

Appendix 9D

Habitat Regulations Assessment / Appropriate Assessment

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Screening for Appropriate Assessment

Appendix 9D

EP Energy Developments Limited (EPED)

August 2023

Quality information

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1. Introduction

1.1 Background

AECOM was instructed by EP Energy Developments Ltd. (the Applicant) to complete an Appropriate Assessment Screening for the Proposed Development comprising an Open Cycle Gas Turbine (OCGT) plant, acoustic barriers, secondary fuel storage and unloading facility, distillate fuel gantry, water storage tanks, surface water drainage system, AGI and substation connection and all associated ancillary development, site works and services ('the Proposed Development') on land to the north of Tynagh Power Station in Derryfrench, Loughrea, Co. Galway. This Report considers the effects of the Proposed Development on European sites and whether they are potentially significant. It serves to 'screen' for likely significant effects on European sites from the Proposed Development, either alone or in combination with other plans or projects, and in view of best scientific knowledge.

This Report was prepared in parallel with the Environmental Impact Assessment Report (EIAR) and should be read in conjunction with the Biodiversity Chapter (Chapter 9, EIAR Volume I). A summary description of the Proposed Development is presented in Section 3 of this Assessment and full technical details of the Proposed Development are presented in Chapter 5 of the EIAR (refer to EIAR Volume I).

The Site is located immediately to the north of the existing Tynagh Power Station. The Site is located within the former Tynagh Mine complex and is bordered to the south-west by Sperrin Galvanisers Ltd., an Integrated Pollution Prevention and Control (IPPC) licensed facility. The Proposed Development is located within the administrative area of Galway County Council. Figure 9.2 (refer to EIAR Volume III) identifies the Site boundary in relation to the surrounding European sites.

1.2 Legislative and Planning Context

The European Communities Habitats Directive 92/43/EEC ('the Habitats Directive') provides, in Article 6(3), the legal basis for Appropriate Assessment at European level.

Under article 6(3) of the Habitats Directive, any plan or project which is not directly connected with or necessary to the management of a European site but would be likely to have a significant effect on such a site, either individually or in combination with other plans or projects, must be subject to an Appropriate Assessment of its implications for the European site and its nature conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities will agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

In the Republic of Ireland, the requirements of Article 6(3) are transposed into national law by Part 5 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) (more commonly referred to as the 'Habitats Regulations') and Part XAB of the Planning and Development Acts (2000 to 2022 as amended) ('the Planning Acts').

Under Section 177U(1) of the Planning Acts, a Screening for Appropriate Assessment of the Proposed Development shall be carried out by the competent authority (in this case Galway County Council (GCC) to assess in view of best scientific knowledge, if 'the Proposed Development', either individually or in combination with other plans or projects, is likely to have a significant effect(s) on any European sites. The term 'European site' is defined in Section 1.3.

Under Section 177U(5) of the Planning Acts, the competent authority shall determine that an Appropriate Assessment of a Proposed Development is required *if it cannot be excluded* that the Proposed Development will have a significant effect on a European site(s), on the basis of objective information, individually or in combination with other plans or projects.

The competent authority which is responsible for carrying out the Appropriate Assessment is the relevant consenting body for each plan or project.

1.2.1 Consultation and Publication Requirements

Section 177U(7) states: “A competent authority shall, as soon as may be after making a decision in relation to the application for consent for Proposed Development, make available for inspection by members of the public during office hours at the offices of the authority, and may also publish on the internet — any determination that it makes under subsection(5), and reasons for that determination”.

1.3 European Sites

European sites comprise:

- Special Areas of Conservation (SAC) which are designated under the Habitats Directive.
- Special Protection Areas (SPAs) which are designated under the Birds Directive.
- Candidate sites including candidate Sites of Community Importance, candidate SAC (cSAC) and proposed SPA (pSPA).

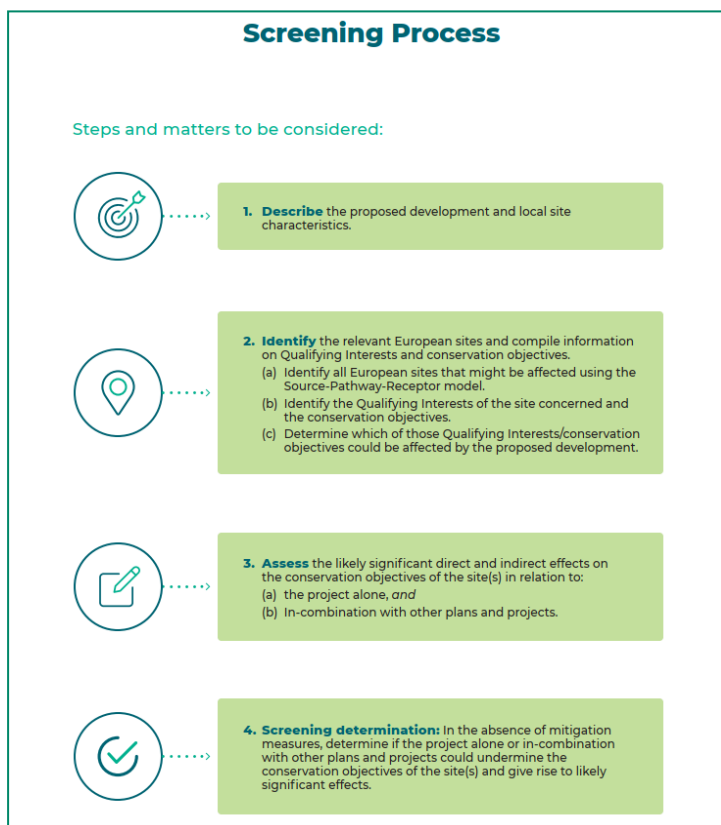
The term “European site” replaced the term “Natura 2000 site” under the EU (Environmental Impact Assessment and Habitats) Regulations 2011 S.I. No. 473 of 2011. The obligations to screen for Appropriate Assessment arise in respect of SPA and pSPA by virtue of Article 7 of the Habitats Directive

It must be noted that the process of designating a cSAC as a SAC is ongoing in Ireland, and the term SAC is used throughout this Screening Report for both SAC and cSAC, given they are subject to equal protection.

1.4 Sources of Guidance

This Report has been prepared in accordance with the European Commission (EC) guidance document *Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance* on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001). It also accords with the guidance provided in the Office of the Planning Regulator (OPR) document on Appropriate Assessment Screening for Development Management (OPR, 2021), and follows the structure and approach recommended, as shown in Plate 1.

Plate 1: The Appropriate Assessment Screening process (OPR, (2021).



In addition, the following sources of guidance have also been used when carrying out this Screening exercise:

- Appropriate Assessment of Plans and Projects in Ireland (DoEHLG, 2010).
- Managing Natura 2000 Sites: the provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC (EC, 2018); and,
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular Letter NPWS 1/10 and PSSP 2/10 (NPWS, 2010).

1.5 Relevant Case Law

A series of rulings of the Court of Justice of the European Union (CJEU) are relevant and are considered throughout this Report. These rulings and their implications for this Screening exercise are summarised in Table 1.1. It must be noted that this list is not exhaustive.

Table 1.1: Case law of most relevance to the Screening of the Proposed Development.

