ARUP

Electricity Supply Board (ESB)

Green Atlantic @ Moneypoint Concept 2025

Strategic Environmental Assessment (SEA) Environmental Report

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Ove Arup & Partners Ireland Limited
50 Ringsend Road
Dublin 4
D04 T6X0
Ireland
arup.com

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Non-Technical Summary

Introduction

This Non-Technical Summary (NTS) has been prepared to support the Strategic Environmental Assessment (SEA) of the Electricity Supply Board's ('ESB') Green Atlantic @ Moneypoint Concept 2025 (referred to hereafter as 'the GA Concept'). This document has been prepared in accordance with relevant EU and national legislation to summarise, in non-technical language, the Environmental Report for the SEA of the GA Concept (referred to hereafter as the 'SEA ER'). It draws attention to the most important issues outlined in the SEA ER and describes the key outcomes. Further detail can be found in the SEA ER.

Background

ESB acquired the Moneypoint lands in the 1970s. The site is one of Ireland's most important strategic industrial landbanks and is located in the Shannon Estuary, Co. Clare. From its commissioning in 1985, Moneypoint has operated as the State's only coal fuelled power station, meeting on average 25% of national electricity demand.

Moneypoint Generating Station is currently licenced by the Environmental Protection Agency (EPA) under an Industrial Emissions (IE) Licence (Ref. P0605-04). Moneypoint Generating Station's IE Licence requires that activities onsite do not cause environmental nuisance such as odour, dust, or noise. The IE Licence contains conditions on how the site must operate in order to protect the environment from pollution that might otherwise arise. Limits and controls are imposed on emissions to air, water and noise. The IE License also requires that there are procedures in place to record, investigate and respond to environmental complaints if or when they arise, and includes requirements relating to site operations, such as, the implementation of an Environmental Management System (EMS), energy efficiency, incident response and waste management. In line with the IE Licence, environmental monitoring of emissions from the site is on-going. Throughout its operation, Moneypoint Generating Station has been maintained and improved to meet relevant environmental standards, and the IE Licence reviewed as appropriate.

Green Atlantic @ Moneypoint Concept

ESB has prepared the GA Concept which sets out a single, spatial concept for the transformation of ESB's land at Moneypoint over a period, likely to be the next ten-to-fifteen years.

The GA Concept aims to enable the repurposing of Moneypoint Generating Station site into a renewable energy hub and a strategic resource for the Offshore Renewable Energy (ORE) sector, whilst also maintaining and operating Moneypoint Generating Station as the strategically critical generating station that it is at present.

The GA Concept provides an overall framework for the land's redevelopment in-line with the broader vision for the site. It enables individual projects to be seen in the context of this 'bigger picture' and wider land-use considerations for the Shannon Estuary. It is intended to engage stakeholders on ESB's plans for Moneypoint Generating Station site and to support individual project proposals and planning applications.

It is anticipated that the GA Concept will be subject of periodic reviews, particularly in the context of any significant changes to ESB Strategy; changes within the receiving environment as may arise from new developments; or changes to land-use policies as may arise from a review of the Clare County Development Plan (referred to hereinafter as 'CCDP').

SEA Methodology

European Council Directive 2001/42/EC (the SEA Directive) provides guidance on the assessment of effects of certain plans and programmes[1]. The objective of the SEA Directive is 'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans with a view to promoting sustainable development'.

It is a systematic, on-going process for evaluating, at the earliest possible stage, the environmental quality and consequences of implementing certain plans and programmes on the environment.

The methodology applied in the preparation of this SEA ER is based on legislative requirements and guidance from the EPA to ensure compliance with the SEA Directive and associated national legislation.

Current State of the Environment

The SEA ER considers the current environmental conditions, hereafter referred to as the baseline environment. This description of the baseline considers the local level nature of the GA Concept and is cognisant of the pressures and interrelationships between environmental topics within the GA Concept area.

The SEA Directive requires that where the GA Concept has potential for transboundary environmental effects these must be addressed within this SEA ER. Thus, this SEA ER details any potential transboundary environmental effects that may occur in relation to all environmental components, relating to the GA Concept.

The baseline considers the following environmental aspects:

- Population and Human Health
- Biodiversity
- Land and Soils
- Water
- Air Quality and Climate (including Noise)
- Archaeological, Architectural and Cultural Heritage;
- Landscape and Visual; and
- Material Assets.

A summary of the baseline description for each environmental component is discussed as follows.

Population and Human Health:

Moneypoint Generating Station is a significant economic driver in the economy of County Clare and the south-west region of Ireland. The site acts as an employment hub whilst also providing a reliable source of electricity, to support economic activity across all sectors. There are currently circa 123 people permanently employed on the Moneypoint Generating Station site with regular temporary employment opportunities also being provided for contractors associated with various ongoing projects on site.

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[1] Under S.I. No. 435 of 2004, plans and programmes (P/P) are defined as:

"plans and programmes" means P/P, as well as any modifications to them

(a) which are subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and

(b) which are required by legislative, regulatory or administrative provisions.

The GA Strategy is considered a P/P under S.I. No. 435 of 2004 and as such, has been referred, not only as the GA Strategy but in some instances as a Plan throughout this report.

General health in the electoral division of 'Kilrush Rural' is classed predominantly as 'Very Good' within the latest CSO data [2] (CSO, 2022). In total 405 individuals were reported as having 'Very Good' general health, 219 individuals reported as having 'Good' health, 76 reported as having 'Fair' health, 13 reported as having 'Bad' health and 3 reported as having 'Very Bad' health[2] (CSO, 2022).

Moneypoint Generating Station is an upper tier site SEVESO site by virtue of the quantity of dangerous substances stored at the site, in particular Heavy Fuel Oil (HFO). A SEVESO site is defined as 'Industrial sites that, because of the presence of dangerous substances in sufficient quantities, are regulated under Council Directives 96/82/EC and 2003/105/EC, commonly referred to as the Seveso II Directive'[3] (DCC, 2023).

Moneypoint Generating Station site is currently regulated by the EPA under an Industrial Emissions (IE) Licence (Ref. P0605-04). Moneypoint Generating Station's IE Licence requires that activities onsite do not cause environmental nuisance such as odour, dust, or noise. The IE Licence contains conditions on how the site must operate in order to protect the environment from pollution that might otherwise arise. Limits and controls are imposed on emissions to air, water and noise. The IE Licence also requires that there are procedures in place to record, investigate and respond to environmental complaints if or when they arise.

Biodiversity:

The onshore areas of Moneypoint Generating Station are not considered to be of significant biodiversity value, with the exception of areas of mature woodland to the north of the site, and indeed the site's shoreline. The Moneypoint Generating Station's privately held foreshore is located within the Lower Shannon Estuary which is home to a wide range of habitats and species.

A brief description of Moneypoint Generating Station site's biodiversity value (both on and offshore) is described as follows:

- The land to the north of Moneypoint Generating Station site comprises areas of mature woodland and dense scrub, with a discrete area of immature woodland to the north of the Ash Storage Area (ASA). The mature woodland areas (at least some of which have been present since before the 1840s) pre-date construction of Moneypoint Generating Station and are dominated by mature, wind stunted oak trees. There is a small area of Old Oak Woodland which is an Annex 1 Habitat (Habitat code 91A0), designated for protection under the Habitats Directive. Beech, hazel, ash, birch and alder also occur. Overall, the mature woodland habitats at the site are considered to be of high ecological value. Trees within and bounding the site are protected under the CCDP. Two significant stands of trees are designated and protected for preservation; and
- Under the Birds Directive (2009/147/EC) and the Habitats Directive (92/43/EEC) Member States must identify and designate specific terrestrial and marine sites for protection and appropriate management. The 'Natura 2000 network' comprises Special Protected Areas (SPAs) which include protected habitats for bird species, and Special Areas of Conservation (SACs) which are protected habitats and other species of EU conservation concern. Both are collectively referred to as 'European Sites'. In addition to European Sites, Natural Heritage Areas (NHAs) are designated under the Wildlife Acts (as amended). Proposed NHAs (pNHAs), comprise sites published on a non-statutory basis i.e., they are not formally or statutorily proposed or designated. There are two Natura 2000 sites located in ESB's privately held foreshore, namely the Lower River Shannon SAC (site code 0002165) and the River Shannon and River Fergus Estuaries SPA (site code 004077).

[2] CSO (2022) Disability, Carers and General Health. Available at: Census Local Statistics interactive mapping app | CSO Ireland

[3] DCC (2023) SEVESO Sites. Available at: Seveso Sites | Dublin City Council

The Qualifying interests/ Special conservation interests of these sites have been detailed as follows: Freshwater Pearl Mussel; Sea Lamprey; Atlantic Salmon; Otter; Coastal lagoons; Atlantic salt meadows; Mediterranean salt meadows; Alluvial forests; Brook Lamprey; River Lamprey; Bottlenose Dolphin; Sandbanks; Estuaries; Mudflats and sandflats; Large shallow inlets and bays; Reefs; Perennial vegetation of stony banks; Vegetated sea cliffs; Salicornia and other annuals colonizing mud and sand; Water courses of plain to montane levels; Molinia meadows; Cormorant; Whooper Swan; Light‐bellied Brent Goose; Shelduck; Wigeon; Teal; Pintail; Shoveler; Scaup; Redshank; Greenshank; Black‐headed Gull; Ringed Plover; Golden Plover; Grey; Lapwing; Knot; Dunlin; Black‐tailed Godwit; Bar‐tailed Godwit; and Curlew

- The Shannon Estuary shoreline which is located along the southern boundary of the site comprises steep rock armour and consequently a relatively narrow intertidal zone comprising mostly fucoid seaweeds. The estuary and shoreline habitat forms part of the aforementioned European Sites
- Other vegetative features found within the Moneypoint Generating Station site include, spoil and bare ground, which is extensive within the Generating Station site, there is varying levels of recolonisation by low ruderal vegetation. There is no vegetation over most of the onsite coal storage area, although there is sparse flora present in less disturbed areas to the south and east. Operational parts of the ASA are devoid of vegetation, while completed and capped areas comprise seeded open grassland habitat. Other amenity grassland areas are found in proximity to the southern shoreline and adjacent to the main access road and car parks.

Refer to Figure A4 in Appendix A.1 of this SEA ER for Designated Sites in and surrounding the Moneypoint Generating Station site boundary.

Land and Soils:

Land use at the Moneypoint Generating Station site is predominantly industrial and commercial in nature. The surrounding area of Kilrush predominantly consists of agricultural land (EPA, Corine, 2018)[4]. The topography of the site has been significantly altered through its development and management.
The land profile of the site is man-made and was created at the time of construction of Moneypoint Generating Station, by site development works. These works involved in excess of 3,500,000 cubic metres (m^3) of earth moving leading to remodelling of the site topography. Rock excavation at the coal storage area has left steep faces of broken/ eroded rock surface running up to the site boundary. In this area, soil berms have now matured with vegetation, especially on the exterior of the site boundary. Approximately 24 Ha of land were reclaimed from the foreshore during the construction of Moneypoint Generating Station, this area comprises the ESB's privately owned foreshore area.

Geological Survey of Ireland (GSI)[5] (GSI, 2025) data indicates that the natural soil at the Moneypoint Generating Station site comprises marine clays, made ground, and glacial tills, although this is indicated to be thin or absent in places with rock at or near the surface. There are no Geological Heritage Sites within the GA Concept boundary.

Water:

Moneypoint Generating Station site is located on the shore of the Lower Shannon Estuary transitional water body (IE_SH_060_0300). Monitoring surveys of water quality of estuaries and near shore coastal waters are undertaken as part of the Water Framework Directive (WFD) Monitoring Programme. The Lower Shannon Estuary is noted as being of 'good' WFD status. GSI (GSI, 2025) mapping indicates that the Moneypoint Generating Station site is located within the Shannon River Basin District (RBD). The nearest river to the site is the Tonavoher river, which is located less than 1km away. The Tonavoher river (IE_SH_27T230880) is noted to be of 'moderate' WFD status for river water bodies.

[4] EPA, Corine (2018) EPA Maps – Land & Soil. Available at: EPA Maps

[5] GSI (2025) Geological Survey Ireland Spatial Resources. Available at: Geological Survey Ireland Spatial Resources (arcgis.com)

Cooling water for Moneypoint Generating Station site is abstracted from the Shannon Estuary at a location west of the site's existing jetty. This water is transported via a network of culverts and used for cooling in the water/steam cycle at the Generating Station, before being discharged into the Shannon Estuary. Separately potable and process water is provided from the public mains and transported via a network of water pipes across the site. The on-site foul water network links to an on-site treatment facility located close to the existing jetty. This infrastructure is concentrated under, and in the vicinity of, the existing Generating Station. There is an extensive surface water network across the Moneypoint Generating Station site, with associated interceptors, discharging to the River Shannon at a number of locations on the coast. There are no identified assets owned by Uisce Éireann on the site. The nearest public water main is located on the N67 to the north of the Generating Station. Monitoring of surface water is carried out at various locations as part of the site's IE Licence.

GSI[6] (GSI, 2025) mapping indicates that the Moneypoint Generating Station site is underlain by the Central Clare Group that comprises sandstone, siltstone & mudstone. This bedrock is indicated to be a 'locally important' groundwater resource with a bedrock 'moderately productive only in local zones'. The groundwater is indicated to be of 'extreme vulnerability' to contamination.

The Moneypoint Generating Station site is subject to both coastal and pluvial flood risk. Arup is also undertaking Strategic Flood Risk Assessment in respect of the GA Concept.

Air Quality and Climate (including Noise):

Moneypoint Generating Station site is located in "Zone D: Rural Ireland" as defined by Ambient Air Quality Standard Regulations (2022). According to the Air Quality in Ireland Report 2023[7] (EPA, 2024) which is the most recently published air quality report available at the time of writing this report, air quality in Zone D is as follows:

- Annual mean of particulate matter that is 2.5 micrometres or less in diameter ($PM_{2.5}$) average is 7.1 microgram per cubic meter (µg/m³);
- Annual mean of particles with a diameter of 10 micrometres or less (PM_{10}) average is 11.0 µg/m³;
- Annual mean of Sulphur Dioxide (SO_2) average is 3.5 µg/m³;
- Annual mean of Nitrogen dioxide (NO_2) average is 5.8 µg/m³; and
- Annual mean of rolling 8-hour CO concentration average is 0.6 µg/m³.

Under the Moneypoint Generating Station IE Licence (P0605-04), ESB is required to report annually to the EPA on the site's compliance with emission limit values, as part of the 2024 Annual Environmental Report (AER).
Emissions are also reported via the national Pollutant Release and Transfer Register (PRTR), established by the EPA.

The IE Licence sets emissions limit values (ELV) at the main emission points onsite (ref. No. A1; A1- 1; A1-2; and A1-3) for oxides of SO_2, NO_2, dust and ammonia. According to the most recent AER published (2024 AER), for ESB's air emissions, Continuous Emissions Monitoring System (CEMS) are installed on all three boilers and for the other emissions, for example dust deposition, monitoring stations are located throughout Moneypoint Generating Station site.

Furthermore, as per the 2024 AER, noise monitoring was carried out form the 31st of January to the 2nd of February at three Noise Sensitive Locations (NSL) off-site. The results from the monitoring indicate that noise levels from the site are compliant with the IE Licence limits.

[6] GSI (2023) Geological Survey Ireland Spatial Resources. Available at: Geological Survey Ireland Spatial Resources (arcgis.com)

[7] EPA (2024) Air Quality in Ireland Report 2023 – Summary Tables. Available at: Summary-Tables-2023-for-Zones-A---D-for-upload-with-report-final.xlsx (live.com))

The Moneypoint Generating Station site operates in line with the conditions of the applicable greenhouse gas (GHG) Permit (Permit Register Number IE-GHG070-10381-6). The permit authorises the holder to undertake certain activities (listed under Annex 1 of Directive 2003/87/EC) which result in emissions of GHG at specified locations.

The GHG Permit also contains requirements that must be met in respect of such emissions, including monitoring and reporting requirements. The permit requires the holder to surrender carbon dioxide equivalent allowances that are equal to the reported emissions within four months of the end of the reporting year. Certain works within a site subject of an IE Licence, require amendment or review of that Licence. Similarly, the GHG permit for a facility must be reviewed where there are new GHG emission points (e.g., new boiler) added.

The impacts of climate change are intensifying at an alarming rate, it is projected that in the coming decades climate changes will increase in all regions. Climate change is bringing multiple different changes in different regions which will all increase with further warming. Some of which include, changes to wetness and dryness, to winds, snow and ice, coastal areas, and oceans[8] (EC, 2024).

Some changes that may be of particular relevance to the Moneypoint Generating Station site and its coastal location, include, but are not limited to the following:

- Climate change is intensifying the water cycle bringing more intense rainfall and associated flooding; and
- Coastal areas will see continued sea level rise throughout the 21st century, contributing to more frequent and severe coastal flooding in low-lying areas and coastal erosion. The rate of global sea level rise for 2006 – 2015 was 3.6 mm per year, this is unprecedented over the last century, and about 2.5 times the rate for 1901 – 1990[8] (EC, 2024).

In terms of transboundary effects, the repurposing of the Moneypoint Generating Station site into a renewable energy hub is likely to result in an overall positive transboundary effect on air quality and climate in the long term.

Archaeological, Architectural and Cultural Heritage:

The Moneypoint Generating Station site comprises highly disturbed land, and the likelihood of discovering previously unknown archaeological features is low. The north-western corner of ESB landholding contains a single site that is included on the Sites and Monuments Record (SMR), this site is classed as an earthwork (Site Ref. CL067-035). This feature lies north of the engineered landfill and has been afforded statutory protection. In the wider area of the Moneypoint Generating Station site there are a number of sites outside ESB landholding, typically ringfort sites. St. Senan's Roman Catholic Church is located to the east of the site and is listed as being of regional importance on the National Inventory of Architectural Heritage (NIAH) (Reg. No. 20406719).

The site of the GA Concept also contains an area of privately held foreshore in the River Shannon. It is important to note that the adjoining waterbodies are exceptionally rich in underwater cultural heritage. The area surrounding the Moneypoint Generating Station site includes a large number of recorded monuments that are afforded protection by the National Monuments Acts 1930-2014. Any development in the marine environment at Moneypoint has the potential to disturb any undiscovered underwater cultural heritage.

A detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept, refer to Appendix A.6 of this SEA ER.

Landscape and Visual:

The overall landscape setting of the GA Concept study area site is coastal and rural. Moneypoint Generating Station site is an established industrial site characterised by large-scale generation infrastructure set within a broad and open brownfield site, with associated shoreside activity.

[8] EC (2024) Consequences of climate change. Available at: https://climate.ec.europa.eu/climate-change/consequences-climate-change_en#:~:text=Climate%20change%20affects%20all%20regions,these%20impacts%20will%20only%20intensify.

The Landscape Character Assessment (LCA) for County Clare (2004)[9] (Clare County Council, 2004), describes the landscape setting of the site boundary as Landscape Character Area '18 – Shannon Estuary Farmland.' The N67 to the west of the Moneypoint Generating Station lands, is designated as a scenic route.

Material Assets:

The Moneypoint Generating Station site accommodates the Moneypoint Generating Station, Moneypoint Windfarm and significant electrical transmission grid infrastructure. From its commissioning in 1985, the site has operated as the State's only coal fuelled Generating Station, meeting on average 25% of national electricity demand. Cooling water at Moneypoint Generating Station site is abstracted from the Shannon at a location west of the existing jetty, transported via a network of culverts, and used for cooling in the water/steam cycle at the Generating Station, before being discharged into the Shannon. Separately potable and process water is provided from the public mains and transported via a network of water pipes across the site. The on-site foul water network links to an on-site treatment facility located close to the existing jetty. This infrastructure is concentrated under, and in the vicinity of, the existing Moneypoint Generating Station. There is an extensive surface water network across the site, with associated interceptors, discharging to the River Shannon at a number of locations on the coast

The Moneypoint Generating Station site is traversed by high, medium and low voltage underground cables, associated with the site's generating activity and the networks infrastructure. There are also high voltage overhead lines leading northwards from the ESB Networks (ESBN) substation. The Moneypoint Wind Farm comprises five No. 3.45MW wind turbines, associated transformers and turbine hardstands and two No. anemometer masts.

ESB recently completed the development of a Synchronous Compensator, a key grid support, on the site, this is an electrical device that is used to manage the stability of the national grid.

There are no identified assets owned by Uisce Éireann on the site and the nearest public water main is located on the N67 to the north of the Generating Station. Other on-site infrastructure includes fire-fighting services, dust suppression systems, lighting, communications, and security networks.

Moneypoint Generating Station's IE Licence includes requirements relating to site operations, such as, the implementation of an Environmental Management System (EMS), energy efficiency, incident response and waste management. In line with the IE Licence, environmental monitoring of the site is on-going.

Throughout its operation, Moneypoint Generating Station has been maintained and improved to meet relevant environmental standards, and the IE Licence reviewed as appropriate.

