of the resultant EIAR. This chapter establishes how the legal requirements are fulfilled as well as setting out the assessment approach, including a general methodology for the environmental assessment.

1.8.7 Chapter 2 provides information about the Planning Policy in relation to the Proposed Development and Overall Project.

1.8.8 Chapter 3 provides information about the need for and reasonable alternatives to the Proposed Development.

1.8.9 Chapter 4 provides a description of the existing Site and Conditions.

1.8.10 Chapter 5 discusses the Proposed Development and Overall Project.

1.8.11 Chapter 6 summarises consultations regarding the Proposed Development and the EIAR process.

1.8.12 Chapters 7 to 18 of this EIAR provide specialist assessments of impact to particular environmental topics. These comprise:

- Chapter 7: Air Quality;
- Chapter 8: Cultural Heritage and Archaeology;
- Chapter 9: Biodiversity;
- Chapter 10: Landscape and Visual;
- Chapter 11: Noise and Vibration;
- Chapter 12: Water Environment;
- Chapter 13: Land and Soils;
- Chapter 14: Traffic;
- Chapter 15: Population and Human Health;
- Chapter 16: Material Assets;

- Chapter 17: Major Accidents and Disasters; and
- Chapter 18: Climate.

1.8.13 The format of each technical chapter (*i.e*., Chapters 7-18) is structured as follows:

- Introduction;
- Methodology;
- Regulatory and Policy Framework;
- Baseline Environmental Conditions and Constraints;
- Predicted Impacts;
- Mitigation and Enhancement Measures;
- Residual Effect;
- Cumulative Effects; and
- References.

1.8.14 Cumulative Effects and Interactions (both Cumulative Effects and Combined Effects) are considered in EIAR Chapter 19 and a Schedule of Environmental Commitments is presented in Chapter 20.

1.8.15 In addition to the information provided in each of the chapters, there is also supporting information within EIAR Volume II – Appendices which is cross referenced as required. Figures are provided at the end of each chapter.

1.9 The Assessment Team

1.9.1 Details and a statement (a 'statement of competence') of the relevant expertise and qualifications of each of the contributors to the EIAR is required by EIA Regulations.

1.9.2 This assessment has been undertaken and the subsequent EIAR prepared by AECOM on behalf of Bord na Móna Powergen Limited. In accordance with EIA Regulations and EPA Guidelines, AECOM confirms that experts involved in the preparation of this EIAR are fully qualified and competent in their respective fields. Each expert has extensive proven expertise in the relevant field concerned, thus ensuring that the information provided herein is complete and of high quality.

1.9.3 Details of the assessment team (including a short biography for each EIA lead member) and relevant company, as well as their respective inputs to the EIAR is presented in **Appendix 1B** (refer to EIAR Volume II).

1.10 EIAR Review and Comment

1.10.1 The EIAR (Volume I, II, including Non-Technical Summary) will be available for inspection or purchase on a payment of a specified fee (which fee shall not exceed the reasonable cost of making such a copy) during office hours, for a period of seven weeks (from submission of application) at the offices of ABP, and at the offices of Offaly County Council.

An Bord Pleanála, 64 Marlborough Street, Dublin 1 D01 V902	**Offaly County Council** Áras an Chontae, Charleville Road, Tullamore, Co. Offaly R35 F893

1.10.2 The prescribed information set out in Article 97B of the Regulations (as substituted by article 65 of S.I. No. 296/2018 - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018) has been uploaded onto the EIA Portal in advance of submission.

1.10.3 The planning application and EIAR will be available to view on the website of ABP, under the relevant Planning Reference Number (to be assigned on lodgement of the application). The planning application and EIAR will also be available to view online on the Derrygreenagh Power dedicated SID website https://www.derrygreenaghpowerplanning.ie

1.11 References

Transport Infrastructure Ireland (TII) (2022) Air Quality Assessment of Specified Infrastructure Projects – Overarching Technical Development PE-ENV-01106 (tiipublications.ie)

Institute of Air Quality Management (2016) Guidance on the assessment of dust from demolition and construction Version 1.1 dated 01/06/16.

Institute of Air Quality Management (2017) Land-Use Planning & Development Control: Planning for Air Quality v1.2

Environmental Protection Agency (2020). Air Dispersion Modelling from Industrial Installations Guidance Note (AG4)

Environmental Protection Agency (EPA) (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.

European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 S.I. No. 296/2018 - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (irishstatutebook.ie)

EU EIA Directive 2011/92/EU: Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (codification) (Text with EEA relevance) (legislation.gov.uk)

EIA Directive 2014/52/EU Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (Text with EEA relevance) (legislation.gov.uk)

Revision: P01 Drawn: JB Checked: AB Approved: POC Date: 2024-01-16

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AECOM

PROJECT

Proposed Derrygreenagh Power Project

CLIENT

Bord na Móna

CONSULTANT

AECOM Limited
10th Floor The Clarence West Building
2 Clarence St W, Belfast
BT2 7GP
Tel: +44 (0)28 9060 7200
www.aecom.com

LEGEND

- Power Plant Area Boundary
- Electricity Grid Connection Boundary
- Gas Connection Corridor Boundary

NOTES

ISSUE PURPOSE

FOR ISSUE

PROJECT NUMBER

60699676

FIGURE TITLE

Site Location

FIGURE NUMBER

Figure 1.1