Case	Ruling	Implications of the Screening for the Proposed Development
People Over Wind and Sweetman v Coillte Teoranta (C-323/17)	The ruling of the CJEU in this case requires that any conclusion of ‘no likely significant effect’ on a European site must be made prior to any consideration of measures to avoid or reduce harm to the European site. The determination of likely significant effects should not, in the opinion of the CJEU, constitute an attempt at detailed technical analyses. This should be conducted as part of the Appropriate Assessment.	It is necessary to distinguish between those measures which are intended to avoid or reduce harmful effects on a European site and those elements of a plan or project that may incidentally provide some degree of mitigation, but which are intrinsic or essential parts of the plan/ project itself. If it can be concluded that the Proposed Development will have no adverse effect on any European site, in the absence of mitigation, it will be possible to conclude ‘no likely significant effects’, and the need for further detailed Appropriate Assessment will be ‘screened out’.

Case	Ruling	Implications of the Screening for the Proposed Development
Waddenzee (C-127/02)	The ruling in this case clarified that Appropriate Assessment must be conducted using best scientific knowledge, and that there must be no reasonable scientific doubt in the conclusions drawn. The Waddenzee ruling also provided clarity on the definition of 'significant effect', which would be any effect from a plan or project which is likely to undermine the conservation objectives of any European site.	Adopting the precautionary principle, a 'likely' effect in this Appropriate Assessment screening is interpreted as one which is 'possible' and cannot be objectively ruled out. The test of significance of effects has been conducted with reference to the conservation objectives of relevant European sites.
Holohan and Others v An Bord Pleanála (C-461/17)	The conclusions of the Court in this case were that consideration must be given during Appropriate Assessment to: <ul style="list-style-type: none"> • effects on qualifying habitats and/ or species of a SAC or SPA, even when occurring outside of the boundary of a European site, if these are relevant to the site meeting its conservation objectives; and • effects on non-qualifying habitats and/ or species on which the qualifying habitats and/or species depend, and which could result in adverse effects on the integrity of the European site. 	This relates to the concept of 'functionally-linked habitat', i.e. areas outside of the boundary of a European site which supports its qualifying feature(s). In addition, consideration must be given to non-qualifying features upon which qualifying habitats and/ or species rely.
T.C Briels and Others v Minister van Infrastructuur en Milieu (C-521/12)	The ruling of the CJEU in this case determined that compensatory measures cannot be used to support a conclusion of no adverse effect on site integrity.	Compensation can only be considered during later stage of the Appropriate Assessment process, i.e. Not during screening or NIS. Where it is determined that there will be an adverse effect on the integrity of a site and there are no alternative solutions, but a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, then compensatory measures must be provided.

In addition, in a Judicial Review in Irish High Court in the case of Eoin Kelly v An Bord Pleanála and Anor [2019] IEHC 84, it was ruled that Sustainable Drainage Systems (SuDS) which form a part of the design of a development can be considered an integral part of the development and:

- are not measures that are intended to avoid or reduce the harmful effects of a particular development on a European site.
- are not intended to have that effect as they are required to comply with other relevant policies and legislation, including the Water Framework Directive and associated water quality Directives and Regulations.
- are not required to be incorporated by reason of the potential effect of a development on a European site.

The court concluded *"as a matter of fact and law, that SuDS are not mitigation measures which a competent authority is precluded from considering at the [Appropriate Assessment] screening stage"*.

However, this case above is also considered in light of the more recent the case of Eco Advocacy CLG v An Bord Pleanála [2021] IEHC 265 where the High Court has referred the question regarding SuDS. It considered the appropriateness of assessing features such as SuDs (whether mitigation or not) when they might occur in the design regardless of whether they confer a benefit or not to the European site and may not necessarily be considered as mitigation.

1.6 Purpose of this Report

Whilst the various steps involved in the Screening Assessment process must be carried out by a competent authority, consultants, or project proponents may undertake a form of screening to establish if an Appropriate Assessment is required and provide advice or may submit the information necessary to allow the competent authority to conduct a screening of an application for consent. This Appropriate Assessment Screening Report has been prepared with regard to best scientific knowledge and an examination of potential impacts of the project on European Sites.

2. Methods

2.1 The Stages in Appropriate Assessment

There are four stages in an Appropriate Assessment as outlined in the EC Guidance document (2001). The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations, and any relevant changes to the plan until no significant adverse effects remain. The following is a summary of these steps.

- **Stage 1 – Screening:** This stage examines the likely effects of a project either alone or in combination with other projects upon a European site(s) and considers whether it can be objectively concluded that these effects will not be significant.
- **Stage 2 – Appropriate Assessment:** In this stage, the impact of the project on the integrity of the European sites is considered, with respect to the conservation objectives of the site and to its structure and function. Mitigation is considered at this stage.
- **Stage 3 – Assessment of Alternative Solutions:** Should the Appropriate Assessment determine that adverse impacts are likely upon the European sites, this stage examines alternative ways of implementing the project that, where possible, avoid these adverse impacts. Further mitigation is considered at this stage.
- **Stage 4 – Assessment where no alternative solutions exist and where adverse impacts remain:** Where imperative reasons of overriding public interest (IROPI) exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the European site will be necessary.

2.2 Screening for Appropriate Assessment

The function of the Screening Assessment is a test of likely significant effects, essentially a high-level risk assessment to identify if the Proposed Development will have likely significant effects on European sites. The essential question is:

“Is the project, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon any European site?”

The safeguards set out in Article 6(3) and (4) are triggered not by a certainty but by a likelihood of significant effects. Thus, in line with the Precautionary Principle (Section 2.3), it is unacceptable to fail to undertake an assessment on the basis that significant effects are not certain. This was confirmed by case law where *“in case of doubt as to the absence of significant effects such an assessment must be carried out”* (European Court of Justice (ECJ) case C-127/02 – *Waddenzee*). The notion of what is ‘significant’ needs to be interpreted objectively, as significance will vary depending on factors such as magnitude of impact, type, extent, duration, intensity, timing, probability, cumulative effects and the vulnerability of the habitats and species concerned.

In this context “likely” refers to the presence of doubt with regard to the absence of significant effects and “significant” means not trivial or inconsequential but an effect that has the potential to undermine the site’s conservation objectives. In other words, any effect that compromises the functioning and viability of a site and interferes with achieving the conservation objectives for the site would constitute a significant effect.

The nature of the likely interactions between the project and the integrity of a European site will depend upon: the sensitivity of the European site’s qualifying features to potential impacts arising from the

project; the current conservation status of the European site and its qualifying features; and, any likely changes to key environmental indicators (e.g. water quality) that underpin the conservation status of European sites and their qualifying features, in combination with other plans and projects.

The EC Guidelines (2018) outline the stages involved in carrying an Appropriate Assessment Screening of a project that has the potential to have likely significant effects on European sites. The methodology adopted for this Appropriate Assessment Screening is informed by these guidelines and was conducted in the following stages:

- With reference to the baseline environment, define and describe the project and determine whether it is connected with or necessary for the conservation management of European sites.
- Identify European sites likely to be influenced by the project (i.e., those which are potentially connected to the Proposed Development by source-pathway-receptor links or lie in the Zone of Influence (see Section 2.4 for further details) of potential impacts).
- Identify other plans or projects that, in combination with the project, have the potential to affect European sites.
- Assess whether or not the project has the potential to affect European sites and determine whether the Proposed Development could give rise to likely significant effects.

If it can be demonstrated that significant effects are unlikely, no further assessment is required. Recent case law has determined that measures which are intended to reduce or avoid the otherwise harmful effects of a project (i.e. mitigation) on a European site cannot be considered at Screening stage.