Transboundary Issues:

No direct transboundary environmental effects are anticipated as a result of the implementation of the GA Concept.

There may be potential for indirect positive transboundary effects on material assets to be had as the GA Concept will facilitate a continuation of energy production at the Moneypoint Generating Station site and a reduced reliance on exported energy. Additionally, the repurposing of the Moneypoint Generating Station site into a renewable energy hub is likely to result in an overall positive transboundary effect on air quality and climate in the long term.

Consideration of Reasonable Alternatives

The SEA Directive requires the SEA ER to consider "reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme". The consideration of these alternatives is done so in three stages within the SEA ER:

[9] CCC (2004) Landscape Character Assessment (LCA) for County Clare (2004). Available at: Natural Heritage | The heritage of County Clare | Planning, heritage and conservation | Services | Clare County Council (clarecoco.ie)

1. Identify reasonable alternatives
2. Evaluate and compare the alternatives
3. Provide reasons for the choice of preferred alternative(s).

The GA Concept includes the consideration of alternative options for the future development of the site. These scenarios largely assumed that land uses such as the transmission infrastructure would be largely unaltered and assumed a variable level of remediation and redevelopment across the ash storage area, main site and coal storage area. A summary of each Alternative Concept is provided as follows.

1. Alternative A - Do Nothing
   - **Current Operations Continue**: No significant changes;
   - **Coal Generation Stops**: Coal-fired generation stops in 2025, switching to Heavy Fuel Oil (HFO); and
   - **Minimal Redevelopment**: No major new renewable energy projects, except possible connections for offshore wind farms.
2. Alternative B - GA Concept 1
   - **New Thermal Generation**: Adds new gas-fired and future zero-carbon generation (like hydrogen);
   - **Offshore Wind Support**: Develops facilities to support offshore wind projects; and
   - **Marine Energy Zone (MEZ)**: Expands to accommodate new generation activities and offshore wind support.
3. Alternative C - GA Concept 2
   - **Focus on Offshore Wind**: Removes large-scale thermal generation infrastructure;
   - **Full Site Redevelopment**: Entire site used for offshore wind energy projects; and
   - **New Thermal Generation**: Includes gas-fired and future zero-carbon generation.
4. Alternative D - GA Concept 3
   - **Mixed Use Development**: Combines generation and transmission needs;
   - **Phased Development**: Gradual redevelopment to lower carbon energy generation; and
   - **Buffer Zones**: Visual screening and limited development to manage industrial and greenfield transitions.
5. Alternative E - GA Concept 4
   - **Expanded Generation Area**: Central area expanded for new generation activities;
   - **Energy Storage**: Includes energy storage and lower carbon generation; and
   - **Phased Development**: Similar to Alternative D, with phased development and buffer zones.

Preferred Scenario:

An assessment of the alternatives was carried out as part of the SEA to consider “reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme”. Five alternatives were assessed and compared, and two preferred scenarios were determined from an environmental perspective. Alternative D and E are considered to be the Preferred Scenarios for the GA Concept from an environmental perspective. However, in terms of overall preferred Scenario from a plan development perspective, Alternative E - GA Concept 4 was chosen.

Objectives, Targets, and Indicators

The SEA ER is designed to assess the potential environmental effects of the GA Concept and its associated principles against the established baseline. The principles outlined in the GA Concept are assessed against a range of established environmental objectives and targets.

Indicators recommended in the SEA ER are utilised over the lifetime of the GA Concept to quantify the level of impact that the objectives may have on the environment.

This enables the measurement of whether ESB was successful in repurposing Moneypoint Generating Station site into a renewable energy hub and a strategic resource for the ORE sector, whilst also maintaining the site as a strategically critical electricity generating location that it is at present. The Objectives, Indicators and Targets relating to the GA Concept are set out in the SEA ER.

Assessment of likely Significant Effects

The principles in the GA Concept were assessed with respect to the existing environmental baseline and the environmental objectives and targets.

The principles included in the GA Concept were developed as a means to repurpose Moneypoint Generating Station site into a renewable energy hub and a strategic resource for the ORE sector, as a result the environmental assessment outcomes are generally positive, or neutral in relation to Air Quality and Climate (including Noise), Population and Human Health and Material Assets.

Overall, potential for positive impacts were identified with regards to Material Assets and Population and Human Health, due to the gradual decarbonisation of the Moneypoint Generating Station site and the promotion of a continued and improved supply of energy across Ireland. Predominantly positive impacts have been assessed as likely to occur for Air Quality and Climate (including Noise). There is potential for negative impacts on Air, Climate and Noise during any construction works required to implement the GA Concept. However, predominantly positive effects were predicted for Air and Climate as a result of facilitating a gradual reduction and phasing out of coal and oil-fired electricity generation through the GA Concept.

In order to achieve the gradual decarbonisation of the Moneypoint Generating Station site, substantial development and construction will be necessary. Thus, potential for negative impacts have been identified for Biodiversity, Land and Soils, Water and Landscape and Visual in all principles that relate to development. It was noted throughout the assessments of effects that, where development will be taking place in zones of greenfield sites, more significant negative impacts are likely to occur for environmental components, than that of a brownfield site.

With regards to Archaeological, Architectural and Cultural Heritage, neutral and uncertain impacts are anticipated across the principles. Neutral impacts were predominantly assessed, in that, the Moneypoint Generating Station comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low. Furthermore, a detailed assessment of the cultural heritage potential of the site was also prepared and informed the GA Concept, refer to Appendix A.6. However, negative impacts were also identified in zones that are predominantly greenfield in nature and where principles propose development in or along the Coastal Infrastructure Zone, as there may be potential for negative impacts on previously unknown/ unrecorded marine archaeology.

Predominantly positive/ neutral impacts were identified for principles that describe the appropriate development that will take place having regard to ecological, visual or heritage-based sensitivity, and managing the site/zones in accordance with the appropriate licences and consents.

Neutral impacts were assessed across principles that represent a continuation of the existing environment.

Likely Evolution of the Baseline Environment in the Absence of the Implementation of the GA Concept.

In the absence of the implementation of the GA Concept, the baseline environment outlined in Section 5 is likely to continue as follows:

Population and Human Health:

- Ireland's National Planning Framework projects that Ireland will be home to an additional one million people by 2040, projected population increases will increase pressure on land use
- There will be an increased pressure on existing energy supply and security due to the projected population increase. Negative impacts may arise for the population if electricity supply, security, and generation was to stay constant, as the growing demand for energy supply and security could not be sustained
- There is also potential for negative impacts on human health in the future, if the level at which fossil fuels burned in the Moneypoint Generating Station stayed constant going forward
- The extent of potential health benefits correlated with reduced emissions and improved air quality due to the decarbonisation of the energy sector may not be realised
- The potential for economic growth aided by increased development and/ re-development at Moneypoint Generating Station on and surrounding the site would be limited
- In the absence of the GA Concept, uptake of renewable energy sources would potentially remain constant, and decarbonisation of the Moneypoint Generating Station site may not be fully realised; and
- The number of people employed at and surrounding the Moneypoint Generating Station site would potentially remain constant.

Biodiversity:

- In the absence of the GA Concept, adverse impacts on climate and pollution will continue to alter species and habitat ranges across Ireland, the extent of these impacts may have been mitigated by the implementation of the GA Concept, as a result of the potential GHG emissions and pollution reductions.

Land and Soils:

- In the absence of the GA Concept, the current brownfield industrial landbank lands occupied by the Moneypoint Generating Station would remain in place without any new developments and or redevelopment. Soil quality as a result is likely to remain constant with no further disruption.

Water:

- In the absence of the GA Concept, impacts of climate change and pollution will continue to impact water quality and flooding, the extent of these impacts may have been mitigated by the implementation of the GA Concept, as a result of the potential GHG emissions and pollution reductions it could facilitate
- Water on and surrounding the Moneypoint Generating Station site, in particular, the protected coastal habitat (SPA and SAC) in the privately held foreshore area of the site boundary would remain constant, without any redevelopment; and
- Water quality and any current issues relating to the same would potentially remain constant.

Air Quality and Climate (including Noise):

- In the absence of the GA Concept, potential improvements on local air quality are likely as a result of continued sectoral decarbonisation across Ireland. However, the energy sector may not see as substantial reductions in emissions in the absence of the GA Concept and its associated uptake in green energy

- In the absence of the GA Concept, there would likely be less use of machinery and or construction onsite, compared to existing trends. There is potential for local air quality and noise onsite to remain constant; and
- In the absence of the GA Concept, impacts of climate change and pollution will continue to impact air quality and climate, the extent of these impacts may have been mitigated by the implementation of the GA Concept, as a result of the potential GHG and pollution reductions it could facilitate.

Archaeological, Architectural and Cultural Heritage:

- In the absence of the GA Concept, Legislation and guidance at both international and national level afford both the architectural and archaeological elements a high level of protection and will continue to do so; and
- In the absence of the GA Concept, the archaeological, architectural, and cultural heritage environment onsite is likely to remain constant.

Landscape and Visual:

- In the absence of the GA Concept, the land and seascape appearance surrounding the Moneypoint Generating Station would potentially remain as the existing baseline.

Material Assets:

- In the absence of the GA Concept, renewable energy sources on or related to the Moneypoint Generating Station site would not materialise.

Mitigation Measures

This SEA ER has highlighted some potential negative environmental effects that may arise from the implementation of the GA Concept.

A number of mitigation measures have been identified to prevent, reduce and as fully as possible offset any potential significant adverse impacts on the environment associated with the implementation of GA Concept. These are set out in the SEA ER.

It is intended that the GA Concept will be used to support individual development proposals and planning applications on the lands. In all cases, development proposals will be subject of the appropriate consents and environmental assessment.

Monitoring Measures

Article 10 of the SEA Directive requires that monitoring should be carried out to identify (at an early stage) any unforeseen adverse impacts associated with the implementation of the plan or programme, in this case the GA Concept.

A monitoring programme has been developed as part of this SEA ER (based on the relevant indicators) to track progress towards achieving strategic environmental objectives and reaching targets. As previously described, indicators have been developed to show changes that may be attributable to implementation of the GA Concept, therefore enabling positive and negative impacts to be measured.

1. Introduction

ESB has prepared the Green Atlantic (GA) @ Moneypoint Concept 2025. This is a strategic spatial plan, for ESB owned lands, that sets out ESB's vision for the transformation of an existing industrial landbank at Moneypoint, County Clare.

The GA Concept aims to enable the repurposing of the Moneypoint Generating Station site into a renewable energy hub and a strategic resource for the Offshore Renewable Energy (ORE) sector, whilst also maintaining and operating Moneypoint Generating Station as the strategically critical Generating Station that it is at present. It sets out a single, spatial concept for the transformation of ESB's land at Moneypoint, County Clare.

The GA Concept provides an overall framework for the land's redevelopment in-line with this broader vision for the site. It enables individual projects to be seen in the context of this 'bigger picture' and wider land-use considerations for the Shannon Estuary. It is intended to engage stakeholders on ESB's plans for Moneypoint Generating Station site and to support individual project proposals and planning applications.

Arup has been commissioned by ESB to carry out Strategic Environmental Assessment (SEA), Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) of the GA Concept.

The purpose of this document, the SEA Environmental Report (referred to hereafter as the 'SEA ER'), is to present the findings of the environmental assessment of the likely significant effects on the environment as a result of implementing the GA Concept. The purpose of this SEA ER – which should be read in conjunction with the GA Concept – is to provide a clear understanding of the likely environmental consequences of decisions arising from the GA Concept.

1.1 Background

ESB was established as a statutory corporation under the Electricity (Supply) Board Act 1927 to deliver national electricity system

ESB acquired the Moneypoint lands in the 1970s. The site is one of Ireland's most important strategic industrial landbanks and is located in the Shannon Estuary, Co Clare.

The site was developed to support security of energy supply for Ireland and accommodates Ireland's largest electricity generating facility, the 900 Megawatts (MW) coal-fired Generating Station. In addition to producing electricity from thermal generation, there is also a wind farm located on the site. The windfarm development consists of five (5) Vestas V112 wind turbines (each turbine has a capacity of 3.45MW).

Moneypoint Generating Station also acts as an important electricity transmission node, accommodating significant high voltage networks assets, including substations, overhead lines and cables. Electricity is exported to the National Grid through the Moneypoint substation located to the north of the main Generating Station, the Moneypoint substation compound was constructed in the 1980s and contains 400kV, 220kV and 110kV elements. Since its original configuration, the substation has been maintained and upgraded as required and in-line with good practice.

ESB has recently completed the construction of a €50 million Synchronous Compensator on the site, which is currently the largest of its kind in the world and supports increased reliance on renewable electricity across the national grid. The Synchronous Compensator is now operational. Furthermore, ESB is converting the Generating Station to a lower-carbon operating regime. This proposal aims to see it switch to an on-demand lower carbon operating profile using HFO operating until early 2029 under a 'generator of last resort' agreement.

The use of HFO at Moneypoint Generating Station site aims to ensure the Station supports security of supply for Ireland, pending the development of new low and zero carbon dispatchable generation and large-scale renewables.

This will enable the cessation of coal-fuelled generation, while ensuring the Generating Station continues to provide electricity to the grid, while additional at-scale renewable generation is developed[10] (ESB, 2023).

Available planning history of the Moneypoint Generating Station lands has been listed in Table 1.1.

A recent planning application (as included in Table 1.1), reference no. ABP-PA03.319080, was granted planning permission with conditions on the 25th of September 2024.

Table 1.1 Planning History for the lands at Moneypoint Generating Station site

Reg. Reference	Summary
P8/13759	Permission to erect a coal fired electricity generating station & ancillary works.
P8/14938	Permission to develop a 400 kV overhead electricity line.
P8/17314	Permission to develop a 400 kV overhead electricity line.
P8/22368	Permission to change use of part of the coal storage area to allow screening and grading of coal and transport of coal from site by road or by road and ferry, for sale in bulk.
P8/23179	Permission to retain the construction quay and change of use of part of the coal store to allow screening and grading of coal and transport of coal by water of coal and transport of coal from the site by road and ferry, for sale in bulk.
P8/24408	Permission to construct a reception building, security building and car park.
P8/27018	Permission to change use of part of the ash handling facility to allow transport of ash from the site by road for sale in bulk.
P91/1102	Permission to construct single storey security building and stores.
P91/744	Permission relating to the development of a chain link fence.
P91/1102	Permission for the construction of a single storey security building and stores.
P92/777	Permission to construct single storey extension to existing administration building.
P93/659	Permission for the construction of a Conveyor Housing and Vehicle Building.
P93/860	Permission for the extension of the administration block.
P99/797	Permission for the construction of an Ash Beneficiation Process Plant, ash storage silos, compressor building, access roadway.
P99/1390	Permission for the erection of a 40m anemometer mast.
01/1538	Permission for the development of a Wind Energy project - 9 No. wind turbines, each with a rated electrical output of up to 2,500 kW.
03/625	Permission to undertake the Moneypoint Environmental Retrofit Project (MERP) to reduce sulphur dioxide (SO2) and oxides of nitrogen (NOx) emissions in compliance with the IPC Licence, including the construction of purposely engineered areas, within the confines of the station site, for storage and disposal of conditioned dry Flue Gas Desulphurisation (FGD) by-product.
06/935	Permission for the construction of a new canteen building.
11/457	Permission for the development of electrical transmission infrastructure and associated works at the site of an existing 400kV substation site.
12/74. ABP PL03.241624	Permission for the development of a Wind Farm Project – 5 No. 152m high wind turbines, each with a rated electricity output of c, 3,000 kW, modification of the existing high voltage electrical equipment and related development, with a grant of permission after a first party appeal of a refusal. Permission was granted for a 10 year period with a 25 year operational life set by condition (Condition No. 4).
13/573	Permission for ESB Telecoms in relation to the continued use of a 30m high lattice mast.
14/190	Permission for the development at the existing 400 kV substation site, including development of a new indoor Gas Insulated Switchgear (GIS) 400 kV substation building.
14/373	Permission for development at the ash storage area to facilitate acceptance of an additional 1.8 million cubic meters of material.

[10] ESB (2023) Moneypoint Power Station. Available at: Moneypoint Power Station (esb.ie)

Reg. Reference	Summary
15/81	Permission for the development of an electrical transformer station consisting of two single-storey buildings with associated outdoor electrical equipment.
16/1011	Permission for the refurbishment of the existing Moneypoint - Oldstreet 400 kV overhead line.
16/616	Permission to extend the duration of permission granted under Reg. Ref. 11/457.
17/809	Permission for the development of water storage tanks and an underground pump chamber.
18/520	Permission for the development of a c.7.5 MW capacity battery storage facility and associated development. To date, this project has not been developed.
19/746	Permission for the development of a 300 to 400 MVA (electrical rating) and associated development.
20/318	Permission for the development of a 400 MVA (electrical rating), with modification to previously approved under Reg Ref 19/746.
ABP-307798-20	Permission for the 'Cross-Shannon 400kV Cable Project – relating to the construction of a 400kV transmission cable approximately 5km in length between the existing Moneypoint 400 kV GIS substation in County Clare and the existing Kilpaddoge 220 kV substation in County Kerry, an extension to the existing Kilpaddoge Electrical Substation, and all associated works.
ABP-PA03.319080	Proposed transition and conversion of the existing 900MW electricity generating station from coal to heavy fuel oil and associated ancillary development at Moneypoint Generating Station, Moneypoint, Co. Clare. Lodged 12/02/2024. Permission granted with conditions 25/09/2024.

The Moneypoint Generating Station site is licenced by the Environmental Protection Agency (EPA) under an Industrial Emissions (IE) Licence (Ref. P0605-04). The IE Licence authorises the following activities:

- Activity 1.1 (IED) / 2.1 (EPA Act 1992, as amended): "Combustion of fuels in installations with a total thermal output of 50MW or more"
- Activity 5.4 (IED) / 11.5 (EPA Act 1992, as amended): "Landfills, within the meaning of section 5 (amended by Regulation 11(1) of the Waste Management (Certification of Historic, Unlicenced Water Disposal and Recovery Activity) Regulations 2008 (SJ. No 524 of 2008) of the Act of 1996, receiving more than 10 tonnes of waste per day or with a total capacity exceeding 25,000 tonnes, other than landfills of inert waste".

The IE Licence contains conditions on how the activity must operate in order to protect the environment from pollution that might otherwise arise. Limits and controls are imposed on emissions to air, water and noise. The Licence also includes requirements relating to site operations, such as, the implementation of an Environmental Management System (EMS), energy efficiency, incident response and waste management. In line with the IE Licence, environmental monitoring of the site is on-going. Throughout its operation, Moneypoint Generating Station has been maintained and improved to meet relevant environmental standards, and the IE Licence reviewed as appropriate.

Moneypoint Generating Station is an upper tier SEVESO site, a SEVESO site is defined as 'Industrial sites that, because of the presence of dangerous substances in sufficient quantities, are regulated under Council Directives 96/82/EC and 2003/105/EC, commonly referred to as the Seveso II Directive'. The study area relevant to the GA Concept is illustrated in Figure 2.3 (Section 2.6) and in Figure A1 in Appendix A.1.

1.2 SEA Process and Legislative Context

1.2.1 Legislative Background

Directive 2001/42/EC of the European Parliament and of the Council on the Assessment of the Effects of Certain Plans and Programmes on the Environment, (also known as the Strategic Environmental Assessment Directive), was transposed into Irish Law by the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004) as amended by S.I. No 200 of 2011. It provided a statutory basis for the making of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004) as amended by S.I. No. 201 of 2011.

These Planning and Development Regulations, S.I. No. 436 of 2004 and S.I. No. 201 of 2011, amended articles and schedules to the Planning and Development Regulations, (S.I. 600 of 2001). Under the Directive (2001/42/EC) SEA is required on Plans and Programmes[11] which are likely to have significant effects on the environment, in the following eleven sectors:

- Agriculture
- Forestry
- Fisheries
- Energy
- Transport
- Industry
- Water Management
- Waste Management
- Telecommunications
- Tourism; and
- Town and Country Planning or Land-use.

The new Planning and Development Act (2024) was signed into law on the 17th of October 2024; however, the Act is currently being commenced on a phased basis to facilitate the transition from the arrangements under the current Act to those under the new Act. At the time of writing this report, certain provisions of the Act (2024) are yet to be commenced, including those relevant to SEA. It is envisaged that the commencement of the remainder of the Planning and Development Act 2024 will be carried out across 4 phases in 2025/2026. As the relevant provisions to SEA have not yet been commenced in the new Planning and Development Act 2024, this report references the Planning and Development Act 2000, as amended.

The objective of the SEA Directive is 'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of Plans … with a view to promoting sustainable development' (Article 1 SEA Directive). It is a systematic, on-going process for evaluating, at the earliest possible stage, the environmental quality and consequences of implementing certain Plans and Programmes on the environment. The requirements for SEA in Ireland are set out in the national legislation as follows:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (S.I. No. 435 of 2004) as amended by European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations (S.I. No. 200 of 2011); and
- Planning and Development (Strategic Environmental Assessment) Regulations (S.I. No. 436 of 2004) as amended by the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations (S.I. No. 201 of 2011).