2.2.1 Assessment In-combination

It is a requirement of the Habitats Regulations that the impacts and effects of any project are not considered in isolation but in combination with other plans and projects that may also affect the European site(s) in question.

2.3 The Precautionary Principle

The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as:

“When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis”.

Reasoned application of the Precautionary Principle is fundamental to all stages of HRA. In Stage 1 Screening, significant effects would be presumed without evidence to the contrary, where there was evidence of possible effects on a European site(s) from the Proposed Development, but uncertainty remained.

2.4 The Source-Pathway-Receptor Model and Zones of Influence

The ‘source-pathway-receptor’ conceptual model is a standard tool in environmental assessment. For an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no likelihood for the effect to occur. An example of this model is provided below:

- Source(s), e.g. piling.
- Pathway(s) e.g. vibrations.
- Receptor(s) e.g. otter holt at risk of collapse.

The model is focused solely on the selection features for which sites are designated.

A plan or project may have the potential to result in a number of impacts, which could potentially affect the selection features of European sites. The analysis of these effects, using scientific knowledge and professional judgement, leads to the identification of a zone of influence (ZOI) for each effect (i.e. the

distance at which the impact of the Proposed Development could have potential effects, using professional judgement and published guidance).

The proximity of the proposed project to European sites, and more importantly their Qualifying Interests (QI)/ Special Conservation Interest species (SCI), can be of importance in identifying source-pathway-receptor models which could result in significant effects. Irish departmental guidance on Appropriate Assessment states:

“For projects, the distance could be much less than 15 km, and in some cases less than 100 m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects” (DoEHLG, 2010).

Habitats and plants are not mobile, and it can therefore be easier to determine whether habitats and plants are within the ZoI. In contrast, fauna species are mobile and so the distances they move beyond European sites (i.e. range) must be considered when determining if they occur within the ZoI. The range of fauna species varies considerably, from a maximum of several metres (e.g. in the case of whorl snails *Vertigo* spp.) to hundreds of kilometres (in the case of migratory wetland birds). Whilst habitats and plants are not mobile, these features can still be significantly affected at considerable distances from an effect source; for instance, where an instream habitat is located many kilometres downstream from a pollution source.

2.5 Ecological Survey

The assessment was informed by a desk study and ecological survey visits in 2021-2023. An ecological baseline of the Site is presented in Section 3.1 and referred to throughout this report as relevant. Full details of surveys are presented in the Biodiversity Chapter (refer to EIAR Volume I) of the EIAR for the Proposed Development.

Table 2.1 details ecological surveys conducted. All surveys were carried out during the appropriate season for such survey, during suitable weather conditions, and during suitable time of day.

Table 2.1: Schedule of ecological surveys undertaken

Survey	Date(s)	Personnel
Preliminary Ecological Appraisal (including habitat suitability assessments for protected species)	23/03/2021, 16/04/2021,	L. Cappelli, A. Donnelly
Habitats and plants	16/06/2021	L. Cappelli, A. Donnelly
Bat preliminary roost assessment (trees and structures)	23/03/2021, 16/04/2021	L. Cappelli, A. Donnelly
Otter and badger	23/03/2021, 16/04/2021	L. Cappelli, A. Donnelly
Amphibians	15/04/2021, 26/04/2021, 13/05/2021, 19/05/2021	L. Cappelli, A. Donnelly
Breeding birds	16/04/2021, 20/05/2021, 15/06/2021	L. Cappelli, A. Donnelly
Wintering birds	28/10/2021, 30/11/2022, 21/12/2022, 21/01/2022, 11/02/2022, 21/03/2022, 14/10/2022, 02/11/2022, 08/12/2022, 31/01/2023, 16/02/2023, 10/03/2023	L. Cappelli, A. Donnelly, Paul Lynas

2.6 Statement of Authority

The Technical Team Lead for this Assessment is Dr Paul Lynas (Associate Director). This Screening Assessment was prepared by Jenny Hunter (Principal Ecologist) and verified by Dr Lynas. Biography detailing relevant experience for Dr Lynas and Ms Hunter are presented in Appendix 1B (refer to EIAR Volume II).

3. Project Description and Baseline Environment

3.1 Site Description and Ecological Baseline

The Site is located on lands immediately north of the existing Tynagh Power Station (the CCGT Power Station) at Derryfrench, Tynagh, Loughrea, Co. Galway. The wider and adjacent Power Station Site is located on made ground within the former Tynagh Mine complex and is bordered to the west by Sperrin Galvanisers Ltd., an IPPC-licensed facility. The area available for the Proposed Development (the 'red line boundary') is approximately 8.3ha.

The Site comprises species-rich semi-natural grassland, mixed woodland, conifer plantation, freshwater habitats including a pond and wet ditch, scrub, and spoil and bare ground. Structures within the Site comprise a single disused shed of corrugated metal, the existing gas AGI and the existing electrical substation which is part of the Tynagh Power Station. The area of spoil and bare ground which was part of the historic closed Tynagh Mine site comprises a rocky pebbled substrate, and appears to be disturbed frequently as there is only 1 to 2% of vegetation cover in this area.

Habitats outside of the Site boundary within accessible lands to the north and west include species-rich grassland, a species-poor improved agricultural field, wetlands, conifer plantation, and additional scrub. There are also large water bodies (former mine workings) outside of the Site to the east and south-east. The Cloonprask/ Barnacullia Stream and Mill Stream are located approximately 13m and 250m to the north-east and north of the Site, respectively. The Lisduff Stream is located approximately 510m south of the Site. These streams outflow to the Kilcrow River, which then outflows into Lough Derg.

A suite of wintering bird surveys was carried out within a study area comprising the Site and adjacent lands comprising the visible wetland habitats within the former mine, including the former mine lagoon and tailings ponds. These surveys were carried out monthly between October 2021 and March 2022, and in October 2022 to March 2023. Surveys identified fourteen species of bird within the study area. The October 2021 surveys recorded the largest number of individuals with 159 records; this included large roosts of lapwing *Vanellus vanellus*, golden plover *Pluvialis apricaria*, and snipe *Gallinago gallinago* (Table 3.1). In October 2022, a large roost of lesser black-backed gull *Larus fuscus* was observed. In November 2021, January 2022 and March 2023 surveys recorded no birds, whilst the remainder recorded low numbers (Table 3.1).

Table 3.1: Summary of wintering bird survey results.

Species	Count by Month												Maximum
	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	
Black-headed gull	0	0	0	0	0	10	0	1	0	1	0	0	10
Common gull	1	0	0	0	0	2	0	0	0	0	0	0	2
Cormorant	0	0	0	0	0	0	0	0	0	1	0	0	1
Golden plover	47	0	0	0	0	0	0	0	0	0	0	0	47
Great black-backed gull	0	0	0	0	0	0	0	0	0	0	2	2	2
Kestrel	1	0	0	0	0	1	0	0	0	0	0	0	1
Lapwing	85	0	0	0	0	0	0	0	0	1	0	0	85
Lesser black-backed gull	0	0	0	0	0	7	55	6	0	0	0	0	55

Species	Count by Month												Maximum
	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	
Mallard	0	0	0	0	0	2	0	0	0	0	0	0	2
Peregrine	0	0	1	0	2	0	1	0	1	2	1	0	2
Ringed plover	0	0	0	0	0	0	0	0	0	0	0	2	2
Snipe	21	0	0	0	0	0	0	0	0	0	0	0	21
Teal	4	0	0	0	0	0	0	0	0	0	0	0	4
Wigeon	0	0	5	0	13	0	0	0	0	0	0	0	13

Species are coloured based on their Irish Red List Status for winter (Gilbert et al., 2021).