[11] Under S.I. No. 435 of 2004, plans and programmes (P/P) are defined as:

"plans and programmes" means P/P, as well as any modifications to them

(a) which are subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and

(b) which are required by legislative, regulatory or administrative provisions.

The GA Strategy is considered a P/P under S.I. No. 435 of 2004 and as such, has been referred, not only as the GA Strategy but in some instances as a Plan throughout this report.

1.2.2 SEA Process

The SEA process is comprised of the following steps:

- Screening: decision on whether or not SEA of a Plan or Programme is required
- Scoping: Consultation with the defined statutory bodies on the scope and level of detail to be considered in the assessment
- Environmental Assessment: An assessment of the likely significant effects on the environment as a result of the Plan or Programme
- Preparation of an SEA ER (this report)
- Consultation on the Plan or Programme and associated SEA ER
- Evaluation of the submissions and observations made on the Plan or Programme and SEA ER; and
- Issuance of an SEA Statement identifying how environmental considerations and consultation have been integrated into the Final Plan or Programme. This is the current stage of the SEA process to which this report relates.

SEA is intended to inform decision-making and needs to 'test' systematically the performance of the Plan as a whole and its individual objectives and policies against SEA criteria. It is noted that under EIA and Planning and Development legislation, certain projects taking place within the Plan area arising during implementation of the Plan may require an Environmental Impact Assessment.

1.2.3 SEA Guidance

The SEA methodology for the GA Concept is based on legislative requirements and Department of Environment, Community and Local Government (DoECLG) / EPA guidance. The EPA's SEA Pack (Version 21/02/2020) was also used as a source of information during the scoping process along with published EPA SEA Guidance, including:

- Strategic Environmental Assessment – Guidelines for Regional Assemblies and Planning Authorities 2022[12] (DHLGH, 2022)
- Circular Letter PSSP 6/2011: Further Transposition of EU Directive 2001/42/EC on Strategic Environmental Assessment (SEA)[13] (DECC, 2011)
- Circular Letter PL 9/2013: Article 8 (Decision Making) of EU Directives 2001/42/EC on Strategic Environmental Assessment (SEA) as amended[14] (DECC, 2013)
- Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment[15] (Government of Ireland, 2004)
- Directive 2001/42/EC on the assessment of Certain Plans and Programmes on the Environment[16] (European Parliament and Council, 2001)

[12] DHLGH (2022) Strategic Environmental Assessment: Guidelines for Regional Assemblies and Planning Authorities. Available at: gov - Strategic Environmental Assessment: Guidelines for Regional Assemblies and Planning Authorities (www.gov.ie)

[13] DECC (2011) Circular Letter PSSP 6/2011. Available at: Circular Letter SP (wordpress.com)

[14] DECC (2013) Circular Letter PL 9/2013: Article 8 (Decision Making) of EU Directives 2001/42/EC on Strategic Environmental Assessment (SEA) as amended. Available at: Directive - 2001/42 - EN - EUR-Lex (europa.eu)

[15] Government of Ireland (2004) Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment. Available at: https://www.opr.ie/wp-content/uploads/2019/08/2004-Implementation-of-the-SEA-Directive-2.pdf

[16] European Parliament and Council (2001) Directive 2001/42/EC on the assessment of Certain Plans and Programmes on the Environment. Available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32001L0042

- SEA Process Checklist – Consultation Draft[17] (EPA, 2024)
- Guidance on Implementation of Directive 2001/42/EC[15] (Government of Ireland, 2004)
- Developing and Assessing Alternatives in Strategic Environmental Assessment - Good Practice Guidance[18] (EPA, 2013)
- Ireland's Environment - An Integrated Assessment 2020[19] (EPA, 2020)
- Guidance on Strategic Environmental Assessment Statements and Monitoring[20] (EPA, 2023)
- Good practice guidance on Cumulative Effects Assessment in SEA[21] (EPA, 2020)
- Second Review of SEA Effectiveness in Ireland[22] (EPA, 2020)
- EPA Good Practice Note on the Strategic Environmental Assessment for the Energy Sector[23] (EPA, 2021)
- EPA guidance on Integrated Biodiversity Impact Assessment - Streamlining AA, SEA and EIA Processes Best Practice Guidance[24] (EPA, 2012); and
- Integrating Climatic Factors into the Strategic Environmental Assessment Process in Ireland[25] (EPA, 2019).

[17] EPA (2024) SEA Process Checklist - Consultation Draft. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/sea-process-checklist.php

[18] EPA (2014) Developing and assessing alternatives in Strategic Environmental Assessment. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/SEA-Alternatives-157-Published_web.pdf

[19] EPA (2020) Ireland's Environment – An Integrated Assessment 2020. Available at: https://www.epa.ie/our-services/monitoring--assessment/assessment/irelands-environment/state-of-environment-report

[20] EPA (2023) Guidance on SEA Statements and Monitoring. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/guidance-on-sea-statements-and-monitoring.php

[21] EPA (2020) Good practice guidance on Cumulative Effects Assessment in SEA. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/EPA-Good-Practice-Guidelines-SEA.pdf

[22] EPA (2020) Second Review of SEA Effectiveness in Ireland. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/second-review-of-sea-effectiveness-in-ireland.php#:~:text=The%20findings%20of%20the%20review,to%20be%20fulfilling%20its%20role.

[23] EPA (2021) Good practice note on SEA for the Energy Sector. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/good-practice-note-on-sea-for-the-energy-sector.php

[24] EPA (2012) Final Report: Integrated Biodiversity Impact Assessment, Streamlining AA, SEA and EIA Processes. Best Practice Guidance. Available at: https://www.epa.ie/publications/research/biodiversity/final-report-integrated-biodiversity-impact-assessment-streamlining-aa-sea-and-eia-processes----------best-practice-guidance.php

[25] EPA (2019) Integrating Climatic Factors into the Strategic Environmental Assessment Process in Ireland. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/EPA-SEA-Climatic-Factors-Guidance-Note.pdf

2. The GA Concept 2025

2.1 Introduction

Section 1 of this report provides a background to, and description of the contextual setting of the GA Concept. This Section provides an overview of the content and purpose of the GA Concept.

2.2 Background to the GA Concept

The GA Concept aims to enable the repurposing of the Moneypoint Generating Station site into a renewable energy hub and a strategic resource for the ORE sector, whilst also maintaining and operating Moneypoint Generating Station as the strategically critical Generating Station that it is at present. It sets out a single, spatial concept for the transformation of ESB's land at Moneypoint, County Clare.

The GA Concept provides an overall framework for the land's redevelopment in-line with this broader vision for the site. It enables individual projects to be seen in the context of this 'bigger picture' and wider land-use considerations for the Shannon Estuary. It is intended to engage stakeholders on ESB's plans for Moneypoint Generating Station site and to support individual project proposals and planning applications.

2.3 Elements of the GA Concept

Elements listed within the GA Concept have been detailed as follows.

2.3.1 Moneypoint Synchronous Compensator

As discussed in Section 1.1, Moneypoint Generating Station site accommodates the largest Synchronous Compensator in the world. The Synchronous Compensator is now operational.

2.3.2 Land Remediation

As an industrial landbank, the transformation of Moneypoint Generating Station site will require the remediation of brownfield lands, including the coal storage area the FGD Landfill area and the Ash Storage Area (ASA). Existing large-scale coal handling infrastructure will also be removed from the site, on a phased basis.

It is anticipated that these development works will be actioned at an enabling stage for larger redevelopment projects i.e. in preparing a site for future development. As such they will be phased, with consents and associated environmental assessment undertaken in the context of consenting new development as set out in the GA Concept.

2.3.3 Long Duration Energy Storage (LDES)

The development of adequate long and short-term energy storage is essential to supporting an energy system that is increasingly reliant on renewable energy generators, which are, by their very nature, intermittent in nature.

ESB continues to identify suitable sites for the siting of energy storage systems, and it is anticipated that energy storage will be accommodated within the Moneypoint Generating Station site, subject to the availability of a suitable grid connection. Storage will be an ancillary land-use, relative to the primary functions of the site, namely energy generation and infrastructure to support ORE developments.

2.3.4 Future Thermal Generation and Alternative Fuels

Moneypoint Generating Station site will continue to act as a dispatchable thermal generation site ensuring energy security for the State in the context of an increasingly renewable energy system.

ESB continues to carry out feasibility studies to determine the fuel, operating parameters and scale of any new thermal generation that may be developed at the site; and it is currently envisaged that, in-line with prevailing energy policies and national and European Union (EU) level, the next generation facility at the site facilitate will be capable of converting to low and zero carbon fuels as technology develops.

The physical characteristics of a new thermal facility will be similar to the existing generating station i.e. a large-scale industrial facility characterised by a tall stack, ancillary plant and equipment etc.

While it is currently unknown what potential fuel or technology will be utilised, subject to the availability of surplus renewable energy from offshore generators and the emergence of suitable technologies, ESB plans to develop a zero carbon fuels production, storage and dispatchable generation facility at Moneypoint Generating Station site from the middle of the next decade and in line with the availability of surplus ORE. It is likely that this facility will utilise green hydrogen (or a derivative thereof), producing a clean, zero-carbon fuel, from renewable energy and using it for power generation, heavy goods vehicles in the transport sector and to support decarbonisation of a wide range of industries such as pharmaceuticals, electronics and cement manufacturing. This facility will potentially enable the export of a hydrogen derived fuel for use overseas, retention of the fuel in Ireland for domestic use, and ancillary distribution such as ship refuelling.

This future development may include the development of a green ammonia production plant to support additional low carbon or carbon neutral thermal generation. Powered by curtailed renewable electricity from either ORE or onshore sources, a production facility will produce the ammonia. This would be stored on site and utilised, as needed, to power a gas fired thermal facility (likely a Combined Cycle Gas Turbine (CCGT)) which would be available to support the grid as a dispatchable source of electricity. Any surplus ammonia could be exported from the site to industrial hubs or for agricultural use. All such projects will be subject of full environmental assessment as part of any new consenting and licensing process.

2.3.5 The Moneypoint Hub Project

Given Ireland's ambitious targets for renewable energy generation, ORE development along the West coast will present a significant opportunity and requirement for the development of regional support facilities – including an ORE hub. Such a development will need a local deep-water port to act as a staging point for turbine deployment. The need for this type of facility is reflected in a 2020 Carbon Trust report on the potential for investment and employment in Ireland's offshore wind industry, which recommends that the Irish Government should consider a strategic investment in a port on the west coast to take advantage of this commercial opportunity. As envisaged in the National Hydrogen Strategy, such a facility also has the potential to facilitate production of green fuels to decarbonise other industrial sectors.

The Shannon Estuary is emerging as being key to meeting the ORE sector's requirements, given the deep-water channels and proximity to development sites. Given Moneypoint Generating Station was originally developed at this location to take advantage of the natural deep waters of the Estuary, ESB now proposes to utilise this natural advantage once-more and develop the Moneypoint Hub Project to deliver a facility for the deployment of ORE infrastructure. This will be critical in both supporting the ORE development and harnessing the full economic benefits of this emerging industry for the broader Shannon Estuary Region and County Clare.

As a strategic base for the offshore industry, Moneypoint Generating Station site will grow as an important regional facility in relatively close proximity to offshore wind development sites. The location of the site will be of significant advantage to developers, reducing complexity of transporting parts, which can often be complicated by weather windows. It will facilitate reduced transportation times and minimise delays and downtime.

In line with the plan-led approach, it is envisaged that the south and west coasts will be the focus for the deployment of at-scale offshore renewable energy projects from the late 2020's. It is envisaged that Moneypoint Generating Station site will be developed to serve both the fixed and floating turbine industries.

It will act as a dedicated land and marine facility for staging, fabrication and deployment of offshore wind foundations and will comprise three key activity zones:

- **Turbine Laydown:** A dedicated area primarily used for the storage of Wind Turbine Generator (WTG) elements (blades, nacelle, tower, mooring lines / anchors etc)
- **Construction Yard:** An area of hardstanding used for the landside fabrication, assembly and storage of floating platforms and fixed foundation elements; and

- **Quayside Infrastructure:** dedicated infrastructure will be provided to ensure access to deepwater to serve the floating offshore wind industry and allow safe passage for all vessels and units likely to operate at the facility.

Typical construction activity at a quayside construction hub is displayed in Figure 2.1.

Figure 2.1 Typical construction activity at a quayside construction hub (Source: ESB, 2023)

The Hub will act as a construction site for the fabrication/assembly/storage of the foundations. It will further act as a staging point for the mating of wind turbines onto floating foundations, facilitating the storage of these elements, prior to their tow-out to offshore wind farm sites. The Moneypoint Hub's WTG Staging process is illustrated in Figure 2.2.

Figure 2.2 Moneypoint Hub WTG Staging process (Source: ESB, 2023)

The existing jetty facilities were developed for the transport and handling of coal and oil. The requirements for this industry are significantly different than existing port facilities at Moneypoint Generating Station site can accommodate. It is known that at the quayside, new quay infrastructure will be required for the delivery of WTG elements, deployment of WTG substructures and mating of WTG to the floating offshore wind substructure at the quayside. As foundation substructures become ready for WTG mating, they will be moored along the quay wall and heavy lift location ready for receipt of the WTG components. Facilities to accommodate this will be developed.

ESB is currently undertaking studies and assessments to look at options and alternatives for the location, layout and orientation of any new structure(s) proposed to cater for the construction and deployment of these structures, the requirements of operational vessels and the characteristics of the receiving environment. A wide range of alternative design approaches are under consideration, ranging from upgrade of the existing jetty, to dredging, land reclamation and the construction of a new, purpose-built port facility, having regard to the ecological sensitivity of the Shannon Estuary.

It is anticipated that limited wet storage of units would be facilitated close to the port, but that the Moneypoint Generating Station site will not accommodate a dedicated wet storage facility.

The Moneypoint Generating Station site will also facilitate operations and maintenance (O&M) capacity and host depots for the servicing and maintenance of offshore windfarms. The port provides a sheltered, deep-water area for turbines to be towed back to for major repair works, something that is vital for the maintenance of floating turbines. The availability of the Hub will provide cost savings for individual developers, facilitating faster response times from a permanent base close to the coast. The advantage of having readily accessible O&M facilities, will make a contribution to reduce energy costs, to the benefit of both operators and the consumer.

In the longer term, the development and operation of Moneypoint Generating Station site will support the wider plans of Shannon Foynes port, and working with local stakeholders, help make the Shannon Estuary a focal point for the offshore wind industry in Europe.

It is acknowledged that Moneypoint Generating Station site is set within the Shannon Estuary, which is home to a wide range of different habitat types and supports many natural species, many of which are protected under National and EU legislative framework including the 'Birds Directive' and the 'Habitats Directive'. In seeking to develop enhanced port facilities it is understood that there will be a need for consenting authorities to balance protection of these areas and the societal and environmental benefits of developing at-scale ORE in the maritime area. As such, design works are being completed on the understanding that the Habitats Directive does not preclude further development in estuarine or coastal zones within or around designated Natura 2000 sites, but that the consenting authority must carry out an 'Appropriate Assessment' to demonstrate that any project poses no significant adverse effect to the integrity of conservation features of these designated sites, or determine other provisions under the Directive apply.

2.3.6 Offshore Renewable Energy Projects

ESB and a joint venture partner propose to develop offshore wind projects off the coasts of Counties Clare and Kerry subject to the identification of Designated Maritime Area Plans by central government and the award of Maritime Area Consents for offshore wind development within these areas. It is envisaged that the projects will utilise floating foundation turbines and will initially be developed at less than 500MW scale, but later projects will increase to GW scale. It is envisaged that the first projects will be in production post 2035.

It is anticipated that the export cables for these projects, connecting the offshore substation and the electricity grid, will come onshore and then be routed underground to a new onshore substation located at, or close to, the Moneypoint Generating Station site. Where feasible this will be a hybrid connection, thereby maximising efficient use of the grid. The onshore substation will in turn be connected to the EirGrid operated 400 kV transmission substation at Moneypoint Generating Station or may utilise a private wire to supply a non-grid off-taker. The onshore substation may be located within the Moneypoint Generating Station lands and will include a host of equipment including compensation equipment, transformers and switchgear.

2.4 Composition of the GA Concept

The GA Concept is structured into five Sections, as follows:

- Section 1 – Introductory Section makes reference to ESB lands at Moneypoint and Electricity Generation onsite;
- Section 2 describes in extensive detail the 'Characteristics of the Moneypoint lands', including Land Ownership, Location and Setting, Boundaries and Topography, Operational Consents and Licences, Existing Operations and Land-uses and Environmental Characteristics;
- The purpose of Section 3, 'Policy Context for Concept Implementation' is to set out the key policies and plans as they relate to ESB Moneypoint lands;
- Section 4 contains the 'Site Assessment' which sets out how the Moneypoint Generating Station site was assessed and the development potential of each plot of land is summarised, having regard to the physical and operational characteristics of the Moneypoint Generating Station site and the prevailing policies; and
- Section 5 details the 'Green Atlantic @ Moneypoint Concept Concept'. As previously discussed, the GA Concept sets out a single, spatial concept, so that projects can be seen in the context of a broader vision for the site and wider land-use considerations.

This is presented in the form of a GA Concept for the site which sets out an overall plan for the transformation of Moneypoint Generating Station site - identifying particular areas of the site and identifying generalised land use activities suited to those locations. It is intended that the GA Concept and inclusive Concept Strategy will be used to support individual development proposals and planning applications on the lands. In all cases, development proposals will be subject of the appropriate consents and environmental assessment.

2.5 ESB's Strategy

ESB's activities are guided by ESB Corporate Policy. ESB's strategy 'Driven to Make a Difference: Net Zero by 2040' sets out a clear roadmap for ESB. It commits ESB to a Science Based Target for 2030 to provide assurance that the company is decarbonising our operations at the necessary pace and scale. The strategy sets out a pathway to achieve net zero in a way that supports ESB's continued growth and financial capacity to invest in a net zero future. The strategy commits ESB to:

- Delivering a five-fold increase in renewable generation capacity (to 5GW), reducing carbon intensity by two-thirds by 2030;
- Developing resilient infrastructure – including investing in battery and hydrogen technology and supporting the expansion of the renewable energy industry by facilitating connections to electricity transmission and distribution networks; and
- Empowering customers to live more sustainably with key investments in EV charging technology, energy retrofits and smart meters.

In-line with the Company strategy, ESB's strategic objectives for Moneypoint are:

- **Objective 1 -** To ensure Moneypoint continues to support economic development and activity in the Shannon Estuary, County Clare, the broader Region and State by providing a reliable source of electricity while ensuring the site is developed and operated to the highest environmental standards, in-line with ESB's Environmental Management Systems;
- **Objective 2 -** To transition the site to a new, lower carbon operating profile, moving progressively towards zero carbon generation with Moneypoint providing dispatchable electricity and energy storage to support an increasingly renewable energy sector;
- **Objective 3** - To develop Moneypoint as a base for the offshore renewable energy sector, acting as a construction and deployment hub, and a manufacturing location for zero carbon fuels; and
- **Objective 4 -** To develop and operate Moneypoint so it supports Ireland's ambitions to become a net exporter of zero carbon energy.

The GA Concept was developed to identify the optimum sites for development, to bring about the transformation and redevelopment of Moneypoint Generating Station site in-line with ESB's stated objectives and broader corporate strategy.

Land-use objectives as identified within the GA Concept document are illustrated in Figure 2.3. ESB has compiled a number of development principles (refer to Section 8.2) for each zoned area in order to guide development in these areas. In all cases, development proposals will be subject of the appropriate consents and environmental assessment.

Figure 2.3 The GA Concept

2.6 Location and Extent of GA Concept Area

The Moneypoint Generating Station site is located on the northern shore of the Shannon Estuary in Co. Clare, approximately 3km west of Killimer and 6 km south-east of Kilrush. The extent of ESB's current landholding, comprises 180 Hectares (Ha) of onshore landbank and 65.24 Ha of privately held foreshore.

The study area relevant of the GA Concept is illustrated in Figure 2.4.

Figure 2.4 Study area of the GA Concept

2.7 Concept Period

The GA Concept sets out ESB's objectives and plans for Moneypoint as of Quarter (Q)3 2025. Given that it envisages substantial re-development of the site, while maintaining transitional generation and transmission activity, it is currently anticipated that the GA Concept will be developed through individual projects delivered over a number of phases.

Likely landmark phases of development are:

- **From 2024 to early 2030s** – initiation of site remediation and phased development of energy storage and additional dispatchable low carbon generation infrastructure at Money point.
- **2025** – cessation of coal fuelled generation with the conversion of Moneypoint Generating Station site to a lower carbon generating facility.
- **From late 2020s** – continued site remediation and initiation of port upgrade works; establishment of Moneypoint Hub as a construction and operations base for the ORE sector; and
- **Post 2035** – ESB ORE projects on the west coast become operational; Moneypoint transitions over time to alternative low and zero carbon fuels, such as green hydrogen and ammonia.