Full details of the baseline environment are presented in Chapter 4: Existing Site and Conditions, Chapter 9: Biodiversity (refer to EIA Volume I), and Appendix 9E: Wintering Bird Report (refer to EIA Volume II). This includes details of the existing site including all aspects of the Site of the Proposed Development and its setting within the wider existing Tynagh Power Station Site which was considered and taken into account as part of this assessment.

3.2 The Proposed Development

The Proposed Development will comprise the following main components:

- Open Cycle Gas Turbine (OCGT) unit, 40m emissions stack and balance of plant;
- Acoustic barriers;
- Secondary fuel storage and unloading facility;
- Distillate fuel gantry;
- Water Storage Tanks;
- Gas AGI and electrical substation infrastructure; and
- Surface Water Drainage system.

The Proposed Development will have separate connections to this infrastructure, by way of a new Above Ground Installation (AGI) to connect to the existing high pressure gas pipeline to the west, and a new bay within the existing electricity substation to the south. Both the AGI and new bay in the substation are assessed in the EIA.

The following provides details of the key components and operational elements of the process of the Proposed Development for which planning permission is being sought. A high-level overview of these elements is presented in the following Sections.

3.2.1 OCGT Unit

The Proposed Development will include one (1 no.) OCGT unit, comprising a single gas turbine and a single alternating current (AC) generator. The generator and gas turbine will be housed in separate acoustic enclosures with ventilation ducts.

The electrical energy output of the OCGT will be limited to 350MW.

The turbine and ancillary plant elements (including the gas and distillate fuel skids etc.) will have a containerised control module which will house the turbine controls and a containerised electrical module which will supply power to the turbine and its associated auxiliary systems. The turbine will have a transformer to step up its generating power to a level suitable for export to a new bay in the existing onsite electrical substation.

The turbine will use forced air-cooling radiators to manage heat from the lubrication oil and other essential systems when operational.

The gas turbine package will be located externally within the Site. The turbine will fire primarily natural gas to generate power, however it also has the functionality to fire on locally stored back-up (distillate fuel or Hydrotreated Vegetable Oil (HVO)), transported to site via HGV tanker and stored on Site in an above ground tank. Operation using distillate fuel is only in the exceptional event of a loss of pressure in the gas transmission system and other generation sources on the transmission grid not being able to meet demand, and during fuel security compliance tests (to confirm the readiness of the turbine to respond to a call to fire on distillate fuel in the event of an emergency).

The OCGT unit has been specified to comply with the emissions requirements of the Industrial Emissions (IE) Directive without supplemental emissions abatement such as selective catalytic reduction. Consequently, the flue gases generated will pass directly from the gas turbine unit to a flue stack structure.

3.2.2 Emissions Stack

The proposed 1 no. emissions stack will be 40.0m high (top of stack will be at 1107.5m AOD) and 9.0m in diameter (8.0m internal width) and will be constructed for the OCGT, to the north of the proposed gas turbine. The top of the flue will be stainless steel lined to avoid corrosion. Detailed air dispersion modelling has been carried out to inform the stack height and is discussed within Chapter 7: Air Quality and Climate and presented in detail in Appendix 7A in EIAR Volume II.

Flue gases from an OCGT can be up to 600°C in temperature and the emissions stack structure includes a number of measures to accommodate such a high temperature gas. The stack will be double skinned with a layer of insulation between the inner and outer cylinders to the stack. This minimises heat transfer to the surrounding structure and reduces discolouration of the stack exterior over time.

A combination of the high exhaust gas temperature, low NO_x content, and absence of visible combustion particulates mean that the proposed OCGT plant will not form a visible plume. The exhaust temperature is such that water vapour in the flue gas is unlikely to condense close to the stack structure before dispersal, even during times of very low ambient temperature. The OCGT is compliant with current best available techniques for NO_x limits meaning the characteristic yellow tint to the flue gases from the presence of high levels of NO_x will not be visible.

The stack structure will include a continuous emissions monitoring system (CEMS) that will be mounted at height at stack exit. The system will be accessible via a fixed platform, 30m high, attached to the stack. Emissions from the stack will be monitored continuously using the CEMS and reported in accordance with the requirements for the operation of the Proposed Development under an IE License which will be applied for in due course.

3.2.3 Air Intake

The OCGT requires large volumes of filtered air during operation. Filtration of the air is vital for its efficient and reliable operation.

The air intake structure will draw in air via louvres on its surface and will pass it through up to two layers of filtration during operation to remove entrained particles from the air. As the filters become loaded with entrained particles they will require periodic cleaning or replacement. This will be completed when the gas turbine unit is offline.

The proposed air intake will be 15m in height and 26m in width and 13.3m in depth, or 20.8m in depth including the duct to the rear, and is raised 12m above the ground.

During cold weather, the air intake structures may be prone to icing up which reduces air flow through the structure and consequently the power output of the OCGT. To mitigate ice build-up on the structure it will incorporate de-icing equipment that during operation will either use induction elements or hot air to warm of the surface of the intake structure preventing ice build-up. This system is only expected to operate when the OCGT is running.

3.2.4 Fin Fan Coolers

A bank of fin fan coolers will be situated to the east of the OCGT. The bank of fin fan coolers will have a length of 25m, a width of 8.5m and a height of 5.3m. The steam is condensed externally finned tubes which are cooled by a current or air blown over them by the fin fan coolers.

The fin fan coolers are required to provide cooling to the gas turbine lube oil and control oil systems, the generators, and the transformers. The fin fan coolers circulate water in a closed loop between these systems and the external radiators.

The coolers comprise variable speed fans that draw air over banks of finned tubes through which the hot water from the operational equipment is circulated. The finned tube banks will be mounted horizontally and at a height above the ground to allow space for air to be drawn in from under the banks by the fans.

The speed of the fans varies to match the cooling requirements of the power generating equipment. This minimises the noise impact of the fans and reduces power load during operation.

3.2.5 Main and Auxiliary Transformers

Power generated by the gas turbine generator will be stepped up from the generator voltage to 220 kV and exported via the existing 220 kV substation to the immediate south of the Site.

The power requirements of the project will be taken from the export power connection and will be stepped down for local usage via an auxiliary transformer. The auxiliary transformer is expected to be significantly smaller (typically less than 1% the design rating of the main transformer). Two ancillary transformers will also be required to start the OCGT unit.

3.2.6 Fire Suppression Skid

The OCGT is installed in ventilated and acoustical insulated enclosures. In the event of a fire or significant natural gas build up in one of these enclosures, an inert gas purging system will be initiated to displace air from the enclosure.

The inert gas proposed for use will be carbon dioxide (CO₂). The carbon dioxide will be stored in a bank of pressurised cylinders adjacent to the OCGT.

3.2.7 Ignition Propane Store

The OCGT includes the functionality to fire on locally stored distillate fuel in the exceptional event of a loss of pressure in the gas transmission system and other generation sources on the transmission grid not being able to meet demand, and during fuel security compliance tests (to confirm the readiness of the turbine to respond to a call to fire on distillate fuel in the event of an emergency).

The OCGT cannot start on distillate fuel however and propane gas is required to aid start-up.