It is anticipated that the GA Concept will be subject of periodic reviews, particularly in the context of any significant changes to ESB Strategy; changes within the receiving environment as may arise from new developments; or changes to land-use policies as may arise from a review of the Clare County Development Plan (referred to hereinafter as 'CCDP'), or other spatial strategies.

3. Relationship with Other Relevant Plans and Programmes

3.1 Introduction

According to Article 5(1) of Annex 1 of the SEA Directive, the environmental assessment must identify "the environmental protection objectives, established at International, European Union or national level, which are relevant to the plan or programme, or modification to the plan or programme, and the way those objectives and any environmental considerations have been taken into account during its preparation".

Ultimately, as outlined in the EPA's Good Practice Note on Strategic Environmental Assessment for the Energy Sector (EPA, 2021), this Section should set out the GA Concept in its wider planning context. It should explain what other Plans and environmental objectives affect the GA Concept, and what Plans and Projects are affected by the GA Concept.

The wide range of Plans, Policies, Programmes and Legislation which are considered to be of relevance to the GA Concept and are outlined in Appendix A.1 of this report.

A number of these Plans Policies, Programmes and legislation have been identified as being key with regards interaction with the GA Concept - these are described in Section 3.2. A schematic showing these key plans and programmes of relevance to the GA Concept, and how they are interlinked with the GA Concept is included in Figure 3.1 below.

Further to all the plans, programmes and policies listed in this Section, the requirements to meet national and international commitments on climate change, sustainability and low carbon development are becoming increasingly important for all sectors in Ireland, particularly with reference to the energy sector who at present are still largely reliant on the burning of fossil fuels. The Paris Agreement (2015), UN Sustainability Goals (2015), EU Effort Sharing Regulation Agreement 2021-2030 all put a focus on improving sustainability and low carbon development around Europe, including Ireland.

In Ireland these requirements are reflected in the Climate Action and Low Carbon Development (Amendment) Act (2021), and in the Climate Action Plan (CDP) (2025).

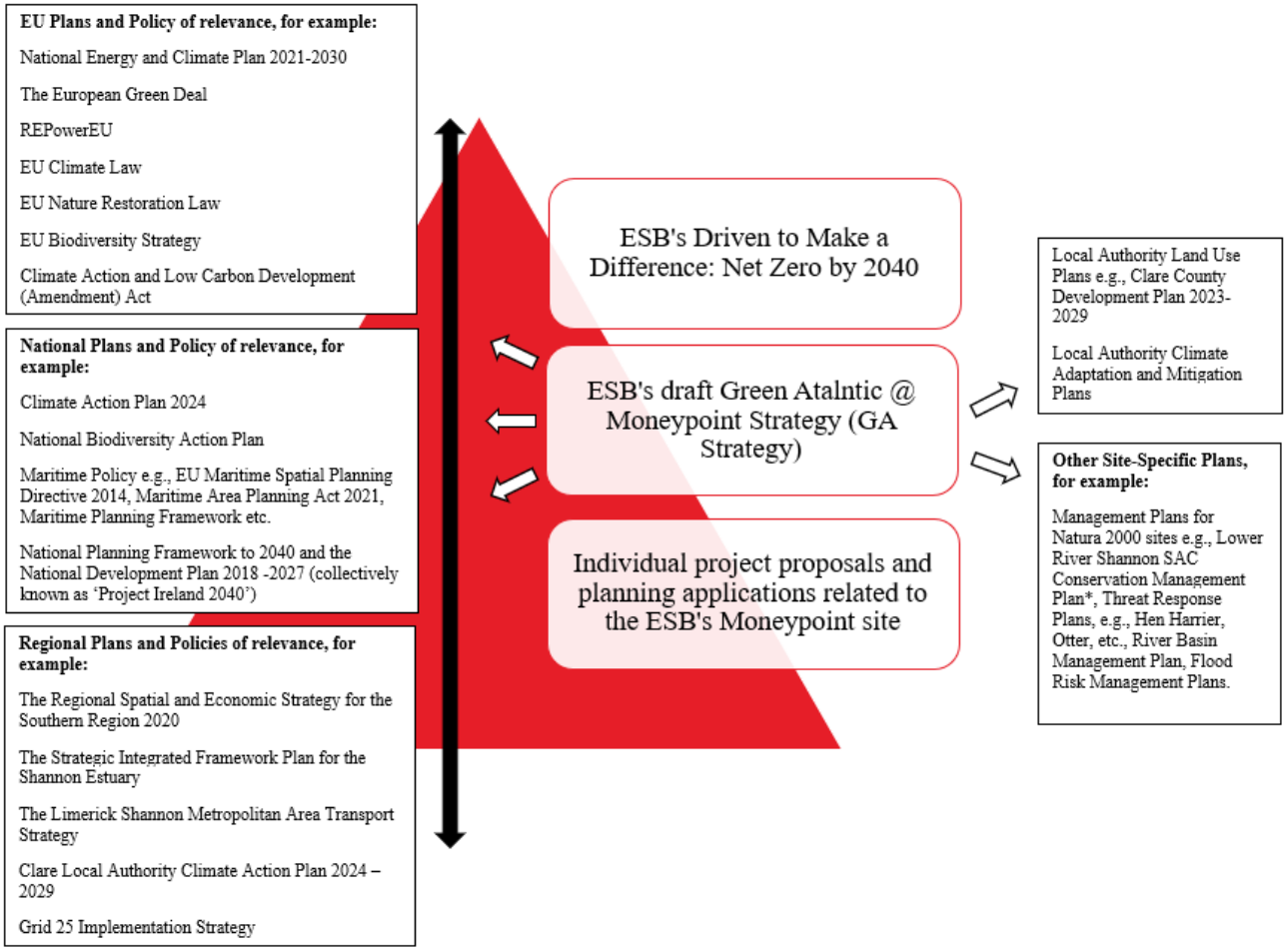

Figure 3.1 Key policy, Plans and Programmes and Interaction with GA Concept[26]

3.2 Key Policy, Plans and Programmes

This Section aims to identify key policy, plans and programmes and how these are interlinked with the GA Concept, a schematic has also been provided showing these relationships in order to set the context for the GA Concept.

Although the GA Concept is a non-statutory document it has nonetheless been framed within the context of EU, national, regional and local development plan policies, as these policies will form the context for the assessment of individual project elements.

3.2.1 EU Policy

At EU level, there is a well-established framework of Directives that set emissions targets to counter the threat of global warming and climate change. Key to this is the increase reliance on energy from renewable sources. National Energy and Climate Plans (NECPs) were introduced at an EU level by the Regulation on the governance of the energy union and climate action (EU)2018/1999 and were agreed as part of the 'Clean energy for all Europeans package', adopted in 2019. NECPs were introduced to meet the EU energy and climate targets for 2030, EU countries have since established 10-year NECPs for the periods of 2021 to 2030.

[26] Note: The Lower River Shannon SAC Conservation Management Plan detailed in Figure 1 is an unpublished document, written in 2012. There has been no updated version of the Plan since this time.

The European Commission's Green Deal sets out the broad strategy for tackling climate change and transforming the EU into a modern, resource-efficient and competitive economy, ensuring, inter alia, no net emissions of GHG's by 2050.
The document sets out proposals to make the EU's climate, energy, transport and taxation policies fit for reducing net GHG emissions by at least 55% by 2030, compared to 1990 levels. It sets out a strategy for the European Union to become the world's first "climate-neutral bloc" by 2050, with targets for different sectors, including construction, biodiversity, energy, transport and food.

The EU Climate Law aims to establish a framework for achieving climate neutrality within the EU by 2050 and includes, in addition to the binding objective of climate neutrality in the EU by 2050, the aim of achieving negative emissions in the EU after which time. The Climate Law provides for a binding EU target of a net domestic reduction in GHG emissions by at least 55% (compared to 1990 levels) by 2030, and to set a climate target for 2040 within six months of the first global stocktake under the Paris Agreement. Furthermore, this Law introduces rules that will ensure continuous progress towards the global adaptation to the climate change goal in the Paris Agreement.

The EU Nature Restoration Law was established in order to restore ecosystems, habitats and species across the EU's land and sea areas. The Law aims to enable the long-term and sustained recovery of biodiverse and resilient nature, meet international commitments, and contribute to achieving the EU's climate mitigation and climate adaptation objectives.

Most recently, REPowerEU, a plan to rapidly reduce dependence on Russian fossil fuels and accelerate the green transition, has been adopted. Accompanied by binding Regulations. this Plan seeks to – inter alia, address roadblocks to the delivery of renewable energy infrastructure.

3.2.2 National Policy

3.2.2.1 Energy and Climate Change

In-line with EU policy, Ireland's energy policies set ambitions targets for Ireland's transition to a green economy.

Ireland has adopted a series of plans – including the NECP 2021-2030 which set out measures, which are then reflected in various Programmes for Government. Under the current Programme - Our Shared Future, Ireland is committed to achieving a 7% annual average reduction in GHG emissions between 2021 and 2030. The NECP is currently being revised to reflect high levels of ambition currently targeted.

Annual CAPs have provided updates to the Climate Action Plan 2019. The 2025 CAP is the third annual update to Ireland's CAP and was published in April 2025.

CAP 2025 builds upon CAP 2024 by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings. CAP 2025 provides a roadmap for taking decisive action to halve Ireland's emissions by 2030 and reach net zero by no later than 2050, as committed to in the Climate Action and Low Carbon Development (Amendment) Act 2021.

In relation to the energy, CAP 2025 notes, transformational policies, measures and actions, and societal change are required to increase the deployment of renewable energy generation in Ireland. The same is needed to strengthen the electricity grid and meet the demand and flexibility needs required for but not limited to the following challenges:

- **Measure:** Accelerate Renewable Energy Generation.
  - 2025 Key Performance Indicator (KPI):
    - 50% renewable electricity share of demand
    - 6 GW onshore wind capacity; and
    - Up to 5 GW solar PV capacity including at least 1 GW of non-new grid solar.
- **Measure:** Accelerate Flexibility

  - 2025 KPI:
    - Level of renewables at any one time on grid: 85%
    - Dispatch down (excluding oversupply) of renewables below 7%;
    - Minimise oversupply; and
    - Required long term storage (4 hour plus) in place
- **Measure**: Demand Management
  - 2025 KPI:
    - Demand Side Flexibility 15-20% Zero carbon demand growth

Recent policies in relation to hydrogen (the National Hydrogen Strategy) and the National Strategy on Interconnection, are highly relevant to energy developments both in the onshore and offshore environment.

3.2.2.2 Biodiversity

Ireland's fourth National Biodiversity Action Plan (NBAP) establishes the national biodiversity agenda for the period 2023-2030. The Plan aims to deliver the transformative changes required to the ways in which we value and protect nature.

The fourth NBAP strives for a "whole of government, whole of society" approach to the governance and conservation of biodiversity. It aims to ensure that every individual, community, business, local authority, semi-state and state agency has an awareness of biodiversity and its importance, and of the implications of its loss, while also understanding how they can act to address the biodiversity emergency as part of a renewed national effort to "act for nature".

The NBAP 2023-2030 builds upon the achievements of the previous Plan and will continue to implement actions within the framework of five strategic objectives, while addressing new and emerging issues. The objectives are listed as follows.

- 'Objective 1 - Adopt a Whole of Government, Whole of Society Approach to Biodiversity'
- 'Objective 2 - Meet Urgent Conservation and Restoration Needs'
- 'Objective 3 - Secure Nature's Contribution to People'
- 'Objective 4 - Enhance the Evidence Base for Action on Biodiversity'; and
- 'Objective 5 - Strengthen Ireland's Contribution to International Biodiversity Initiatives'.

3.2.3 Maritime Policy

Reform of the forward planning and consenting regime for the maritime area continues at pace. Due to the drive for ORE capacity, the need to reform out of date legislation and the requirement to comply with the EU Maritime Spatial Planning Directive, 2014, the Government is creating a new maritime planning framework and consenting regime for the area extending from the nearshore area to the full extent of Ireland's Exclusive Economic Zone (EEZ).

New legislation (e.g., the Maritime Area Planning Act, 2021) has been enacted, and the first spatial plans for the maritime area are being prepared (Designated Maritime Area Plans, DMAPs). By 2026, Marine Protected Areas (MAPs) will be designated. New consenting processes have been initiated with new powers delegated to An Bord Pleanála and a new maritime consenting authority – the Maritime Area Regulatory Authority (MARA), established.

Maritime planning policy is evolving and, in the short-term, additional policy documents will emerge which seek to facilitate the development of significant renewable energy resources in the maritime area to enable achievement of the 2030 targets and the longer-term goal for Ireland to become energy independent, while balancing the need for environmental protection.

Related policy documents for the maritime area are emerging from:

- The Department of Housing, Local Government and Heritage (DHLGH) – in respect of DMAP and MAP designation and guidance in relation to the assessment of ORE developments by planning authorities
- The Department of Environment, Climate and Communications (DECC) – the competent authority for the designation of DMAP areas for ORE; Department with responsibility for the operation of the ORE auctions, and the implementation of longer-term maritime plans including the Future Framework for Offshore Renewable Energy
- The Department for Enterprise, Trade and Employment – in relation to an industrial strategy for offshore wind energy; and
- EirGrid - who have responsibility for plan-led grid development and will develop offshore substations and connections to connect ORE developments to the national grid.

3.2.4 National Spatial Policy

The National Planning Framework (NPF) to 2040 and the National Development Plan 2018 -2027 (NDP) (collectively known as 'Project Ireland 2040') set out the Government's overall strategy for economic and social progress. These are the over-arching frameworks that guide development.

The documents contain relevant commentary in relation to Moneypoint Generating Station site and the wider Shannon Estuary. In the context of the Transition to a Low-Carbon and Climate-Resilient Society (pg. 10) the "conversion of Moneypoint electricity generation plant to end the burning of coal" is referenced with adaptation of existing infrastructure cited as a clear objective.

Overall, the NPF is highly supportive of the expansion of the offshore sector. Significant emphasis is placed on the strategic importance of ORE in achieving increased renewable deployment in-line with EU targets and national policy objectives out to 2030 and beyond. The link between achieving zero carbon and the marine economy is highlighted as it is the expansive nature of our territorial waters, and the available wind resources present major opportunities in the blue economy and ORE sectors, which would support our transition to a zero-carbon economy.

The Revised NPF was recently published (April, 2025) and sets out a strategic vision for Ireland's growth and development up to 2040. The Revised NPF captures revised demographic data provided by Census 2022 and increasingly ambitious objectives to address climate change. Furthermore, the Revised NPF is strongly supportive of the development of renewable generation infrastructure, strategic land management and clustered industrial development, while incorporating appropriate environmental protection and impact mitigation[27] (Government of Ireland, 2025).

3.2.5 Regional Policies

The Regional Spatial and Economic Strategy for the Southern Region (RSES, 2020) is the Regional tier policy framework relevant to the Moneypoint area.

The document recognises both the importance of Moneypoint Generating Station, and the likely conversion of the Generating Station by 2025. It establishes a highly positive context for the offshore renewables sector, aiming to increase the leverage the Region as a leader and innovator in sustainable renewable energy generation.

Initiatives outlined in the RSES which are relevant to the GA Concept include –

- Promoting the conversion of Moneypoint electricity station by 2025 from burning fossil fuels. The RSES recognises the importance of Moneypoint as producer of 25% of national energy and its potential as a deep-water port.

[27] Government of Ireland (2025) Final Revised NPF. Available at: Final Draft Revised National Planning Framework – April 2025 - The National Planning Framework

- There is significant opportunities to grow the Blue Economy through offshore wave and wind renewable energy in the Shannon Estuary and the west coast of County Clare, reflecting the key natural assets of wave and wind energy, together with the presence of grid connections.

In addition, Regional Policy Objective 79(a) notes the following –

"*The RSES recognises the national and international importance of the Shannon Estuary, its potential to attract multinational development and the significant work that has been undertaken to progress its promotion and development. It is an objective to support and promote the delivery of the Strategic Development Locations as set out in the SIFP for the Shannon Estuary subject to the implementation of mitigation measures outlined in the SEA and AA undertaken on SIFP and zoned in the Local Authority Development Plans*".

3.2.5.1 Plans and Policies for the Shannon Region

Given both the extent and the importance of the Shannon Estuary, there are a number of important policy documents in place to guide the development of this sub-regional areas. The Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary is a marine based framework plan to guide future development and management of the Shannon Estuary.

The SIFP forms part of the statutory land use plan – the County Development Plan. The SIFP sets a 30-year vision for the development of the Shannon Estuary. It seeks to support the multi-functional nature of the Shannon Estuary and identify opportunities to expand the existing economic base, including Port-related industry and other related activities; while safeguard the Estuary's sensitive environmental resources and natural heritage of national, European and International significance.

It identifies two Strategic Development Locations (SDLs) for the development of marine related industry in the Estuary. Moneypoint Generating Station site (and adjacent lands) are identified as Strategic Development Location B (SDL B). The SIFP aims to protect the strategic importance of these lands and encourage their sustainable growth, development and appropriate diversification for economic development in accordance with regional and national priorities and subject to the requirements of environmental objectives. In relation to Moneypoint Generating Station site, the SIFP notes:

- Significant investment to date in maritime infrastructure i.e., the large commercial jetty which has a capacity to accommodate vessels up to 250,000 tonnes DWT and 600,000 tonnes storage capacity
- Potential synergies for the development of marine related industry and renewable energy, with the potential to multi-use the existing infrastructure
- The strategic importance in respect of security of energy supply; and
- Limitations of the current site with expansion requiring the extension of the operational area and potential upgrade of jetty facilities.

Within the SIFP, the broader Shannon Estuary has been identified as an area of opportunity for tidal energy testing due to the presence of deep waters.

The SIFP sets out guiding principles for the development of the SDL, inter alia:

- The location is identified for energy uses
- Alternative land use – particularly related industry on the greenfield areas compatible with the primary anticipated use may be acceptable, where they do not compromise the primary use
- The role of ESB Moneypoint Generating Station is to be safeguarded ensuring that its power generation, transmission capability and distribution functions are protected, as well as those core assets required for their operations – including access to cooling water, marine waters and commercial shipping lane access
- Opportunities associated with the adjacent Area of Opportunity for Tidal Energy is recognised; and
- All proposals for development should provide a Concept Masterplan which includes:
  - Analysis of location features, opportunity and constraints

- Explanation of the design, its component parts and how these are compatible and integrate with the location characteristics
- All development proposals for marine related activity will need to be evaluated to consider combined risks and potential consequences to the environment, given its SEVESO status; and
- Proposals for provision of wastewater treatment must be considered – including the possibility of utilising treatment capacity at the existing Generating Station. An alternative to this may include upgrading / a new treatment plant at Killimer Village which could provide capacity to serve an industrial development.

The Limerick Shannon Metropolitan Area Transport Strategy (LSMATS) sets out the framework for the delivery of the transport system required to further the development of the Limerick Shannon Metropolitan Area. The LSMATS was prepared by the National Transport Authority (NTA) in collaboration with CCC, Limerick City and County Council, and Transport Infrastructure Ireland.

The Clare Local Authority Climate Action Plan (CLACAP) 2024-2029 was established in order to highlight the key role that CCC will play in the delivery of both climate mitigation and adaptation in Clare. The importance of place-based approaches and the role of CCC and other Local Authorities across Ireland is highlighted in the Climate Action and Low Carbon Development (Amendment) Act 2021. This Act which stipulates that "each local authority shall prepare and make a plan relating to a period of five years (in this section referred to as a 'local authority climate action plan') which shall specify the mitigation measures and the adaptation measures to be adopted by the local authority." The Local Authority Climate Action Plans (LACAPs) will define a clear pathway towards reducing GHG emissions at a local level through the implementation of mitigation measures and reduce the risks posed to our communities by climate change through adaptation measures. As detailed in the CLACAP, County Clare provides marine access and transport at Moneypoint, Killimer, and harbours along the Atlantic coastline. The Shannon Estuary is a tidal estuary stretching from Limerick City to Loop Head, that is known for its rich biodiversity and ecological significance. The estuary also plays a leading role in the region's economy by facilitating major shipping and trading.

Lastly, the Grid 25 Implementation Strategy was established by Eirgrid to provide a common understanding of how the development of the national Grid should be undertaken in order to support a long-term sustainable and reliable electricity supply in Ireland. The Grid 25 Implementation Strategy makes reference to key developments that can support the national grid and, in relation to the area of Clare and particularly the Shannon Estuary, this Strategy details that peak demand for electricity is expected to increase by 60% (estimated in 2007) by 2025. This region is expected to have up to 440 megawatts (MW) of wind generation and 75 MW of wave generation. Grid development in this region will include:

- Additional investments of approximately €315 million in regional transmission network
- Strengthening the transmission capacity across the Shannon Estuary
- Upgraded networks supplying the large urban centres of Ennis and Limerick; and
- Up-rating over 250 kilometres (km) of existing networks to facilitate higher capacity power flows, using existing corridors where possible.

3.2.6 Plans and Policies for County Clare

The Moneypoint Generating Station lands are located within County Clare and fall within the jurisdiction of the CCDP. The current CCDP is for the period 2023-2029.

The CCDP is supportive of energy related development in the Shannon Estuary and specifically at Moneypoint Generating Station site. The economic contribution that Moneypoint Generating Station makes towards the local economy is recognised and, in the CDP, it is indicated that Clare County Council (CCC) will support the on-going diversification and expansion of the plant to prolong its lifespan, in accordance with national and regional energy objectives.

In-line with the sub-regional plan – the SIFP for the Shannon Estuary – as discussed above, the Moneypoint Generating Station lands are identified as Strategic Development Zone B and zoned for Marine Related Activity.

The CDP commentary for the site specifically refers to elements of the Green Atlantic Strategy and establishes a positive policy context for these. Moreover, the CDP states that CCC is committed to safeguarding the future operations and proposed development on the site to ensure efficient production of environmentally sustainable electricity and security/diversity of supply in the future while at the same time ensuring that the environmental integrity of the adjacent Shannon Estuary is maintained. In terms of land use zoning the site his land use is defined as:

'Land zoned for marine-related industry provide for marine-related industry and largescale uses that create a synergy with the marine use. Marine-related industry shall be taken to include the use of land for industry that, by its nature, requires a location adjacent to estuarine/deep water including a dependency on marine transport, transhipment, bulk cargo or where the industrial processes benefit from a location adjacent to the marine area'.

It is an objective of CCC to promote energy security. The potential investment of ESB in green hydrogen production and storage at Moneypoint Generating Station site is cited as an example of how the security of energy supply from renewable sources can be addressed with a broad supporting objective for the development of this infrastructure. There is broad support for sustainable technology upgrading and conversion of Generating Stations including Moneypoint Generating Station site to the use of energy efficient and renewable energy sources; and the redevelopment of the Moneypoint Generating Station site as a green energy hub subject to the requirements of the Habitats and Birds Directive, Water Framework Directive, and all other relevant EU Directives.

Within the Renewable Energy Strategy for County Clare, there are also highly positive statements in relation to the redevelopment potential of Moneypoint Generating Station site, including the potential for marine relates industry and renewable energy at, and adjacent to, the site.

4. SEA Methodology

4.1 Introduction

This Section highlights how the SEA has been undertaken for the GA Concept. The SEA methodology is based on legislative requirements and relevant EPA guidance and will ensure compliance with the SEA Directive and associated legislation. The EPA's SEA Pack (Version 09/01/2023) was also used as a source of information during the scoping process.

The GA Concept, the SEA ER and the AA (Arup) were prepared in an iterative manner whereby multiple revisions of each document were prepared, each informing subsequent iterations of the others. To facilitate this iterative approach, numerous discussions were held between ESB and Arup.

The key stages outlined in Figure 4.1 were identified and are discussed in the following Sections.

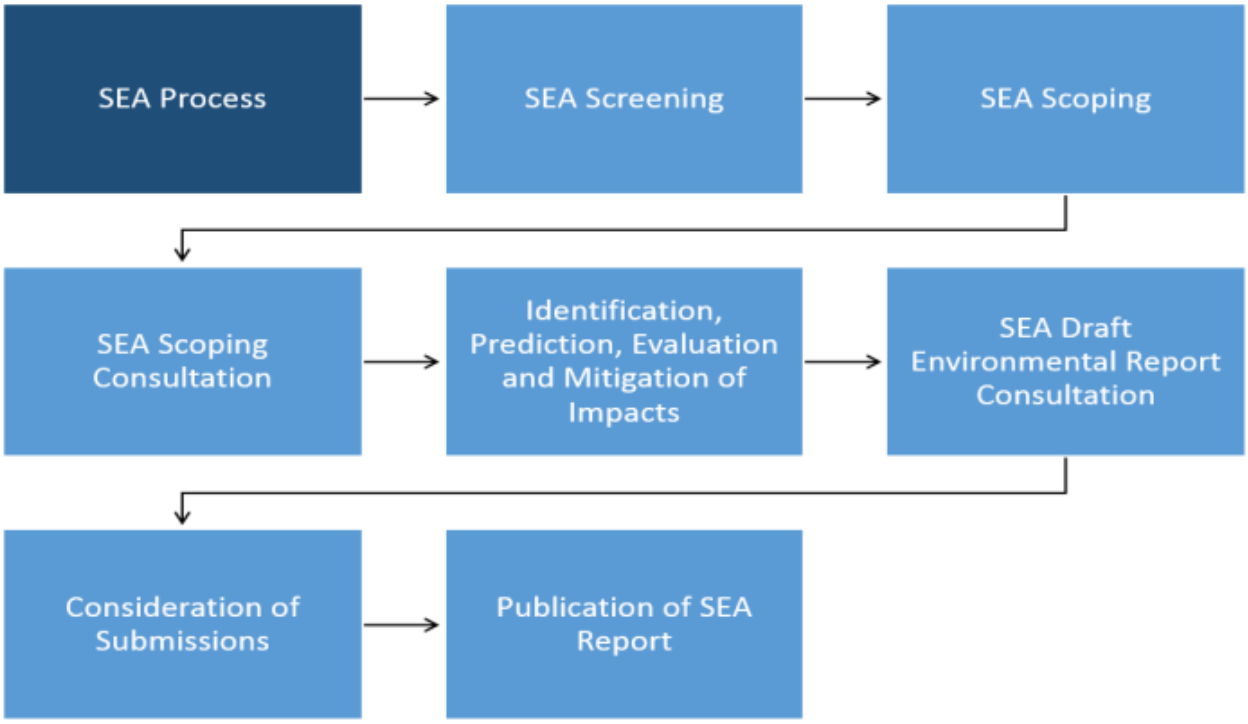

Figure 4.1 Key Stages of the SEA Process

4.2 Screening

Screening is the process for deciding whether a particular Plan would warrant SEA at the earliest possible opportunity, it also facilitates the assessment findings so that they can be factored into the Plan development process.

The SEA screening assessment of the GA Concept concluded that the GA Concept was of a type of Plan/Programme (P/P) which falls within the remit of the SEA Directive/SEA Regulations. Further, given that the GA Concept was prepared by ESB and is considered a P/P that is required by administrative provisions. The GA Concept is not considered to be exempt, and it is a P/P prepared for the land-use sector, that has the potential to set a framework for the development consent for projects listed in the EIA Directive. Thus, the GA Concept required mandatory SEA.

Ultimately, it was determined that the GA Concept is considered a type of P/P which falls within the remit of the SEA Directive, and that it required mandatory SEA, based on findings outlined within the Applicability Stage (Stage 1 of the SEA Screening process which determines the applicability of SEA to the P/P-maker and P/P and/or where relevant to confirm if mandatory SEA is required). The GA Concept was therefore taken forward to SEA Scoping.

4.3 Scoping

The main objective of the Scoping Stage is to identify the key environmental issues that may arise as a result of the GA Concept, so they may be addressed appropriately in the SEA ER. There are a number of tasks at this stage:

- Determine the key elements of the GA Concept to be assessed
- Determine the environmental issues to be assessed
- Collect and report on relevant international, national and local Plans, objectives and environmental standards that may influence or impact on the GA Concept
- Develop draft environmental objectives, indicators and targets to allow the evaluation of impacts; and
- Identify reasonable alternative means of achieving the strategic goals of the GA Concept.

A Scoping Report was prepared in December 2023 in relation to the GA Concept, which provided information to allow consultation with defined statutory bodies on the scope and level of detail to be considered in the environmental assessment.

The GA Concept was issued to the statutory consultees, and the consultees were given a period of four weeks to respond with any observations or submissions on the content of the SEA Scoping Report.

The SEA Directive requires that where the GA Concept has potential for transboundary environmental effects these must be addressed within the SEA ER. In accordance with SEA Directive and EPA Guidance, the relevant statutory consultee in Northern Ireland was contacted during the Scoping consultation period as listed on the EPA Contacts Section of the EPA website: https://www.epa.ie/our-services/monitoring--assessment/assessment/strategic-environmental-assessment/sea-contacts-/.

Scoping responses were received from the following statutory consultees during the statutory consultation period:

- EPA
- Geological Survey Ireland (GSI)
- Department of Agriculture, Environment and Rural Affairs (DAERA) – Northern Ireland Environment Agency (NIEA) – SEA Team; and
- Department of Housing, Local Government and Heritage (DHLGH) – Development Applications Unit (DAU).

All responses received from the Statutory Consultees have been included in Appendix A.3 of this report.

4.4 Baseline Data

Gathering relevant information relating to the state of the environment for a Plan area is an integral part of the SEA process. The SEA Directive requires that certain information relating to the relevant environmental baseline is presented in order to help test the performance of the Plan's implementation, as well as helping establish how the environment would change if the Plan were not to implemented. Baseline information has been collected from readily available sources, including but not limited to, the Ireland Air Quality Report 2023, CSO 2022 Statistics, Ireland's State of the Environment Report 2024, Ireland's Provisional Greenhouse Gas Emissions 1990-2023 and a number of energy related documentation, namely, SEAI's Energy in Ireland Report (2024). A Geographical Information System (GIS) was used to graphically present relevant information although for the site-specific GA Concept, the benefits to illustrating the baseline environment is limited. The baseline information is reported in Section 5 of this report.

4.5 Considerations of Alternatives

The SEA Directive requires that reasonable alternatives be assessed in order to demonstrate how the preferred strategy performs against other forms of action. Alternatives must be developed, described and assessed within the SEA process, with the results presented in the ER. Section 7 of this report identifies, describes and evaluates different scenarios for the GA Concept, taking into account national planning policy, economic development policy, and the Strategic Environmental Objectives (SEOs) identified in Section 6.

4.6 SEA Sensitivity Mapping

Environmental Sensitivity Mapping was prepared in order to provide relevant information on environmental constraints so that environmental issues could be taken into consideration from the earliest possible stages of the SEA. The Environmental Sensitivity Mapping has been used to inform the environmental baseline description provided in Section 5 of this Report and certain mitigation measures identified in Section 9.1.

In order to identify where environmental sensitivities within the Moneypoint Generating Station site occur, relevant environmental sensitivities (refer to Appendix A.5) were weighted and mapped overlapping each other. The methodology and weighting system applied is adopted from the EPA report 'GISEA Manual Improving the Evidence Base in SEA'. Overlay mapping techniques were used to jointly map and spatially assess sensitive environmental areas (e.g., protected habitats, groundwater vulnerability areas). This was

achieved by superimposing layers and using transparency tools, or by using raster calculation tools on ArcGIS Pro to combine them.

The outputs illustrate the degree of interaction and overlap between co-occurring environmental factors. They help identify environmentally sensitive areas as well as areas free of environmental constraints that are, therefore, suitable for development.

Having regard to the nature and scope of the GA Concept, higher weightings were assigned to data layers of an ecological nature where environmental components/aspects are particularly relevant to the zoned areas on and surrounding the Moneypoint Generating Station site - such as wind energy developments, waterbodies and protected sites such as SPAs and SACs and more. Refer to Appendix A.5 of this report for the full table of weightings applied to the Environmental Sensitivity Mapping. The resulting Environmental Sensitivity Mapping can be found in Appendix A.1.

4.7 Environmental Assessment of the GA Concept

The environmental assessment process ran in parallel to the development and preparation of the GA Concept. The environmental assessment process was undertaken in accordance with best practice SEA principles and guidance. This included desk reviews of all of the available GIS data, specialist investigation into the likely effects associated with the GA Concept and recommendations for suitable mitigation measures along with monitoring.

4.8 SEA Statement

On adoption of the GA Concept, the SEA Statement will be made public and will include information on how environmental considerations were integrated into the GA Concept.

It will highlight the following:

- Main changes to the GA Concept which resulted from the SEA process
- How the SEA ER and consultations were taken into account
- Summary of the key issues raised in consultations and in the SEA ER indicating what action was taken in response; and
- The reasons for choosing the GA Concept in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the GA Concept was selected.

4.9 Consultations

Further to the SEA Scoping consultation outlined in Section 4.3, this SEA ER was issued to the relevant stakeholders for comment. The responses received were addressed in the finalisation of the SEA ER. An outline of the responses received have been included in the SEA Statement.

4.10 Technical Difficulties Encountered

No technical difficulties were encountered during the preparation of this SEA ER.

5. Current State of the Environment

5.1 Introduction

An assessment of the current state of the environment and key environmental issues and opportunities for the study area relevant to the GA Concept was conducted within the GA Concept SEA Scoping Report. GIS illustrates the baseline environment at a site-specific level.

Where data gaps are found for particular aspects of the environment, the significance of these data gaps are evaluated and clearly stated. It will also be stated whether these gaps can be addressed during the SEA process.

The baseline environment is assessed under the following headings:

- Population and Human Health
- Biodiversity
- Land and Soils
- Water
- Air and Climate (including Noise)
- Archaeology, Architectural and Cultural Heritage
- Landscape and Visual; and
- Material Assets.

In accordance with S.I. 436 of 2004 (as amended) consideration should be given to whether the environmental effects, both positive and negative, of the Plan are likely to be significant.

Figures relating to this Section are contained in Appendix A.1, as extracted from the SEA Scoping Report, unless otherwise stated.

The SEA Directive requires that where the GA Concept has potential for transboundary environmental effects these must be addressed within this SEA ER. Section 5.10 of this report details any potential transboundary environmental effects that may occur in relation to all environmental components, relating to the GA Concept.

5.2 Population and Human Health

5.2.1 Population

The Moneypoint Generating Station site subject to the GA Concept does not contain any residential dwellings. Thus, there is no population associated with the GA Concept study area.

Population data as taken from the 2022 Central Statistics Office (CSO) Census Results[28] (CSO, 2022) shows that the Electoral Division of 'Kilrush Rural', where the Moneypoint Generating Station site is located, had a population of 738 in 2022.

Economic value of Moneypoint Generating Station

Moneypoint Generating Station is a significant economic driver in the economy of County Clare and the south-west region of Ireland. The site acts as an employment hub whilst also providing a reliable source of electricity, to support economic activity across all sectors.

[28] CSO (2022) Census of Population 2022. Available at: Census Local Statistics interactive mapping app | CSO Ireland

There are currently circa. 123 people permanently employed on the Moneypoint Generating Station site with regular temporary employment opportunities also being provided for contractors associated with various ongoing projects on site.

Moneypoint Generating Station is a significant contributor to the commercial rates base of County Clare. Commercial rates are a local property tax on commercial premises.

Income generated through commercial rates are used to provide a wide range of general services within County Clare. In the period 2004[29] to 2020, the rates contribution for Moneypoint Generating Station was €11.1 million per annum, equating to approximately 8.6% of the rates base for the County. From 2021, due to a revision of costs with the Valuation Office, the rates liability reduced from €8.4 million in 2021 to €6.1 million in 2029, all rates are paid directly to CCC. In addition to the contribution of rates, Moneypoint Generating Station contributes revenues to agencies such as the Shannon Foynes Port Authority and the Commissioners for Irish Lights.

5.2.2 Human Health

Health is defined by the World Health Organisation (WHO) as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'[30] (WHO, 2023).

General health in the electoral division of 'Kilrush Rural' is classed predominantly as 'Very Good' within the latest CSO data. In total 405 individuals were reported as having 'Very Good' general health, 219 individuals reported as having 'Good' health, 76 reported as having 'Fair' health, 13 reported as having 'Bad' health and 3 reported as having 'Very Bad' health[31] (CSO, 2022).

Health is influenced by many factors in the social and built environment including, housing, employment status, education, transport and access to fresh food and resources, as well as the impacts of air quality, water quality, flooding, and access to green space.

As outlined within the Moneypoint Generating Station 2024 Annual Environmental Report (AER)[32] (ESB, 2025), Moneypoint Generating Station site's IE Licence requires that activities onsite do not cause environmental nuisance such as odour, dust or noise. The Licence also requires that there are procedures in place to record, investigate and respond to environmental complaints if or when they arise.

In 2024, one complaint was received in relation to noise on the 9th July 2024, since which time, a follow up was completed and the complaint has been closed. Moneypoint Generating Station site was observed to be compliant with noise emission limits outlined in P0605-04.

It is ESB's responsibility as an EPA licenced facility to ensure there are systems in place to prevent incidents that have the potential to cause environmental pollution. If an incident occurs, ESB is required to report it to the EPA, investigate the cause and fix the problem.

The EPA classify environmental incidents into 5 categories based on the potential impact on the environment:

- Minor
- Limited
- Serious
- Very Serious; and

[29] Prior to 2004, the calculation of rates for the site included all ESB assets – including Networks assets and all monies did not accrue directly to Clare County Council. In the period 1989 to 1998, the contribution amounted to €18.7 million; and in the period 1999 to 2003, it was €13 million per annum.

[30] WHO (2023) Constitution. Available at: Constitution of the World Health Organization (who.int)

[31] CSO (2022) Disability, Carers and General Health. Available at: Census Local Statistics interactive mapping app | CSO Ireland

[32] ESB (2025) AER - ESB's Moneypoint Generating Station. Available at: 01fae198-c68a-43ea-ba65-f236572fc175.pdf

- Catastrophic.

As outlined in the Moneypoint Generating Station 2024 AER only minor category incidents occurred onsite, these include:

- 13 Abatement issues from various maintenance faults with both the Selective Catalytic Reduction (SCR) and Flue Gas Desulphurisation (FGD) plants
- 1 Breach of Ambient Emission Limit Value (ELV) for pH on SW7
- 1 Fire occurred in the turbine hall, this fire was contained and no discharges generated
- 2 Monitoring equipment issues, 1 leading to loss of Continuous Emissions Monitoring System (CEMS), 1 reported monitoring equipment issues was as a result of elevated flue gas temperature and should have been reported as an abatement issue
- 6 Spillages relating to Heavy Fuel Oil (HFO)/ Diesel fuel lines, all spills were contained within drainage systems/ bunds
- 2 Trigger level breach from various site boreholes and elevated Chemical Oxygen Demand (COD) at SW13
- 2 Uncontrolled releases from an F-Gas chiller, however, the equipment was repaired, and leak tested prior to recommissioning
- 1 Uncontrolled release of Sulphur Oxides (Sox) due to pump failure causing loss of abatement; and
- 1 Other - probe malfunction on SCR outlet, leading to elevated Nitrogen Oxide (Nox) emissions.

All incidents have been reported in the 2024 AER, investigated and corrective actions have implemented.

ESB is also required to ensure the emissions from their activities do not cause environmental pollution. ESB is required to monitor any of the following emissions that they make:

- Storm water
- Wastewater
- Air
- Groundwater; and
- Noise.

ESB regularly test any such emissions for specific pollutants and materials to ensure they do not contain levels of pollution that exceed emissions limit values (ELVs) or cause environmental pollution. If monitoring of an emission indicates an ELV is exceeded, ESB is required to report this to the EPA.

The GA Concept notes that all development proposals at the Moneypoint Generating Station site will need to be evaluated to consider combined risks and potential consequences to the environment, given its SEVESO status.

5.3 Biodiversity

The onshore areas of Moneypoint Generating Station site are not considered to be of significant biodiversity value, with the exception of areas of mature woodland to the north of the site, and indeed the site's shoreline. The Moneypoint Generating Station's privately held foreshore is located within the Lower Shannon Estuary which is home to a wide range of habitats and species. There are two Natura 2000 sites are located in the foreshore of the GA Concept site boundary, namely the Lower River Shannon SAC (site code 0002165) and the River Shannon and River Fergus Estuaries SPA (site code 004077). A brief description of Moneypoint Generating Station's biodiversity value (onshore) is described as follows. The offshore elements of the Moneypoint Generating Station's site boundary are described in further detail in the coming paragraphs.

- The land to the north of the Generating Station comprises areas of mature woodland and dense scrub, with a discrete area of immature woodland to the north of the ASA. The mature woodland areas (at least some of which have been present since before the 1840s) pre-date construction of Moneypoint Generating Station and are dominated by mature, wind stunted oak trees. There is a small area of Old Oak Woodland which is an Annex 1 Habitat (Habitat code 91A0), designated for protection under the Habitats Directive. Beech, hazel, ash, birch and alder also occur. The woodland margins are dominated by willow, blackthorn and birch. Scrub patches are dominated by bramble, with occasional holly, honeysuckle and bracken. The ground flora is dominated by ivy, though several other species associated with established woodland are present
- An area surrounding a derelict house and associated out houses east of Moneypoint Generating Station's 400 kilovolts (kV) lines is now overgrown and impassable; the building is known to have been used by roosting bats (pipistrelles and possibly other species). Overall, the mature woodland habitats at the site are considered to be of high ecological value. Trees within and bounding the site are scheduled for protection under the CCDP. Two significant stands of trees are designated and protected for preservation; and
- The Shannon Estuary shoreline along the southern boundary of the site comprises steep rock armour and consequently a relatively narrow intertidal zone comprising mostly fucoid seaweeds. The estuary and shoreline habitat forms part of the aforementioned European Sites.