The quantity of propane required compared to the normal fuel consumption of the OCGT is relatively small. Propane will be stored in a bank of pressurised cylinders adjacent to the OCGT.

3.2.8 Fire Water Tank

A fire water tank with a capacity of 1,000m³ is required to comply with the requirements of the IE License. The fire water storage tank will be located to the west of the OCGT (between the OCGT and the AGI) as part of the full site fire safety system. Gaseous extinguishing systems will also be provided for use on electrical systems.

3.2.9 Gas AGI Connection

The existing Tynagh Power Station AGI connects the existing Tynagh CCGT Power Station with the gas transmission network.

A gas pipeline (internal to the site) will connect the proposed OCGT to a new AGI compound, located to the west of the plant (and to the north of the existing gas AGI).

The gas AGI compound will be designed to gas network operator specifications and will be similar in nature to the existing AGI on site. It will include a pressure reduction station, preheating equipment, metering equipment and various shutoff and control valves.

3.2.10 Electrical Substation Connection

The OCGT will be connected to the existing Tynagh Power Station electrical substation (located to the immediate south) via buried cables that will be approximately 200m long and will include additional infrastructure within the substation.

3.2.11 Underground Services (inc. Electrical Cabling)

Underground gas pipework and electricity cabling connections will be laid between the Gas AGI and the OCGT, and between the OCGT and the electricity substation.

Natural gas will be forwarded from the AGI to the OCGT via a buried gas pipe approximately 260m long.

The OCGT will be connected to the existing electrical substation via buried cables approximately 200m long. Power and communications supplies to the AGI and OCGT will be provided by cables buried in parallel with the gas pipework route.

3.2.12 Acoustic Barriers

An acoustic barrier be provided as follows - a 7.0m high acoustic barrier around the fin fan cooler, a 8.0m high acoustic barrier around the transformers, and a 10.0m high barrier around the generator, turbine, diffuser and stack base. This configuration allows for a reduction in the noise emissions from the OCGT, whilst allowing sections of barrier to be removable for maintenance purposes when the plant is non operational.

3.2.13 Secondary Fuel Storage and Unloading Facility

The proposed plant will be required under the Grid Code to maintain a secondary fuel supply of back up fuel (distillate or HVO) which will be contained in a tank within a bunded area. The purpose of this secondary fuel is to ensure that power can still be supplied to the electricity network in the event of an interruption to supply from the gas connection. The secondary fuel will only be used in the unlikely event that both the gas connection is unavailable and other generation sources on the transmission grid cannot meet demand.

A fuel treatment plant will be required to remove any contaminants from the secondary fuel that may accumulate during storage, which will be collected in a tank contained within the bunded area prior to its safe disposal.

The secondary fuel will be received via road tanker at a new offloading station located to the east of the bunded tank and transferred to the tank via new offloading pumps. This area will include a drainage system which will link into the existing power station drainage system with interceptors to capture any potential oil spills.

A fuel forwarding pump set will forward the secondary fuel from the storage area to the plant when required. The pumps and fuel treatment plant are in a building adjacent to the tank. The secondary fuel storage facility and associated equipment will have a footprint of approximately 2000m².

3.2.14 Distillate Fuel Gantry

A gantry will carry the fuel forwarding and return lines to the OCGT from the secondary fuel storage area and from the fuel offloading area and will comprise a ground level and 6m tall frames.

The overhead gantry layout will not impede vehicle access within the site. The frame will be fabricated from carbon steel with either a galvanised or painted corrosion protection coating.

3.2.15 Demineralised water tank

The proposed plant will have a 6,000 m³ demineralised water storage tank which will be used for power augmentation of the gas turbine to achieve 350MW output.

3.2.16 Surface and Foul Water Drainage

The Proposed Development, while a separate facility to the existing Tynagh Power Station, will be located to its immediate north.

A sufficiently sized surface water drainage system will be provided to connect with the existing Tynagh Power Station Surface Water drainage infrastructure.

The Proposed Development will not lead to an increase in staff and therefore there will be no additional foul water generated (either from sanitation or process water) and as a result there will be no requirement for increased foul water management at the site over and above existing facilities.

3.2.17 Site Access and Internal Access Roads

The existing site access off LP4310 Gurtymadden (note - some public documents refer to this road as Gortymadden) to Tynagh Road will be used for construction personnel, traffic and the existing Tynagh Power Station staff. Security fencing, CCTV and other security measures including external lighting will be installed within the Site, for health, safety, and security purposes.

Internal roadways will be hard surfaced with drainage systems to manage surface water runoff and pollution risk.

3.2.18 Security Fencing and Boundary Treatments

The perimeter of the Site will be surrounded by palisade security fencing 2m in height. There will also be additional security fencing around specific areas of the site for added security and safety.

The area containing the gas AGI will be enclosed by security fencing. The area containing the electrical substation is currently fenced with an access gate and will remain unchanged. There will be double fencing in some locations such as between the perimeter fencing and the AGI area.

3.2.19 External Lighting

External lighting provide safe working conditions in all areas of the Site whilst reducing light pollution and the visual impact on the local environment. This will be achieved by the use of luminaires that eliminate the upward escape of light.

3.2.20 Temporary Construction Laydown Area and Contractor Compounds

The construction and laydown area will be provided at the Overall Project Site and the principal contractor will secure the area with temporary fencing, set up initial site accommodation and welfare facilities, and connect into the existing services on the existing Tynagh Power Station Site. To ensure site security, there will be a single point of entry to the Site for all construction personnel. Laydown requirements and construction phasing will be developed during the detailed design phase by the E&C contractor.

Construction access to the Site will be from the existing site access to the west of the Site, from the LP4310 Tynagh Road.

It is expected that the extent of HGV movements will vary at different stages of the construction works in response to the activities taking place at any given time. Typical levels during the construction phase will be above the operational level. Construction levels would be assessed against TII guidance which recommends an assessment if there is a change exceeding 10% annual average daily traffic (AADT) on affected roads.

4. Screening for Appropriate Assessment

4.1 Identification of Relevant European Sites

There is no pre-defined guidance on the physical scope of an HRA, and distances required evaluation on a case-by-case basis (see Section 2.4). European sites were included due to the potential presence of a source-pathway-receptor relationship. A robust 15km buffer of the application boundary was initially used as a guide of the Site's proximity to receptors, based on impacts of air quality (Institute of Air Quality Management, 2019) or due to potential hydrological connection to the Site. Where watercourses and hydrological connectivity to European sites are present, European sites within the same water catchment area are be considered.

If the Site does not have the potential to affect the qualifying Annex II species of the EU Habitats Directive or Annex I species of the EU Birds Directive of a European site, or if the terrestrial qualifying habitats of the European sites occur at a remote distance from the Site (i.e. buffered from the Site), then these European Sites are not considered to be within the Zol of the Proposed Development.

Based on this selection criteria, thirteen European sites are located within 15km of the Proposed Development. These sites and their selection features are detailed in Table 4.1 and their locations are displayed in Figure 9.2 (refer to EIAR Volume III). The validity of each of the source-pathway-receptor relationships is further examined within Section 4.2. No significant effects to any other European sites are likely due to a lack of source-pathway-receptor relationship.

Table 4.1: European Sites Potentially Relevant to the Proposed Development.