Other vegetative features found within the Moneypoint Generating Station site include:

- Spoil and bare ground is extensive within the Generating Station site, with varying levels of recolonisation by low ruderal vegetation
- There is no vegetation over most of the onsite coal storage area, with a sparse flora present in less disturbed areas to the south and east; and
- Operational parts of the ASA onsite are devoid of vegetation, while completed and capped areas comprise seeded open grassland habitat. Other amenity grassland areas are found in proximity to the southern shoreline and adjacent to the main access road and car parks.

Refer to Figure 5.1 for a habitat map of the site, as taken from the GA Concept.

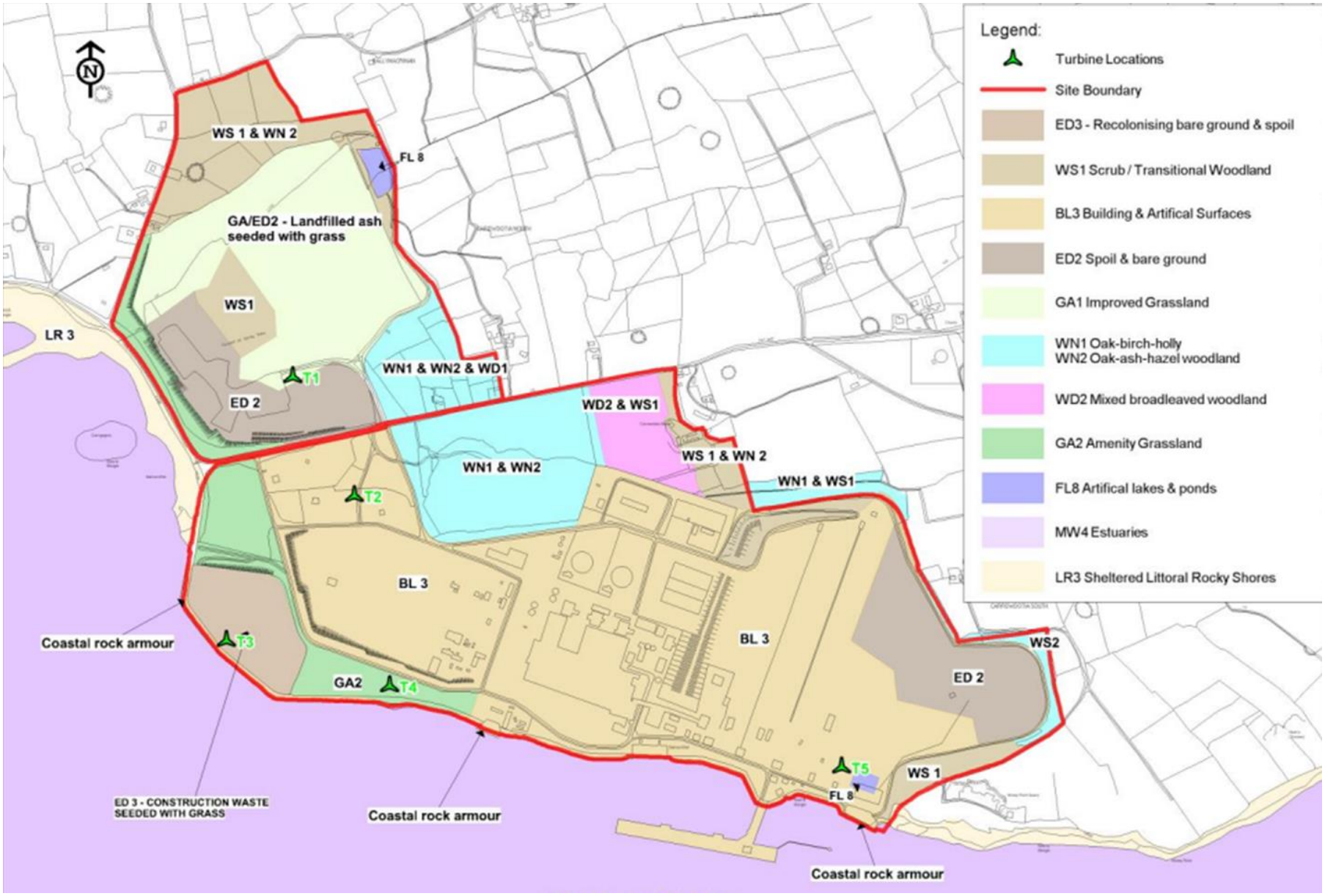

Figure 5.1 Habitat Map of the Moneypoint Site source: (ESB, 2023)

5.3.1 Protected Sites and Species

Under the Birds Directive (2009/147/EC) and the Habitats Directive (92/43/EEC) Member States must identify and designate specific terrestrial and marine sites for protection and appropriate management. The 'Natura 2000 network' comprises Special Protected Areas (SPAs) which include protected habitats for bird species, and Special Areas of Conservation (SACs) which are protected habitats and other species of EU conservation concern. Both are collectively referred to as 'European Sites'. In addition to European Sites, Natural Heritage Areas (NHAs) are designated under The Wildlife Acts (as amended). Proposed NHAs (pNHAs), comprise sites published on a non-statutory basis i.e., they are not formally or statutorily proposed or designated.

As previously discussed, there are two Natura 2000 sites are located in the foreshore of the GA Concept site boundary:

- The Lower River Shannon SAC (site code 0002165); and
- River Shannon and River Fergus Estuaries SPA (site code 004077).

Refer to Figure A4 in Appendix A.1 of this SEA ER for Designated Sites in and surrounding the Moneypoint Generating Station site boundary.

Conservation objectives for the two European Sites designated for nature conservation within the foreshore of the Moneypoint Generating Station site have been detailed in Table 5.1.

Table 5.1 Designated Sites in Immediate Proximity to Moneypoint Generating Station site Source:[33] (NPWS, 2012)

Designation	Conservation Objective[34]	Qualifying interests/ Special conservation interests	
Lower River Shannon SAC (Site Code 002165)	To restore the favourable conservation condition of the following Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:	• Freshwater Pearl Mussel • Sea Lamprey • Atlantic Salmon; and • Otter.	• *Coastal lagoons • Atlantic salt meadows • Mediterranean salt meadows and • *Alluvial forests.
	To maintain the favourable conservation condition of the following Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:	• Brook Lamprey • River Lamprey • Bottlenose Dolphin • Sandbanks • Estuaries • Mudflats and sandflats; and • Large shallow inlets and bays.	• Reefs • Perennial vegetation of stony banks • Vegetated sea cliffs • Salicornia and other annuals colonizing mud and sand • Water courses of plain to montane levels; and • Molinia meadows.
River Shannon and River Fergus Estuaries SPA (Site Code: 004077)	To maintain the favourable conservation condition of the following bird species for which the SPA has been selected:	• Cormorant • Whooper Swan • Light - bellied Brent Goose • Shelduck • Wigeon • Teal • Pintail	• Black - headed Gull • Ringed Plover; • Golden Plover • Grey • Lapwing • Knot • Dunlin • Black - tailed Godwit

[33] NPWS (2012) Conservation Objectives. Available at: Conservation Objectives | National Parks & Wildlife Service (npws.ie)

[34] Site Specific Conservation Objectives available at www.NPWS.ie - NPWS (2012) Conservation Objectives: Lower River Shannon SAC 002165. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht and NPWS (2012) Conservation Objectives: River Shannon and River Fergus Estuaries SPA 004077. Version 1.0.National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

Designation	Conservation Objective[34]	Qualifying interests/ Special conservation interests	
		• Shoveler • Scaup • Redshank; and • Greenshank.	• Bar - tailed Godwit; and • Curlew.
	To maintain the favourable conservation condition of the wetland habitat in the River Shannon and River Fergus Estuaries SPA as a resource for the regularly occurring migratory waterbirds that utilise it.		

The other sites designated for nature conservation in the vicinity include:

- Ballylongford Bay proposed pNHA - Located approximately 3.1 kilometres (km) from the site
- Clonderalaw Bay pNHA - Located approximately 4.6km from the site
- Tarbert Bay pNHA - Located approximately 3.5km from the site
- St Senan's Lough pNHA - Located approximately 2.3km from the site
- Beal Point pNHA - Located approximately 12.2km from the site
- Scattery island pNHA - Located approximately 4.9km from the site; and
- Poulnasherry Bay pNHA- Located approximately 8km from the site.

With the exception of St Senan's Lough pNHA, all of the above sites are located within the Lower River Shannon SAC boundary, the designation of which supersedes the pNHA categorisation. Designated sites in close proximity to the Money Point site have been illustrated in Figure A4 of Appendix A.1 of this report. Copernicus Land Monitoring Dominant Leaf Types and Indicative Protective Trees have also been illustrated in Figure A3 and Figure A15 respectively, in Appendix A.1.

A combined Screening for AA and Natura Impact Statement (NIS) has been prepared for the GA Concept. This report provides information for the 'competent authority[35]' regarding the potential for 'Likely Significant Effects' (LSE) of the elements of the GA Concept on European sites within the Zone of Influence (ZoI) of the GA Concept elements. Subsequently, the AA section of the report provides information for the competent authority regarding the potential for adverse effects on the integrity of European sites, resulting from the implementation of the Plan on European sites within the ZoI. The combined Screening for AA and NIS has informed the SEA process.

5.4 Land and Soils

5.4.1 Land-Use and Topography

Land use at the Moneypoint Generating Station site is predominantly industrial and commercial in nature. The surrounding area of Kilrush predominantly consists of agricultural land (EPA, Corine, 2018)[36].

The topography of the site has been significantly altered through its development and management. The land profile of the site is man-made and was created at the time of construction of Moneypoint Generating Station, by site development works. These works involved in excess of 3,500,000 cubic metres (m^3) of earth-moving leading to remodelling of the site topography.

[35] Per the Planning & Development Act 2000 (as amended) the competent authority is defined as "A competent authority, in performing the functions conferred on it by or under this Part, shall take appropriate steps to avoid in a European site the deterioration of natural habitats and the habitats of species as well as the disturbance of the species for which the site has been designated, insofar as such disturbance could be significant in relation to the objectives of the Habitats Directive"

[36] EPA, Corine (2018) EPA Maps – Land & Soil. Available at: EPA Maps

The onsite coal storage area was formed by excavating rock from the hill at its northern and eastern boundaries and the excavated rock was used to reclaim and level the site towards the estuary.

The land naturally rises from the coast up towards the N67. Frontage onto the N67 provides minimal views, due to the presence of screen planting, boundary fencing and the sloping of the site southwards towards the coast. Rock excavation at the coal storage area has left steep faces of broken/ eroded rock surface running up to the site boundary.

In this area, soil berms have now matured with vegetation, especially on the exterior of the site boundary. Approximately 24 Ha of land was reclaimed from the foreshore during the construction of the Moneypoint Generating Station and now represents ESB's privately owned foreshore.

The landcover type for the Moneypoint Generating Station site is presented in Figure A2 of Appendix A.1 and Teagasc Soils have also been illustrated in Figure A5 of Appendix A.1.

5.4.2 Soil

GSI[37] (GSI, 2025) data indicates that the natural soil at the Moneypoint Generating Station site comprises marine clays, made ground, and glacial tills, although this is indicated to be thin or absent in places with rock at or near the surface. Groundwater vulnerability mapping suggests soil thickness ranging between less than 1 to 5m. Site investigation data indicates that soil is predominately cohesive glacial till of greater than 3m thickness, with less frequent granular horizons and occasional peat deposits (ESB, 2017).

Site investigations found bedrock beneath the site comprise a highly fractured sandstone or siltstone and very thinly laminated sandstone (ESB, 2017). As noted earlier, during site development, the land surface of the site was altered through extensive cut and fill operations where soil and bedrock was excavated to make way for the Generating Station, Flue Gas Desulphurisation (FGD) Landfill area and coal storage area and used to reclaim land from the estuary.

There are no Geological Heritage Sites within the GA Concept boundary and thus, Geological Heritage Sites have not been illustrated in Appendix A.1 of this report. Bedrock Geology has been illustrated in Figure A6 of Appendix A.1.

5.4.3 Ash management area and FGD Landfill area onsite

5.4.3.1 ASA at Moneypoint Generating Station:

The combustion of coal generates both furnace bottom ash (FBA) and pulverised fly ash (PFA). At present, FBA is transferred to the dedicated ASA at the northwest of the Moneypoint Generating Station site for disposal. PFA is removed from the Generating Station (via pneumatic conveyor) and stored in dry form in storage silos. It is either sold as a substitute for other materials in the construction industry or transferred to the ASA. Operations at the ASA are well established, and additional capacity was consented in 2014, with permission given for the disposal of an additional 1.8 million cubic meters of material over a 20-year period.

As of September 2019, the EPA have confirmed 'end of waste' criteria for PFA and FBA. This is a means of determining the point at which, for the purposes of waste regulation, a material need no longer be classified as waste. These criteria are sufficient to ensure that the materials may be used as a secondary raw material without the need for waste regulation or control and enables this material to be used in bound applications i.e., used as an ingredient/ component within a product and is fully bound within that product. As such, the FBA and PFA at Moneypoint Generating Station has the potential for re-use, which is a significant benefit to the circular economy, and also a commercial value. ESB will seek feasible options for the excavation and re-use of material, subject to the appropriate consents.

[37] GSI (2025) Geological Survey Ireland Spatial Resources. Available at: Geological Survey Ireland Spatial Resources (arcgis.com)

5.4.3.2 The FGD Landfill Area at Moneypoint Generating Station:

FGD is generated by the air emissions control equipment that was fitted in the early 2000s on the three boilers as part of the Moneypoint Environmental Retrofit Project (MERP). The FGD is stabilised by mixing it with water and cement. The FGD by-product is deposited in the Generating Stations dedicated FGD disposal / storage area. This area comprises three cells sited in a 14Ha former strategic coal storage area on the east of the site (FGD Area A) and eight cells sited in a 27 Ha site to the west of the station (FGD Area B) which have yet to be developed.

FGD By-product has the potential to be used as a construction material. The deposited FGD could therefore be excavated and later reused, which is again a significant benefit to the promotion of the circular economy, and therefore it also has a commercial value. Again, ESB will seek feasible options for the excavation and re-use of landfilled material, subject to the appropriate consents.

As part of the proposed conversion to HFO, it is anticipated that FGD arising from HFO fuelled generation will be used for the capping of cells within the ASA once FGD landfill area is at capacity. It is not envisaged that the previously approved FGD Area B will be developed.

5.4.3.3 ASA and FGD Storage Management Consents at Moneypoint Generating Station:

As per Schedule A of Moneypoint Generating Station's current IE Licence (P0604-04) the total quantity of waste permitted to be placed at the Ash Disposal Facility onsite is 4,837,250 m^3.

The final capping of the ash landfill has been designed in accordance with the requirements of the Landfill Directive and the current IE Licence requirement. As per Condition 10.6.4 of IE Licence No. P0605-04, the final capping shall consist of the following:

- Topsoil (150-300 mm)
- Subsoils, such that total thickness of topsoil and subsoils is at least 1m
- Drainage layer of 0.5 m thickness (stone infill or equivalent) having a minimum hydraulic conductivity of 1 x 10-4 m/s or a geosynthetic material that provides equivalent transmissivity; and
- Compacted mineral layer of a minimum 0.6 m thickness with a permeability of less than 1 x 10-9 m/s or a geosynthetic material (e.g., lldpe) or similar that provides equivalent protection.

The soil layers will be placed in a manner to achieve the final landscape profile and treatment and to support the development of vegetation. The final profile provided by topsoil and subsoil will be graded to prevent surface water build up/ponding, except where this is required to support the development of biodiversity in the habitats generated.

As per Condition 10.6.3 of IE Licence No. P0605-04, the design and installation of the drainage layer in the final capping shall be such that the contact time between run-off and any non-naturally occurring materials used to construct the cap is minimised to the maximum extent possible.

The ASA is to be capped off using a mixture of FGD by-product, PFA and cement to provide an impermeable surface capping. The use of FGD by-product as a capping material for the ASA was approved by the EPA on the 15th July 2016. The low permeability and pozzolanic nature of the deposited material indicates that this material will not lead to significant leachate generation but will lead to a high proportion of precipitation running off from the active and completed landfill cells. All surface water run-off from the ASA is collected in surrounding toe drains and directed to a surface water lagoon located adjacent to the ASA culvert exit.

According to the ASA Operational Plan (ESB 2019), the potential for leachate generation from the capped ASA is limited. This low risk profile will depend on the accepted permeability of the proposed stabilised cap, maintenance of that capping layer, and the concentrations of the contaminants of concern in the groundwater (such as Ammonia) at the time of final closure. As such, no procedures or design elements are proposed or required with regard to leachate management and disposal.

5.5 Water

5.5.1 Surface Water

Moneypoint Generating Station is located on the shore of the Lower Shannon Estuary transitional water body (IE_SH_060_0300) Monitoring surveys of water quality of estuaries and near shore coastal waters are undertaken as part of the Water Framework Directive (WFD) Monitoring Programme. The Water Framework Directive (2000/60/EC) provides a framework to protect all high-status waters, prevent further deterioration of all waters and to restore degraded surface and ground waters to at least 'good' status.

The Lower Shannon Estuary is noted as being of 'good' WFD status.

The WFD Monitoring Programme also identifies coastal and transitional (estuaries and lagoons) waterbodies which are at risk of deteriorating or not achieving 'good' ecological status by 2021 (2nd WFD cycle). Risk status is assigned based on the latest ecological status, water quality trends and distance to thresholds assessments. The Lower Shannon Estuary is noted as being 'not at risk' of deteriorating.

The WFD is implemented through River Basin Management Plans (RBMPs) in six-year cycles. At the time of writing this report, Ireland is currently in the latter stages of preparing the next (third) draft RBMP for Ireland, for the period 2022-2027, however it is not yet published.

GSI (GSI, 2025) mapping indicates that the Moneypoint Generating Station site is located within the Shannon River Basin District (RBD). The nearest river to the Moneypoint Generating Station site is the Tonavoher river, which is located less than 1km away. The Tonavoher river is noted to be of 'moderate' WFD status for river water bodies.

Cooling water for Moneypoint Generating Station is abstracted from the Shannon Estuary at a location west of the sites existing jetty. This water is transported via a network of culverts and used for cooling in the water/steam cycle at the Generating Station, before being discharged into the Shannon Estuary.

Separately potable and process water is provided from the public mains and transported via a network of water pipes across the site. The on-site foul water network links to an on-site treatment facility located close to the existing jetty. This infrastructure is concentrated under, and in the vicinity of, the existing Generating Station.

There is an extensive surface water network across the Moneypoint Generating Station site, with associated interceptors, discharging to the Shannon at a number of locations on the coast. There are no identified assets owned by Uisce Éireann on the site. The nearest public water main is located on the N67 to the north of the Generating Station. Monitoring of surface water is carried out at various locations as part of the site's IE Licence.

As outlined in ESB's Moneypoint Generating Station 2024 AER, storm water from the Moneypoint Generating Station site is managed prior to release. Surface water from the site is collected through various drains on site before discharging through a number of discharge points. All discharge points discharge into the Shannon Estuary under agreed EPA licence limits.

Furthermore, monitoring from the 2024 AER has been detailed as follows.

- In 2024, the monitoring results from storm water monitoring stated, that weekly visual inspections of all key discharge points took place with no evidence of contamination observed. It was noted that there were 2 occasions in Q1 and Q2 of 2024 where the trigger level for SW13 was breached for COD, however, levels have since returned to normal; and
- Wastewater produced by Moneypoint Generating Station activities consists of two types, process wastewater produced from the activities and sanitary wastewater from toilets, washrooms and canteens. All sanitary waste discharges in 2024 were compliant with licence ELVs.

Surface water features and their status' on and surrounding the Moneypoint Generating Station site are illustrated in Figures A7, A8, A9, A10, A11 and A12 in Appendix A.1.

5.5.2 Ground Water

Groundwater features and their status' on and surrounding the Moneypoint Generating Station site have been illustrated in Figures A12, A13 and A14 of Appendix A.1.

GSI[38] (GSI, 2025) mapping indicates that the Moneypoint Generating Station site is underlain by the Central Clare Group that comprises sandstone, siltstone & mudstone.

This bedrock is indicated to be a 'locally important' groundwater resource with a bedrock 'moderately productive only in local zones'. The groundwater is indicated to be of 'extreme vulnerability' to contamination.

According to the Moneypoint Generating Station 2024 AER, monitoring of groundwater onsite concluded the following groundwater pollutants were identified in 2024:

- Ammonia
- Sulphate
- Chloride
- Chemical Oxygen Demand (COD)
- Diesel Range Organics (DRO); and
- Mineral Oil.

The 2024 AER, states that the occurrences of Sulphate, Chloride and COD detections are related to seawater ingress due to the borehole's proximity to the Shannon Estuary. The 2024 AER also states that regular Quarterly and Annual Monitoring is in place in order to identify borehole trends.