Site Name, Code	Qualifying Interests	Conservation Objectives	Distance to Proposed Development Site
Slieve Aughty Mountains SPA [4168]	<ul style="list-style-type: none"> Hen harrier <i>Circus cyaneus</i> [A082] Merlin <i>Falco columbarius</i> [A098] 	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.	~6.1km southwest.
Ardgraique Bog SAC [2356]	<ul style="list-style-type: none"> Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the <i>Rhynchosporion</i> [7150] 	To restore the favourable conservation condition of Active raised bogs in Ardgraique Bog SAC.	~8.3km east.
Barroughter Bog SAC [0231]	<ul style="list-style-type: none"> Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the <i>Rhynchosporion</i> [7150] 	To restore the favourable conservation condition of Active raised bogs in Barroughter Bog SAC.	~10.1km southeast. ~17.5km downstream of Cloonprask / Barnacullia Stream and Lisduff Stream
Pollnaknockaun Wood Nature Reserve SAC [0319]	<ul style="list-style-type: none"> Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] 	To maintain the favourable conservation condition of Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles in Pollnaknockaun Wood Nature Reserve SAC.	~11.0km south.
Rosturra Wood SAC [1313]	<ul style="list-style-type: none"> Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] 	To maintain the favourable conservation condition of Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles in Rosturra Wood Nature Reserve SAC.	~11.2km south.
Lough Derg, North-east Shore SAC [2241]	<ul style="list-style-type: none"> <i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130] Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210] Alkaline fens [7230] Limestone pavements [8240] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] <i>Taxus baccata</i> woods of the British Isles [91J0] 	To restore the favourable conservation condition of <i>Juniperus communis</i> formations on heaths or calcareous grasslands, Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> , Alkaline fens, Limestone pavements, Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>), and <i>Taxus baccata</i> woods of the British Isles in Lough Derg, North-east Shore SAC.	~11.1km southeast. ~19 km downstream of Cloonprask / Barnacullia Stream and Lisduff Stream
Lough Derg (Shannon) SPA [4058]	<ul style="list-style-type: none"> Cormorant <i>Phalacrocorax carbo</i> [A017] Tufted duck <i>Aythya fuligula</i> [A061] Goldeneye <i>Bucephala clangula</i> [A067] Common tern <i>Sterna hirundo</i> [A193] Wetland and waterbirds [A999] 	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. To maintain or restore the favourable conservation condition of the wetland habitat at Lough Derg (Shannon) SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	~11.1km southeast. ~19.2km downstream of Cloonprask / Barnacullia Stream and Lisduff Stream
Lough Rea SPA [4134]	<ul style="list-style-type: none"> Shoveler <i>Anas clypeata</i> [A056] Coot <i>Fulica atra</i> [A125] Wetland and waterbirds [A999] 	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.	~11.5km west.

Site Name, Code	Qualifying Interests	Conservation Objectives	Distance to Proposed Development Site
		To maintain or restore the favourable conservation condition of the wetland habitat at Lough Rea SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	
Lough Rea SAC [0304]	<ul style="list-style-type: none"> Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140] 	To maintain the favourable conservation condition of Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. in Lough Rea SAC.	~11.5km west.
Cloonmoylan Bog SAC [0248]	<ul style="list-style-type: none"> Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the <i>Rhynchosporion</i> [7150] Bog woodland [91D0] 	To restore the favourable conservation condition of Active raised bogs in Cloonmoylan Bog SAC.	~11.7km south.
Derrycrag Wood Nature Reserve SAC [0261]	<ul style="list-style-type: none"> Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] 	To maintain the favourable conservation condition of Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles in Derrycrag Wood Nature Reserve SAC.	~13.3km south.
River Shannon Callows SAC [0216]	<ul style="list-style-type: none"> <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils <i>Molinion caeruleae</i> [6410] Lowland hay meadows <i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i> [6510] Alkaline fens [7230] Limestone pavements [8240] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] Otter <i>Lutra lutra</i> [1355] 	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/ or the Annex II species for which the SAC has been selected.	~14.4km east.
Middle Shannon Callows SPA [4096]	<ul style="list-style-type: none"> Whooper swan <i>Cygnus cygnus</i> [A038] Wigeon <i>Anas penelope</i> [A050] Corncrake <i>Crex crex</i> [A122] Golden plover <i>Pluvialis apricaria</i> [A140] Lapwing <i>Vanellus vanellus</i> [A142] Black-tailed godwit <i>Limosa limosa</i> [A156] Black-headed gull <i>Chroicocephalus ridibundus</i> [A179] Wetland and waterbirds [A999] 	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</p> <p>To maintain or restore the favourable conservation condition of the wetland habitat at Middle Shannon Callows SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.</p>	~14.4km east.

Source: NPWS Site Citations.

4.2 Stage 1 Screening Assessment

4.2.1 Project Details

Table 4.2: Screening matrix.

Stage 1 Screening Project Details

European sites under consideration:	Refer to Table 4.1
Description of Project <i>Describe any likely direct, indirect, or secondary impacts of the project (either alone or in-combination with other plans or projects) on the European site by virtue of:</i>	
Are the works are connected with or necessary to the management of any European site?	No.
Size and scale	<p>The working area of the Proposed Development is within and immediately north of the existing Tynagh Power Station Site and on the former mining site lands. This area comprises existing spoil / bare ground and semi-natural grassland, woodland, conifer plantation, scrub and a pond, and also includes the Tynagh Power Station gas AGI and electrical substation.</p> <p>The Proposed Development area is approximately 8.3ha. The proposed flue gas stack will be 40m in height (106.5m AOD) and 9m in diameter. The stack will connect to the OCGT.</p>
Land-take	There will be no land take from, or in proximity to, any European sites.
Distance from the European site or key features of the site (from edge of the project assessment corridor)	Refer to Table 4.1.
Resource requirements (from the European site or from areas in proximity to the site, where of relevance to consideration of impacts)	There will be no resource requirements from within the European sites or in any area in proximity to the European sites.
Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)	<p><u>During Construction:</u></p> <p>Particulate matter would not have impacts beyond 50m and so European sites, situated remotely would not be impacted by dust or arisings or other particulate matter alighting on vegetation or habitats. Indirect effects of sediment and other contaminants would not be expected to reach the streams either north or south of the of the Site.</p> <p>The construction process will be completed within the hardstanding and brownfield areas of the Site. When considering the already industrial nature of the site, there are no concerns of noise, vibration, or lighting associated with either construction noise or operation phases.</p> <p>There is a risk of pollution incidents during the construction phase. For example, fuel spillages from plant or the use of bentonite/ grout/ other chemicals. However, there are no works taking place near any watercourse nor instream works. In addition, as construction would be completed within the existing Site and Power Station Site, it would be subject to its drainage regime. This regime ensures that run-off and overland flows pass into and are retained in a closed system within the mining lagoon to the southeast. The lagoon does not discharge potential sediment or contaminant-rich water into the local watercourses. The source-pathway-receptor link would therefore break down to the European sites with no link to the watercourses and so no impacts would occur to them as a result.</p> <p><u>During Operation:</u></p> <p>Air quality emissions on sensitive habitats within the Zone of Influence include habitats where poor air quality can affect growth and functioning such as with raised bogs and woodlands. Air quality modelling was completed and specifically examined all protected sites in the vicinity of the Site. Air quality modelling has concluded that screening thresholds for atmospheric pollutants will not be exceeded as a result of the</p>

Stage 1 Screening Project Details

	<p>Proposed Development, or in combination with other plans and projects, and there is no need for further assessment of the impacts of air quality on European sites (Chapter 7, ES Volume I, Appendix 7A, ES Volume II).</p> <p>The wastewater from the Site is treated on Site in a wastewater treatment system situated on the eastern boundary of the Site. Wastewater is directed to a treatment system containing a Klargester BioDisc unit, sand filter unit and then onto a percolation drainage field which has been assessed and confirmed to meet the requirements. In relation to wastewater, there are no likely significant effects on European Sites, as a result of a lack of a source-pathway-receptor relationship.</p> <p>A further potential vector was identified in watercourses potentially conveying pollutants to European sites. Indirect deposition of pollutants from emissions to air from the Proposed Development was considered with regard to the three minor watercourses flowing within several hundred metres of the Site, one c. 13m to the north-east of the Site, the Cloonprask / Barnacullia Stream, the Mill Stream c. 250m to the north, and the other to the south, the Lisduff Stream, c. 510m all flowing in an easterly direction eventually into the Kilcrow River. However, as these are constantly moving systems, with fresh water constantly flushing out any potential contaminants, it is not possible for any accumulation resulting from air quality emissions to be dissolved into the water and build up to elicit a response within the aquatic habitat or beyond. Indirect effects on these ecological receptors from the emissions to air were dismissed.</p>
Excavation requirements (e.g. impacts of local hydrogeology)	No excavations are required from within, or in proximity to, any European sites.
Transportation requirements	No transport requirements will be necessary within any European sites for the construction of the Proposed Development. Additional traffic associated with the construction process will be facilitated on the existing local road network.
Duration of construction, operation, etc.	<p>The Proposed Development will take approximately 18-24 months in total to construct.</p> <p>The operational lifespan of the Proposed Development is at least 25 years, after which it will be either decommissioned or extended.</p>
Other	N/A

4.2.2 Source-Pathways-Receptors

Having identified the European sites within 15km and that no sites are hydrologically connected to the Proposed Development, consideration was next given to the potential impact sources, pathways to European sites by which likely significant effects could arise on relevant receptors.

Based on possible impacts of both the construction and operational phases of the Proposed Development, pathways, receptors, and the zone of influence of the Proposed Development, was estimated. This is presented in Table 4.3

Table 4.3: The Source-Pathway-Receptors from the Proposed Development to European Sites.

Potential Impact Source	Pathway to European site(s)	Potential for Effect(s) on Receptors*	European Sites within Zol
Construction Phase			
Disturbance due to increased noise, artificial lighting and/ or the increased presence of personnel, plant, and machinery during construction.	None. All European sites are more than 5km from the Proposed Development Site.	None. The Proposed Development will take place immediately adjacent to an existing industrial facility. Any additional construction-based noise, artificial lighting and/ or the presence of personnel, plant and machinery during the construction phase are unlikely to significantly exceed baseline conditions if experienced within European sites. With all European sites more than 5km away, there will be no noise or visual disturbance at this distance. There is no suitable habitat for mobile species of identified European sites within the Site, however, any SCI species occurring closer to the facility, outside of the boundary of the SPA, would do so under existing disturbance conditions and would necessarily be habituated to levels of anthropogenic activity. Given that the Proposed Development will not result in any significant change to the existing conditions, as set out above, there can be no expectation of disturbance being caused.	None.
Airborne pollution of QI or SCI habitats/ species, or habitats supporting QI/ SCI.	None. All European sites are more than 5km from the Proposed Development Site.	None. The Institute of Air Quality Management (IAQM) state that it is commonly accepted that the greatest impacts from dust will be within 100m of a source, but that intermediate particles may disperse up to 400m. Smaller particles have the potential to disperse beyond 400m but with minimal significance due to dispersion. The IAQM therefore advises that assessment of the impacts of dust on ecological features is only likely to be required up to 400m from a source (IAQM, 2016). Dust and/ or other emissions generated during the construction phase will be minimal, even without mitigation, and will be widely dispersed before reaching any European site.	None.
Waterborne pollution of QI or SCI habitats/ species, or habitats supporting QI/ SCI.	The Cloonprask / Barnacullia Stream is located approximately 13m north-east of the Site , the Mill Stream is located approximately 250m to the north of the Site, and the Lisduff Stream is located approximately 510m south of the Site. These streams converge with the Kilcrow River, which then outflows into	None. Water within the Site is held in a closed system. Beyond that there is no requirement to work within or in proximity to the streams, and therefore negligible risk exists of runoff entering the streams. Therefore, there is no valid pathway for waterborne pollution to any receptor within a European site given the distance to the	None.

Potential Impact Source	Pathway to European site(s)	Potential for Effect(s) on Receptors*	European Sites within Zol
	<p>Lough Derg where several European sites are located. This hydrological connection is approximately 18-20km.</p> <p>Surface water runoff will be drained and attenuated within the Site and discharged into the former open pit mine under the terms set out under the existing Tynagh Power Station site licence. Oil-water separators will be provided where necessary. Foul water from welfare facilities will be treated in an onsite treatment system and discharge to ground.</p>	<p>nearest watercourse followed by the 18-20km journey to a receptor within a European site. On that basis, therefore, there is no potential for any effects on QI or SCI.</p>	
Direct loss of or damage to QI or supporting habitat(s).	<p>None.</p> <p>The nearest European site is situated more than 5km from the Proposed Development Site.</p>	<p>None.</p> <p>Given the intervening distance, and the unsuitability of the site for mobile QI, there is no potential for direct loss of or damage to QI or supporting habitats.</p>	<p>None.</p>
Operational Phase			
Airborne pollution of QI or SCI habitats/ species, or habitats supporting QI/ SCI.	<p>None.</p> <p>Air quality modelling has concluded that screening thresholds for atmospheric pollutants will not be exceeded as a result of the Proposed Development (Chapter 7, EIAR Volume I). The results of the assessment for the stack emissions and all ecological receptors are at less than 1% increase, which has been deemed insignificant.</p> <p>Indirect transfer via watercourse transport of dissolved pollutants has also been dismissed as a valid vector.</p>	<p>None.</p> <p>There is no potential for direct loss of or damage to QI or SCI habitats/ species, or habitats supporting QI / SCI.</p>	<p>None.</p>
Waterborne pollution of QI or SCI habitats or species, or habitats supporting QI/ SCI.	<p>The Cloonprask / Barnacullia Stream is located approximately 13m north-east of the Site, the Mill Stream is located approximately 250m to the north of the Site and the Lisduff Stream is located approximately 510 m south of the Site. These streams converge with the Kilcrow River, which then outflows into Lough Derg where several European sites are located. This hydrological connection is approximately 18-20km.</p> <p>The Proposed Development will not result in any changes to the existing drainage system at the Site, which includes silt traps and oil separators, pollution control tank and interceptor. The existing drainage system is part of the baseline conditions and the measures it incorporates are required to comply with general pollution protection legislation and objectives. The existing drainage system was not installed to avoid or reduce any potential</p>	<p>None.</p> <p>Water within the Site is held in a closed system. There is no valid pathway for waterborne pollution to any receptor within a European site given the distance from the Site to the nearest watercourse followed by the 18-20km journey to a receptor within a European site. On that basis, therefore, there is no potential for any effects on QI or SCI.</p>	<p>None.</p>