Groundwater features and source protection zones on or surrounding the Moneypoint Generating Station site are identified in Figure A12 in Appendix A.1 of this report. Groundwater vulnerability levels on or surrounding the Moneypoint Generating Station site are illustrated in Figure A13 in Appendix A.1. The Water Framework Directive Groundwater Body Quality Status can also be seen in Figure A14 in Appendix A.1.

5.5.3 Flood Risk

The Moneypoint Generating Station site is subject to both coastal and pluvial flood risk. As outlined in Section 1, Arup is also undertaking SFRA in respect of the GA Concept, refer to the accompanying SFRA for detailed information on flood risk assessment for the Moneypoint Generating Station site.

5.5.3.1 Coastal Flood Risk

Shannon Catchment Flood Risk Assessment Management Study:

As part of Ireland's obligations under the EU "Floods" Directive, the OPW is currently engaged in the generation of new mapping which will provide predictive estimates of the extent of floodplains as part of its Catchment Flood Risk Assessment Management Studies (CFRAMS).

This programme is being undertaken on a River Basin District basis; the Shannon Estuary is located within the Shannon River Basin District.

There is no available mapping to include the exact location of the Moneypoint Generating Station site. The nearest available mapping and modelled coastal/tidal flood levels are located at Kilrush Marina which is located approximately 6 km north-west of the site and Tarbert, in the vicinity of Tarbert Generating Station, which is located approximately 3.5 km south-east of the site.

[38] GSI (2025) Geological Survey Ireland Spatial Resources. Available at: Geological Survey Ireland Spatial Resources (arcgis.com)

Both locations; Kilrush Marina and Tarbert Generating Station are also sited on the Shannon Estuary, and it is therefore assumed that modelled coastal flood levels at the Moneypoint Generating Station site would be similar. Modelled coastal/tidal flood levels are however, only available for Kilrush Marina (MAP S27KIH_EXCCD_F1_04).

The 0.1% Annual Exceedance Probability (AEP) tidal flooding event flood levels at Kilrush are predicted to reach 3.58 m Ordnance Datum (OD) under what is termed the current scenario. This current scenario does not account for climate change and the OPW recommends allowance for a 500 millimetre (mm) mean sea level rise under a Mid-Range Future Scenario. Where climate change is to be included, the resultant predicted tidal flood level of 4.08 m OD would not impact on the Moneypoint Generating Station site.

Irish Coastal Protection Strategy Study (ICPSS):

The OPW carried out a strategic assessment of coastal flooding and erosion extents along the Irish coast as part of the ICPSS, in this study, predictive coastal flood extent maps for a range of probabilities were derived. The study used the basis of numerical modelling of both tide and surge effects to derive extreme water levels along the Irish coastline.

The application of analysis to data generated by the numerical model allows an estimation of the extreme water levels of defined exceedance probability to be established for defined sections along the coastline. The ICPSS Phase 4 – Work Package 9A for the Shannon Estuary was issued in November 2013 and includes predictive flood maps that cover the area of the Moneypoint Generating Station site.

The maps were prepared for the purpose of assessing the degree of flood hazard and risk to assist in the identification and development of measures for managing the flood risk. The predictive flood maps provide a predicted flood extent to represent a projected future scenario for the year 2100 and include allowances for projected future changes in climate. The predictive maps indicate that for the estimated 1 in 200-year event the Shannon level is 3.85 m OD and for the 1 in 1,000-year event, the estimated Shannon level is 4.05 m OD.

Pluvial Flood Risk

The existing site currently has its own dedicated surface water drainage system. In any future development proposal consideration must be given to the existing surface water runoff route and the drainage characteristics in order to develop an appropriate site drainage system to minimise impacts that increased discharge from the site may have.

5.6 Air Quality and Climate (including Noise)

5.6.1 Air Quality

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards in Ireland and the other Member States for a wide variety of pollutants. These pollutants are generated through fuel combustion, in space heating, traffic, electricity generation and industry and, in sufficient amounts, could affect the well-being of the areas inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

The EPA measures the levels of a number of atmospheric pollutants throughout Ireland in order to measure compliance with Ambient Air Quality Standards Regulations, 2022 (S.I. No. 739 of 2022). For the purposes of monitoring in Ireland, four zones are defined in the Regulations:

- Zone A: Dublin Conurbation
- Zone B: Cork Conurbation
- Zone C: Other Cities and Large Towns; and
- Zone D: Rural Ireland which is the remainder of the State excluding Zones A, B and C.

Moneypoint Generating Station site is located in Zone D. According to the Air Quality in Ireland Report 2023[39] (EPA, 2024) which is the most recently published air quality report available at the time of writing this report, air quality in Zone D is as follows (Table 5.2).

Table 5.2 Annual mean air quality averages for Zone D[40] Source: [39]

Parameter	Annual mean (µg/m^3) (Average)
NO_2	5.8
SO_2	3.5
CO (annual mean of 8-hour rolling)	0.6
PM_{10}	11.0
$PM_{2.5}$	7.1
Benzene	Not available

EU Air quality standards (AQS) are highlighted in Table 5.3 these annual limits must not be exceeded in order to protect human health and environmental quality across Ireland. These air quality standards have been listed in micrograms per cubic meter of air (µg/m^3) below. As previously listed, all averages for Zone D are within the EU annual limits.

Table 5.3 Limit values of CAFE Directive 2008/50/EC Source:[41]

Parameter	Air quality standard (µg/m^3) (annual limits)
NO_2	40
SO_2	20
CO	10,000
PM_{10}	40
$PM_{2.5}$	25
Benzene	5

As discussed in Section 1.1, under the Moneypoint Generating Station IE Licence, ESB is required to report annually to the EPA on the sites compliance with Emission Limit Values (ELVs), as part of the 2024 AER. Emissions are also reported via the national Pollutant Release and Transfer Register (PRTR), established by the EPA.

The IE Licence sets ELVs at the main emission points onsite (ref. No. A1; A1- 1; A1-2; and A1-3) for oxides of SO_2, NO_2, dust and ammonia. According to the 2024 AER, in relation to ESB's air emissions, CEMS are installed on all three boilers and for the other emissions, for example dust deposition, monitoring stations are located throughout Moneypoint Generating Station site.

In relation to air quality and monitoring of environmental incidences at Moneypoint Generating Station site, and according to the Moneypoint Generating Station 2024 AER, unit 2 only fired on HFO in 2024, hence quarterly tests for HCL and HF and annual tests for mercury were not required.

[39] EPA (2024) Air Quality in Ireland Report 2023 – Summary Tables. Available at: Summary-Tables-2023-for-Zones-A---D-for-upload-with-report-final.xlsx (live.com))

[40] Note: Particulate matter that is 2.5 micrometres or less in diameter ($PM_{2.5}$); Particles with a diameter of 10 micrometres or less (PM_{10}); Sulphur Dioxide (SO_2); Nitrogen dioxide (NO_2); and Carbon Monoxide (CO).

[41] EU Parliament and Council (2008) Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe. Available at: EUR-Lex - 02008L0050-20150918 - EN - EUR-Lex (europa.eu)

Some testing was not completed due to low run hours/ units being taken offload before testing could be complete. Where hourly/ daily exceedances occurred, all were reported to EPA.

The key activity on site is Moneypoint coal fired Generating Station, it is the largest electricity Generation Station and the only coal burning generation facility in Ireland. The Generating Station comprises three circa 300 MW rated coalfired units (Units 1 to 3), which entered service in 1985, 1986 and 1987 respectively. As per its planning consent, Moneypoint Generating Station is a coal fired Generating Station with back up fuel (HFO), which is used at start up and in limited circumstances. ESB submitted a planning application in order to run the Moneypoint Generating Station site on HFO (from 2025 onwards) under a 'generator of last resort' agreement, in early 2024. Since this time, the planning application has been granted planning permission with conditions (September 2024). HFO was considered the option that best supports reduced running of the Moneypoint Generating Station. This proposal aims to see it switch to an on-demand lower carbon operating profile, operating until early 2029 under the 'generator of last resort' agreement.

Finally, with regards to radon risk it is noted that the majority of the Moneypoint Generating Station site is covered by areas where 'about 1 in 10 homes' are likely to have high radon levels. However, there are also smaller areas within and surrounding the site considered to be 'High Radon Areas'. In these areas 'about 1 in 5 homes' are considered to have high radon levels[42] (EPA, 2025).

5.6.2 Noise

The Moneypoint Generating Station site is currently operating under an IE Licence, and so, the Generating Station reports annually to the EPA on compliance with noise limit values in the Licence, as part of its 2024 AER.

A noise survey was completed from 31st January to the 2nd February 2024, at three Noise Sensitive Locations (NSL) and Moneypoint Generating Station was observed to be compliant with noise emission limits outlined in P0605-04. In 2024, one complaint was received in relation to noise from the site (9th July 2024), however, a follow up was completed and the complaint has since been closed.

The noise climate in the vicinity of the Moneypoint Generating Station site is characterised as typically rural with higher values of noise recorded during the day due to traffic from the N67. It is noted that traffic, and therefore noise, tends to peak coinciding with the timing of the Killimer to Tarbert car ferry.

The noise associated with the Generating Station is described as a 'steady state noise' and monitoring has noted that noise generated by activity on the site makes a significantly lesser contribution to background noise than traffic. There is no noise monitoring associated with the operation of the wind farm.

The Environmental Noise Directive (2002/49/EC)[43] (EC, 2002) was transposed into Irish law as SI No. 140/2006.

5.6.3 Climate

According to the EPA[44] (EPA, 2024), climate change patterns over Ireland have been shaped by its proximity to the North Atlantic Ocean and by internal climate system variability, primarily, though not exclusively, influenced by changes in the North Atlantic region. Average annual temperatures in Ireland are now approximately 1.0°C higher than they were in the early 20th century. Notably, sixteen of the twenty warmest years since 1900 have occurred since 1990, with 2022 recorded as the warmest year to date. In terms of precipitation, median annual rainfall between 1991 and 2020 was 7% higher compared to the 1961–1990 period. Overall, aggregated data show an increase in heavy precipitation extremes across a range of climate indicators.

[42] EPA (2025) EPA Maps. Available at: EPA Maps

[43] European Commission (EC) (2002) Environmental Noise Directive. Available at: Environmental Noise Directive (europa.eu)

[44] EPA (2024) Ireland's Climate Change Assessment – Synthesis report. Available at: https://www.epa.ie/our-services/monitoring--assessment/climate-change/irelands-climate-change-assessment-icca/

Further according to the EPA's 'State of the Environment Report' (EPA, 2024)[45], it is reported that the most immediate risks to Ireland from climate change are predominantly those associated with changes in extremes, such as floods, droughts and storms.

In line with global trends in open ocean environments, Irish marine waters have undergone long-term acidification due to the absorption of anthropogenic carbon dioxide from the atmosphere. On land, the main observed impacts of climate change on Irish terrestrial species and habitats include shifts in species abundance and distribution, changes in life cycle events, alterations in community composition, and modifications to habitat structure and ecosystem processes. These climate-driven changes occur in addition to more substantial impacts resulting from other human activities[46] (EPA, 2024).

The impacts of climate change are intensifying at an alarming rate; it is projected that in the coming decades climate changes will increase in all regions. Climate change is bringing multiple different changes in different regions which will all increase with further warming. Some of which include, changes to wetness and dryness, to winds, snow and ice, coastal areas, and oceans[47] (EC, 2024).

Some changes that may be of particular relevance to the Moneypoint Generating Station site and its coastal location, include, but are not limited to the following:

- Climate change is intensifying the water cycle bringing more intense rainfall and associated flooding; and
- Coastal areas will see continued sea level rise throughout the 21st century, contributing to more frequent and severe coastal flooding in low-lying areas and coastal erosion. The rate of global sea level rise for 2006 – 2015 was 3.6 mm per year, this is unprecedented over the last century, and about 2.5 times the rate for 1901 – 1990[48] (EPA, 2024).

It must also be noted that the EPA National Climate Change Risk Assessment[49] (EPA, 2025) has identified 'Energy Infrastructure and Extreme Wind' as a priority risk for Ireland in the present day. This report notes that extreme wind poses significant risks[50] to key infrastructure networks in Ireland, particularly energy systems. Although current climate projections suggest limited changes in the frequency or intensity of extreme wind events, there remains a high degree of uncertainty in these forecasts. Recent extreme weather events have demonstrated that Ireland is highly exposed to the impacts of extreme wind, especially in these critical sectors. Given the current level of disruption already experienced, the consequences of extreme wind impacts are assessed as 'Critical', both now and into the future.

5.6.3.1 Greenhouse Gases:

A carbon budget represents the total amount of emissions that may be emitted in the RoI during a five-year period, measured in tonnes of CO_2 equivalent. It is calculated on an economy-wide basis.

The Climate Change Advisory Council is responsible for proposing three five-year economy-wide carbon budgets, covering the periods 2021-2025, 2026-2030 and 2031-2035, to assist the State in achieving its national climate objectives and greenhouse gas emissions targets agreed by the European Union.

The first three carbon budgets cover the following five-year periods: 2021 to 2025, 2026 to 2030, and 2031 to 2035 (although the budget for the third period is provisional). All greenhouse gas emissions and all relevant sectors are included in the carbon budgets.

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[45] EPA (2024) State of the Environment Report. Available at: Ireland's State of the Environment Report 2024

[46] EPA (2024) Ireland's Climate Change Assessment – Synthesis report. Available at: https://www.epa.ie/our-services/monitoring--assessment/climate-change/irelands-climate-change-assessment-icca/

[47] EC (2024) Consequences of climate change. Available at: https://climate.ec.europa.eu/climate-change/consequences-climate-change_en#:~:text=Climate%20change%20affects%20all%20regions,these%20impacts%20will%20only%20intensify.

[48] EPA (2024) Ireland's Provisional Greenhouse Gas Emissions 1990-2023. Available at: EPA-Provisional-GHG-Report-Jul24-v6.pdf

[49] EPA (2025) National Climate Change Risk Assessment. Available at: EPA_NCCRA_Main-Report_Published_June_2025.pdf

[50] **Note**: A risk is considered significant if it is assessed to have a Critical or higher consequence under any time period or climate scenario.

They are as follows:

- 2021-2025: 295 million tonnes carbon dioxide equivalent (Mt CO2 eq.) an average of -4.8% for the first budget period
- 2026-2030: 200 Mt CO2 eq. an average of -8.3% for the second budget period; and
- 2031-2035: 151 Mt CO2 eq. an average of -3.5% for the third provisional budget.

As outlined in the report 'Ireland's Provisional Greenhouse Gas Emissions 1990-2023'[51] (EPA, 2024), Ireland's emissions in 2023 were below the 1990 baseline for the first time in three decades. The total national greenhouse gas emissions (excluding LULUCF) in 2023 are estimated to have decreased by 6.8% on 2022 levels to 55.01 Mt CO_2eq. Emissions per capita decreased from 11.4 to 10.4 Mt CO_2eq in 2023.

In 2023, overall, emissions from the Energy Industries sector decreased by 21.6%, down 2.2 Mt CO_2eq on last year which was the largest annual change in emissions ever recorded for the sector. The sector is now at an all-time low across the 1990 to 2023 timeseries at 7.8 Mt CO_2eq. This was due to a 12-fold increase in the amount of imported electricity (9.5% of electricity supply in 2023), in combination with an increase in the share of renewable energy to 40.7% in 2023. The emissions intensity of power generation decreased from 332 CO_2 intensity (g CO_2/kWh) in 2022 to a historic low of 255g CO_2/kWh in 2023[51] (EPA, 2024).

There has been an increase in the renewable share in electricity generation rising from 38.6% to 40.7% from 2022 to 2023, with wind accounting for 33.7% of electricity supply (up from 33.1%)[51] (EPA, 2024). At present, the Moneypoint Generating Station site comprises a wind farm that is inclusive to 5 No. 3.45MW wind turbines, associated transformers and turbine hardstands and 2 No. anemometer masts.

Monitoring of the Moneypoint Generating Station site is on-going, in-line with the conditions of the Licence. The 2023 PRTR reports that approximately 1,387,505 tonnes of CO_2 was calculated on site in 2023.

Furthermore, the site operates in line with the conditions of the applicable GHG Permit (Permit Register Number IE-GHG070-10381-6). The permit authorises the holder to undertake certain activities (listed under Annex 1 of Directive 2003/87/EC) which result in emissions of GHG at specified locations.

The GHG Permit also contains requirements that must be met in respect of such emissions, including monitoring and reporting requirements. The permit requires the holder to surrender carbon dioxide equivalent allowances that are equal to the reported emissions within four months of the end of the reporting year. Certain works within a site subject of an IE Licence, require amendment or review of that Licence. Similarly, the GHG permit for a facility must be reviewed where there are new GHG emission points (e.g., new boiler added).

The Moneypoint Generating Station site is inclusive to high voltage switchgear such as that found in the Generating Station, which utilises Sulphur Hexafluoride (SF6), a compound with very high electrical insulating properties, which allows the switchgear to work efficiently and safely. SF6 is a GHG, as part of ESB Networks development programme, the original switchgear at the Moneypoint Transmission Station was de-energised in June 2019 and replaced with new equipment which uses far smaller quantities of SF6, to reduce the risk of leaks.

Finally, in terms of transboundary effects, the repurposing of the Moneypoint Generating Station site into a renewable energy hub is likely to result in an overall positive transboundary effect on air quality and climate in the long term.

5.6.3.2 Transition to Lower Carbon Generation at Moneypoint Generating Station:

In 2016 a windfarm was also developed on the Moneypoint Generating Station site, introducing renewable energy generation to the site, in line with ESB's move towards a clean energy future.

Marking further progress towards decarbonisation of the Generating Station, ESB announced that coal fired generation at Moneypoint Generating Station site would cease in 2025. The station will continue to operate on HFO generation until early 2029 under a 'generator of last resort' agreement. The use of HFO at

[51] EPA (2024) Ireland's Provisional Greenhouse Gas Emissions 1990-2023. Available at: EPA-Provisional-GHG-Report-Jul24-v6.pdf

Moneypoint Generating Station aims to ensure the Station supports security of supply for Ireland, pending the development of new low and zero carbon dispatchable generation and large-scale renewables.

5.7 Archaeology, Architectural and Cultural Heritage

The sites and features considered as part of the cultural heritage baseline for the Moneypoint Generating Station site and surrounding areas include those listed on the following:

- Record of Monuments and Places (RMP), which is the statutory list of all known archaeological monuments in Ireland as compiled by the Archaeological Survey of Ireland, part of the Department of Arts, Heritage and the Gaeltacht; and
- National Inventory of Architectural Heritage (NIAH), which identifies, records and evaluates the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister for Housing, Planning and Local Government [previously the Minister for Environment, Heritage and Local Government] to the planning authorities for the inclusion of particular structures in their Record of Protected Structures; and United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage List, which includes cultural and natural heritage sites around the world considered to be of outstanding value to humanity.

The Moneypoint Generating Station site comprises highly disturbed land, and the likelihood of discovering previously unknown archaeological features is low. The north-western corner of ESB landholding contains a single site that is included on the Sites and Monuments Record (SMR), this site is classed as an earthwork (Site Ref. CL067-035). This feature lies north of the ASA and has been afforded statutory protection.

The extent of the Moneypoint Generating Station lands in ESB ownership include a Recorded Monument, reference number CL067-035 (Earthwork). In the wider area of the Moneypoint Generating Station site there are a number of sites outside ESB landholding, typically ringfort sites. St. Senan's Roman Catholic Church is located to the east of the site and is listed as being of regional importance on the NIAH (Reg. No. 20406719). The area surrounding the Moneypoint Generating Station site includes a large number of recorded monuments that are afforded protection by the National Monuments Acts 1930-2014. It is also noted that the Historic and Archaeological Heritage and Miscellaneous Provisions Act (the Act) was passed by both Houses of the Oireachtas and signed by the President on 13 October 2023. These sites may be vulnerable to both direct and indirect impacts (including impacts to setting and amenity) from any proposed developments within the Moneypoint Generating Station site.

At the time of writing this report, the Act has not yet been fully commenced, however, when fully commenced, this Act will repeal and replace the existing National Monuments Acts 1930-2014. The Act will provide strengthened protection for historic and archaeological heritage, and artefacts of cultural interest and importance in Ireland[52] (NMS, 2025).

Furthermore, within the privately held foreshore area of the Moneypoint Generating Station site boundary there is waterbodies such as the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA. It is expected that new infrastructure will be required for the delivery of turbine elements, deployment of substructures, assembly of turbines and limited storage, at the quayside. This may require the removal of the existing jetty and the development of new quayside infrastructure including infilling / land reclamation; and / or the repurposing of the existing jetty and barge landing facility for alternative uses.