Potential Impact Source	Pathway to European site(s)	Potential for Effect(s) on Receptors*	European Sites within Zol
	<p>harmful effects to any European sites. Moreover, its presence is not required to avoid likely significant effects on any European site from the Proposed Development. There is no reliance on existing measures to avoid likely significant effects.</p> <p>Indirect transfer via watercourse transport of dissolved pollutants has also been dismissed as a valid vector.</p>		
<p>Disturbance as a result of increased noise, artificial lighting and/ or the increased presence of personnel, plant and machinery during operation.</p>	<p>None.</p> <p>All European sites are more than 5km from the Proposed Development Site.</p>	<p>None.</p> <p>The Proposed Development will operate entirely within and immediately adjacent an existing industrial facility. Any additional noise, artificial lighting and/ or the presence of personnel, plant and machinery during the operation phase are unlikely to significantly exceed baseline conditions. Moreover, with all European sites more than 5km away, there will be no noise or visual disturbance at this distance.</p> <p>There is no suitable habitat for mobile species of identified European sites within the Site, however, any SCI species occurring closer to the facility, outside of the boundary of the SPA, would do so under existing disturbance conditions and would necessarily be habituated to levels of anthropogenic activity. Given that the Proposed Development will not result in any significant change to the existing conditions, as set out above, there can be no expectation of disturbance being caused.</p>	<p>None.</p>
<p>Direct loss of or damage to QI or supporting habitat(s)</p>	<p>The nearest European site is situated more than 5km from the Proposed Development Site.</p>	<p>Given the intervening distance, and the unsuitability of the site for mobile QI, there is no potential for direct loss of or damage to QI or supporting habitats.</p>	<p>None.</p>

*Receptors here means any Qualifying Interest(s) of SAC(s) or Special Conservation Interest(s) of SPA(s), or any other ecological features (e.g. habitats) which support QI/SCI.

4.2.3 Likely Significant Effects

For each of the European sites considered as part of this Screening Assessment, the potential impacts of the Proposed Development were considered, with reference to the conservation objectives of each European site, to assess for likely significant effects.

On the basis of the information provided in Table 4.3, the following potential impacts have been screened out as there will be no likely significant effects to any European sites due to a lack of source-pathway-receptor relationships:

- Airborne or pollution of QI or SCI habitats / species, or habitats supporting QI/ SCI during the construction phase;
- Waterborne pollution of QI or SCI habitats or species, or habitats supporting QI/ SCI;
- Disturbance due to increased noise, artificial lighting and/ or the increased presence of personnel, plant and machinery during the construction or operational phases; and
- Direct loss of or damage to qualifying or supporting habitats during the construction or operational phase.

Arguably, the most significant potential impact to European sites from the Proposed Development comprises potential impacts of air quality during the operational phase. However, the air quality assessment carried out to inform the EIAR has resulted in a finding of no significant effects to any ecological receptors, as the critical threshold will not be exceeded. No likely significant effects are predicted.

One potential pathway identified during Screening comprises three small streams, the Cloonprask / Barnacullia Stream (c. 13m north-east of the Site), the Mill Stream (c. 250m of the Site), and the Lisduff Stream (c. 473m south of the Site) all of which converge with the Kilcrow River and eventually drain into Lough Derg at a distance of approximately 18 km. However, the power station surface water management system is a closed system with stormwater passing into the lagoon following passing through an existing treatment system. Whilst the site boundary lies 13 m from the nearest watercourse, the construction of buildings will be at a distance of over 130m from either stream. The likelihood of any pollutants reaching either of the streams via overland runoff is therefore unlikely. Furthermore, the onward journey of any pollutants would be a hydrological distance of over 17.5 km to Barroughter Bog SAC or over 19 km to Lough Derg SAC/SPA. It would be even more unlikely that pollutants would reach these European sites in high enough concentration to elicit a response from any ecological receptor. Other indirect effects through watercourse acting as a vector for transporting dissolved pollutants has been dismissed. Screening has therefore concluded that there will be no risk to the European Sites during construction and operation of the Proposed Development, and therefore there would be no impacts to receptors which whilst are potentially hydrologically linked, the validity of this source-pathway-receptor relationship breaks down at this distance.

Due to the distances between the European sites and the Proposed Development (the closest of which is c. 6.1 km), there will be no direct significant effects to any European site. The Site contains negligible habitat of use to species of identified European sites, however, where any SCI species may occur close to the facility, outside of the boundary of the SPA, they would do so under existing baseline conditions and would necessarily be habituated to levels of anthropogenic activity. A wintering bird survey has been completed confirming the low levels of bird usage of the Site and adjacent lands (including mobile SCI species). No likely significant effects to species within the boundary of any SPA are predicted.

4.2.4 Assessment In-combination

In-combination effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location (CIEEM, 2018).

In order to inform the potential for in-combination effects, a search was conducted of relevant planning applications within the vicinity of the Proposed Development, using the An Bord Pleanála Online Planning System and the GCC Online Planning System. The search was limited to the five-year period preceding the date of issue of this Report (due to the typical five-year lifetime of planning permission). The resulting planning applications are presented in Table 4.4.

Table 4.4: Planning Applications in the vicinity of the Site.

Planning Application	Date Submitted	Summary Details	Address/ Applicant	Status
21/2192	24/11/2021	For the construction of an OCGT plant (299MW) and associated infrastructure and buildings, to the west of the existing Tynagh Power Station site.	EP Energy Developments Ltd.	Approved by GCC (April 2022). Approved by An Bord Pleanála (ABP-313538-22)
19633	26/04/2019	To extend workshop and to complete all associated site works. Permission is also sought to erect acoustic fencing along a section of the existing site boundary. The site is located within the confines of a Major Accident Site under the Seveso Directive. Gross floor space of proposed works: 600m ² .	Sperrin Galvanisers (IRE) Ltd. Derryfrench	Granted (Conditional) 29/07/2019 July 2019
18221	26/02/2018	To extend workshop and complete all associated site works. Permission is also sought to erect acoustic fencing along a section of the existing site boundary. Gross floor space of proposed works 600m ² . The proposed site is located at Derryfrench, Tynagh, Co. Galway and is within the confines of a Major Accident Site as determined by the Seveso Directive.	Sperrin Galvanisers (IRE) Ltd. Derryfrench	Granted (Conditional) April 2019

Source: Galway County Council Online Planning System and An Bord Pleanála Online Planning System.

No applications were identified as having likelihood to act in-combination with the Proposed Development. The planning applications identified comprise small-scale developments. Following the consideration of all other projects and plans in the surrounding environment, it has been determined that none will act in-combination with the Proposed Development.

4.2.5 Consultation

Relevant pre-application has been undertaken with An Bord Pleanála in January 2023.

5. Screening for Appropriate Assessment Conclusion

The need for an Appropriate Assessment can only be excluded, on the basis of objective scientific information, and in light of the conservation objectives of relevant sites, that the Proposed Development, either individually or in-combination with other plans or projects, could not have likely significant effects on any European site.

The potential for likely significant effects of the Proposed Development on European sites described have been assessed alone and in combination with other plans and projects.

Following the assessment of the likely significant effects of the Proposed Development on European sites considered in Section 4.2, no significant effects are likely to any European site either alone or in-combination with other plans and projects. No source-pathway-receptor links have been identified to any of the qualifying interests of the European sites in the vicinity or mobile qualifying interests from sites further afield.

The Proposed Development is not required for the management of any European site. No specific mitigation will be introduced over and above the standard operating procedures.

Therefore, in view of best scientific knowledge and on the basis of objective information, it is concluded that the Proposed Development, whether individually or in-combination with other plans or projects, beyond reasonable scientific doubt is not likely to have significant effects on any European site, and therefore that there is no requirement to proceed to the next step of Appropriate Assessment.

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