It is also important to note that the adjoining waterbodies are exceptionally rich in underwater cultural heritage. Underwater cultural heritage can include submerged wrecks over or under 100 years, archaeological objects underwater and/or the potential location of such a wreck or archaeological object. These objects are protected by Section 3 of the National Monuments (Amendment) Act 1987. It should also be noted that the Frameworks and Principles for the Protection of the Archaeological Heritage (Sections

[52] NMS (2025) Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023. Available at: Legislation - National Monuments Service

3.6.1(3) and 3.6.4)[53] (Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media, 1999) sets out national policy on the protection of the archaeological heritage in the course of development.

Any development in the marine environment at Moneypoint has the potential to disturb underwater cultural heritage. The collection and interpretation of side-scan sonar and bathymetry information by qualified archaeologists as part of future development projects will however, aid in minimising impacts or the possibility of destruction of underwater and undiscovered heritage features in areas of heritage potential.

A detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept, refer to Appendix A.6. Refer to Figure A16 in Appendix A.1 for monuments and places of archaeological, architectural, and cultural heritage on and surrounding the Moneypoint Generating Station site. Figure A16 illustrates National Monuments, Recorded Monuments, architectural heritage from the NIAH and Architectural Conservation Areas (ACAs). There are no Shipwrecks or World Heritage Sites on, or in close proximity to the study area and so, Shipwrecks and World Heritage Sites have not been included in Figure A16.

5.8 Landscape and Visual

The overall landscape setting of the GA Concept study area site is coastal and rural. The Moneypoint Generating Station site is an established industrial site characterised by large-scale generation infrastructure set within a broad and open brownfield site, with associated shoreside activity.

The Landscape Character Assessment (LCA) for County Clare (2004)[54] (CCC, 2004), describes the landscape setting of the site boundary as Landscape Character Area '18 – Shannon Estuary Farmland.' Some of the key characteristics of this landscape are:

- Prominently ridged landscape, with linear hills aligned south-west to north-east
- Secluded areas interspersed with more open views
- Views are afforded across the Shannon estuary and across to Limerick from elevated areas and on the estuary shores
- Coastal fringe is flatter and slopes down towards the sea
- Diverse habitat and land cover; and
- Complex patterns of pasture, woodland and scrub habitats.

In terms of 'Landscape Condition and Sensitivity'[54] (CCC, 2004), the Moneypoint Generating Station site is described as follows:

"Moneypoint power station is a singularly large-scale detractor on the Shannon, accompanied by a number of prominent pylons. The ridges create many small-scale areas unsuitable for large development. The sensitivity remains higher in the more intact areas, with elevated areas also sensitive due to their increased visibility. The estuary coastline is partly degraded due to infrastructure and the industrial activity within the Shannon estuary."

The N67 to the west of the Moneypoint Generating Station lands, is designated as a scenic route.

In any landscape assessment for the site where large-scale development was planned, the provisions of the Kerry and Limerick CDPs would need to be considered in order to assess impacts on broader views and landscape setting of the Shannon Estuary.

[53] Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (1999) Framework and Principles for the Protection of the Archaeological Heritage. Available at:

[54] CCC (2004) Landscape Character Assessment (LCA) for County Clare (2004). Available at: Natural Heritage | The heritage of County Clare | Planning, heritage and conservation | Services | Clare County Council (clarecoco.ie)

According to the EPA's 'Good practice guidance on SEA and Landscape'[55], where a plan or programme is likely to interact with the sea or coastal areas, it is beneficial to use the Regional Seascape Character Assessment for Ireland[56] (Marine Institute, 2020) to help inform the baseline description. Thus, the Seascape Character Assessment (SCA) area of relevance to the GA Concept study area has been described as follows.

SCA is a fundamental component of the evidence base for Marine Spatial Planning and the development of marine policy. It has emerged as a robust method for assessing, characterising, mapping, and describing the distinct qualities of seascapes. The SCA process builds upon the well-established and widely adopted methodology of Landscape Character Assessment. In this context, *seascape* is defined as:

"An area of sea, coastline, and land, as perceived by people, whose character results from the actions and interactions of land with sea, by natural and/or human factors."[57] (Marine Institute, 2020).

Having regard to the geographical area that surrounds the GA Concept study area, it is noted that the main SCA area of relevance to the GA Concept is 'SCA8 - Shannon Estuary and Tralee Bay'. This SCA area includes the Shannon Estuary, the Mouth of the Shannon, Tralee Bay and extends offshore for 12 nautical miles. The seascape character alters within this SCA area at local scale with the more sheltered estuary contrasting with the elevated and wilder headlands. Some of the key characteristics of this SCA area have been listed as follows:

- **Influence and variation of SCA area:** Strongly shaped by the River Shannon and its estuary, with increasing maritime influence west of the Shannon Mouth;
- **Scale:** Ranges from medium-scale estuarine habitats to the expansive Atlantic Ocean;
- **Human Activity:** Historically significant for navigation and settlement due to its sheltered limestone bay and rich estuarine resources;
- **Settlements:** Located in proximity to major towns and cities such as Limerick, Tralee, Kilrush, and Ballybunnion;
- **Ecological Importance:** Rich estuarine habitats support shellfish production, bird foraging, and a distinct population of bottlenose dolphins;
- **Scenic Features:** Dramatic cliffs and sea stacks at Bromore Cliffs, Loop Head, and Kerry Head;
- **Recreational Areas**: Extensive sandy beaches along the Kerry coast, popular resorts also include Ballybunnion and Castlegregory;
- **Maritime Infrastructure:** Deep-water harbour at Foynes and ferry access to Scattery Island from Kilrush; and
- **Visual Experience:** Offers both expansive panoramic views over the Atlantic and more intimate views across the Shannon Estuary.

Refer to Figure 5.2 for an illustration of the Irelands seascapes and associated SCA areas (GA Concept study area marked by red dot).

[55] EPA (2023) Good practice guidance on SEA and Landscape. Available at: Good practice guidance on Strategic Environmental Assessment (SEA) and Landscape

[56] The Marine Institute (2020), Regional Seascape Character Assessment for Ireland 2020. Available at: final_seascape_character_assessment_report_with_annexes.pdf

[57]

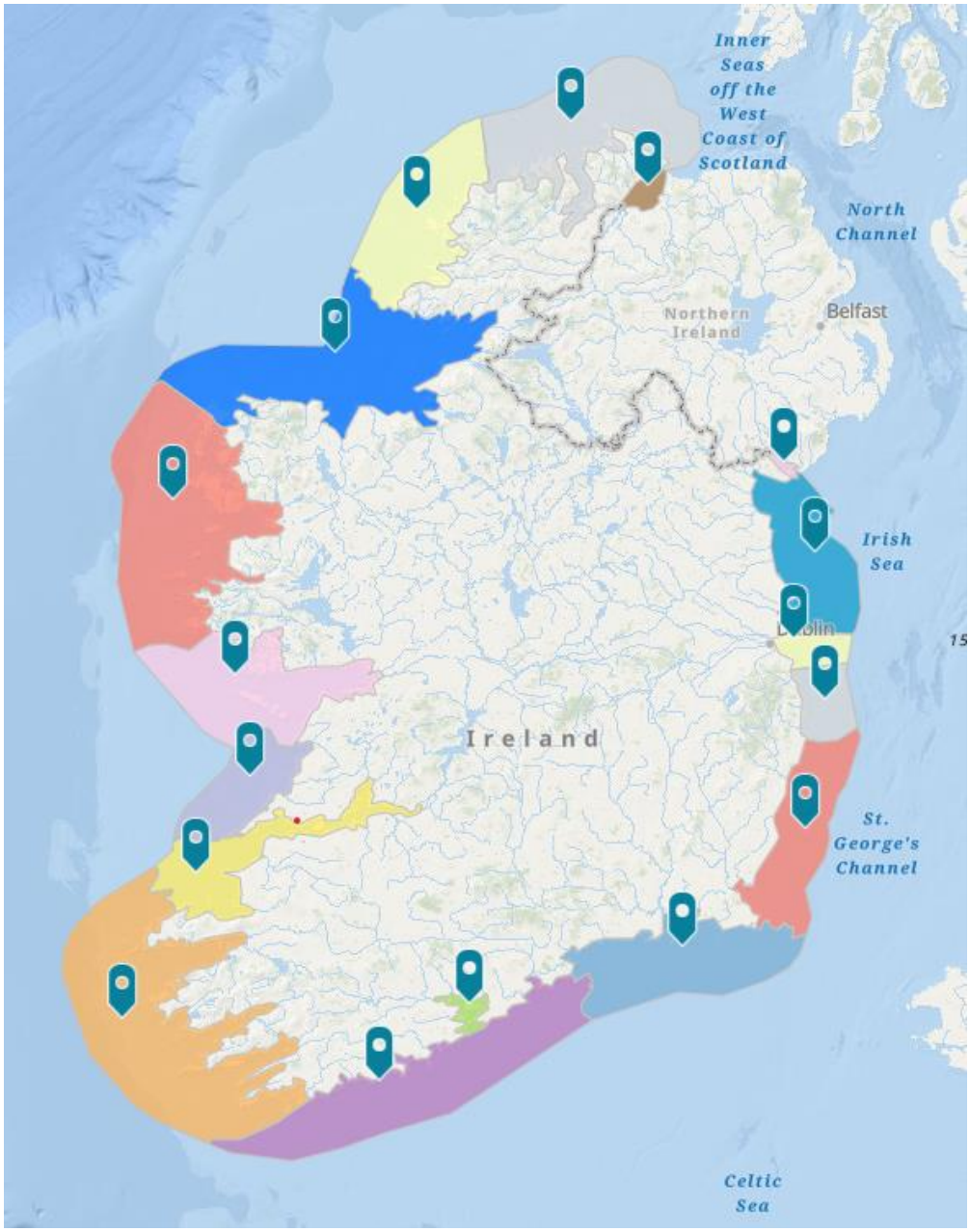

Figure 5.2 Ireland's Seascapes – SCA areas (Source: Marine Institute, Esri, 2025)

The EPA's National Land Cover Map has been used to display landscape at the Moneypoint Generating Station site, refer to Figure A2 in Appendix A.1.

5.9 Material Assets

SEA legislation includes 'material assets' as a topic to be addressed in SEA but does not include a definition of what this topic might encompass, consequently, it is interpreted in a number of different ways. This baseline description is set in the context of Ireland's energy sector; thus, this Section focuses mainly on material assets related to these areas, including energy supply (generating systems and renewable wind energy), whilst also making reference to underground services and local services including water supply and waste management services. Land and land-use is discussed in Section 5.4.

The Moneypoint Generating Station site accommodates the Moneypoint Generating Station, Moneypoint Windfarm and significant electrical transmission grid infrastructure. From its commissioning in 1985, Moneypoint Generating Station has operated as the State's only coal fuelled Generating Station, meeting on average 25% of national electricity demand.

5.9.1 Renewable Wind Energy Developments

The Moneypoint Generating Station site hosts a Wind Farm which comprises five No. 3.45MW wind turbines, associated transformers and turbine hardstands and two No. anemometer masts. There is a network of 20kV radial cables, associated with the wind farm, linking the turbines to the distribution network via Moneypoint substation.

5.9.2 Synchronous Compensator Onsite

ESB recently completed the development of a Synchronous Compensator, a key grid support, on the Moneypoint Generating Station site, the Synchronous Compensator is now operational. This is an electrical device that is used to manage the stability of the national grid. Although a Synchronous Compensator does not generate electricity, it is essentially a large electric motor that is connected in a particular manner to allow it to act as a support to the system when required. It holds an electrical rating of 400 MVA (apparent power), which is currently the largest such operational facility in the world.

5.9.3 Network Assets at Moneypoint Generating Station

Moneypoint Generating Station is a nationally important hub for electricity transmission infrastructure and an important node on the transmission network, as illustrated in Figure 5.3. These assets are owned and maintained by ESBN and operated by EirGrid. As illustrated in Figure 5.3 across the Shannon Estuary, a 220kV subsea cable connects Kilpaddoge and Moneypoint substations and was developed in 2006.

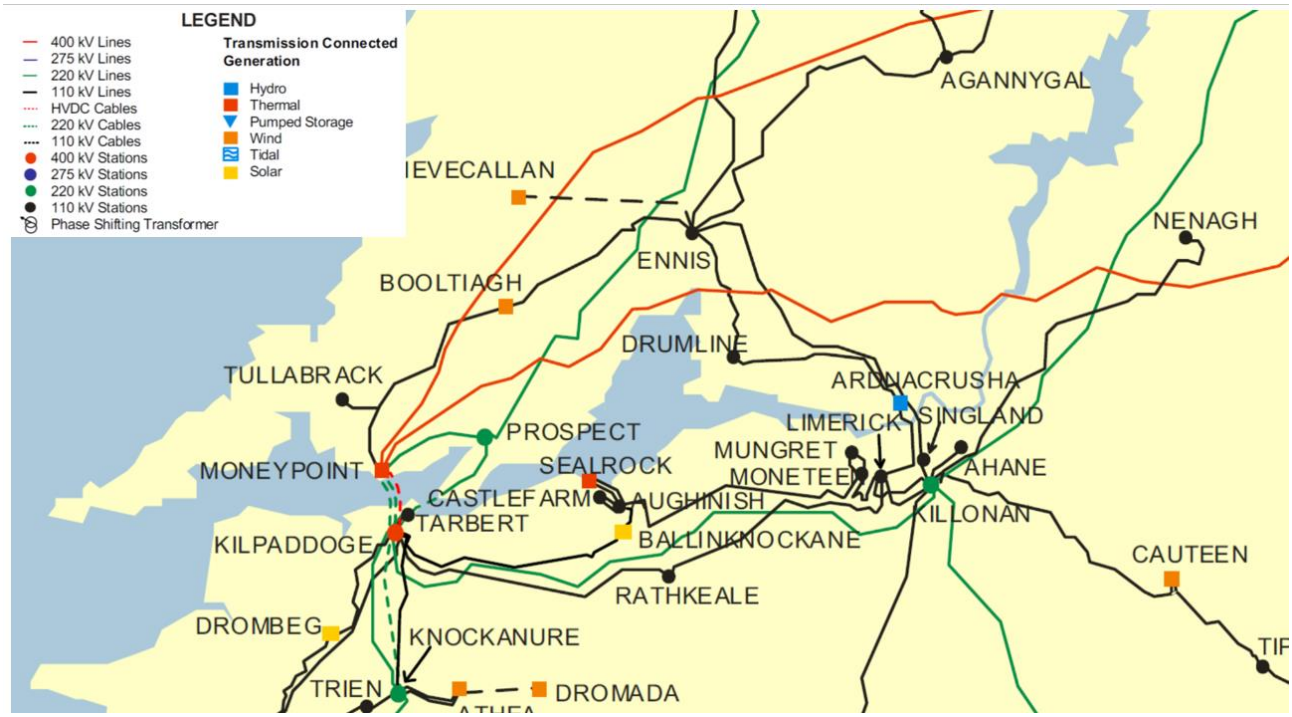

Figure 5.3 Network Assets at the Moneypoint Generating Station site. Source (ESB, 2023)

The Moneypoint Generating Station compound is located to the north of the main Generating Station and was constructed in the 1980s. The substation compound contains 400kV, 220kV and 110kV elements and since its original configuration, has been maintained and upgraded as required and in-line with good practice.

As previously discussed in Section 5.6, high voltage switchgear such as that found in the Generating Station, utilises SF6, a compound with very high electrical insulating properties, which allows the switchgear to work efficiently and safely. As part of ESB Networks development programme, the original switchgear at the Moneypoint Transmission Station was de-energised in June 2019 and replaced with new equipment which uses far smaller quantities of SF6, to reduce the risk of leaks. These works facilitated the addition of:

- Indoor Gas Insulated Switchgear (GIS) 400kV substations at 400kV, 220kV and 110kV
- 400/220kV and 220/110kV transformers; and
- New electrical connections.

In June 2021 permission was granted to EirGrid for a new 400kV Cross Shannon cable which will come ashore to the east of the Moneypoint site on third party lands when constructed. The consented underground cable corridor enters ESB lands from a point northeast of the jetty, then leads northwards around the FGD landfill area, and westwards into the Moneypoint substation. It is expected that construction on the Cross Shannon Cable project will commence in 2025 or 2026.

Further, and as previously discussed, ESB applied for planning permission to switch over to HFO generation from 2025 until early 2029 under a 'generator of last resort' agreement. This application has since been granted permission with conditions (September 2024).

5.9.4 Underground Services

The Moneypoint Generating Station site is traversed by high, medium and low voltage underground cables, associated with the sites generating activity and the networks infrastructure, those of which include:

- 400kV cables connecting the Unit 1, 2 and 3 transformers to the ESBN substation. These HV cables run underneath the Generating Station, northwards under the oil store, to the substation. A 400kV connection for the development was developed along this route.
- The 400kV Cross Shannon cable, which will come onshore at a point northeast of the Moneypoint Generating Station jetty, on third party lands before entering the Moneypoint site, leads northwards around the FGD landfill area, and westwards into the Moneypoint substation. It is understood construction of this project will start in 2025 or 2026.
- The existing Moneypoint Generating Station – Kilpaddoge 220kV cable, which comes onshore east of the jetty, and leads northwards on a route between the coal storage area and the FGD landfill area predominantly running along an internal access road; and
- A network of 20 kV radial cables associated with Moneypoint Wind Farm which predominantly running along the routes of internal access roads.

There are also high voltage overhead lines leading northwards from the ESBN substation out of the site.

5.9.5 Water Services

Cooling water at Moneypoint Generating Station is abstracted from the Shannon at a location west of the existing jetty, transported via a network of culverts, and used for cooling in the water/steam cycle at the Generating Station, before being discharged into the Shannon. Separately potable and process water is provided from the public mains and transported via a network of water pipes across the site. The on-site foul water network links to an on-site treatment facility located close to the existing jetty. This infrastructure is concentrated under, and in the vicinity of, the existing Generating Station.

There is an extensive surface water network across the site, with associated interceptors, discharging to the Shannon at a number of locations on the coast.

There are no identified assets owned by Uisce Éireann on the site. The nearest public water main is located on the N67 to the north of the Generating Station.

5.9.6 Other on-site infrastructure

Other on-site infrastructure includes fire-fighting services, dust suppression systems, lighting, communications, and security networks.

5.9.7 Waste Management

As previously discussed, Moneypoint Generating Station site is licenced by the EPA under an IE Licence (Ref. P0605-04). The IE Licence authorises the following activities:

- Activity 1.1 (IED) / 2.1 (EPA Act 1992, as amended): "Combustion of fuels in installations with a total thermal output of 50MW or more"; and
- Activity 5.4 (IED) / 11.5 (EPA Act 1992, as amended): "Landfills, within the meaning of section 5 (amended by Regulation 11(1) of the Waste Management (Certification of Historic, Unlicenced Water

Disposal and Recovery Activity) Regulations 2008 (SJ. No 524 of 2008) of the Act of 1996, receiving more than 10 tonnes of waste per day or with a total capacity exceeding 25,000 tonnes, other than landfills of inert waste".

The IE Licence contains conditions on how the activity must operate in order to protect the environment from pollution that might otherwise arise. Limits and controls are imposed on emissions to air, water, dust, and noise.

The Licence also includes requirements relating to site operations, such as, the implementation of an EMS, energy efficiency, incident response and waste management. In line with the IE Licence, environmental monitoring of the site is on-going.

Throughout its operation, Moneypoint Generating Station has been maintained and improved to meet relevant environmental standards, and the IE Licence reviewed as appropriate.

From 2006, major upgrades were initiated to ensure the plant complies with the strictest environmental requirements for flue gas desulphurisation (SO_2) and selective catalytic reduction (NO_x).

Moneypoint Generating Station is an upper tier SEVESO site, a SEVESO site is defined as 'Industrial sites that, because of the presence of dangerous substances in sufficient quantities, are regulated under Council Directives 96/82/EC and 2003/105/EC, commonly referred to as the Seveso II Directive'[58] (DCC, 2023).

5.9.8 Sea-fishing and Aquaculture

Sea-fishing and aquaculture are long-standing, traditional activities that take place in the marine environment. Aquaculture consists of growing fish, shellfish, and algae in water (fresh water, marine water or a mix of both). In Ireland the main species reared from aquaculture include atlantic salmon, rainbow trout, pacific oyster, native oyster, blue mussel and seaweed[59] (EU, 2025).

Fisheries and aquaculture site holders are notable food producers in Ireland and abroad. Aquaculture-based food production is dependent upon certain marine areas, and it must be noted that Shannon Estuary is one such area. Primary production is critical to supplying the downstream indigenous seafood processing, export industries and in sustaining the livelihoods of coastal communities. Aquaculture is a major contributor to national seafood production and food security, the importance of such is reflected in the Government's Food Vision 2030 policy[60] (DAFM, 2022) and in requirements set out under the Maritime Area Planning Act and the National Marine Planning Framework (NMPF)[61] (DECC, 2018).

There are pot fishing activities, crustacean trap fisheries and licenced aquaculture sites located in proximity to the GA Concept study area. Pot fishing activities have been mapped along the southern shore of the estuary from the Moneypoint Generating Station site. These activities include fishing for shrimp and potentially other species.

It is noted that licensed aquaculture sites located in close proximity to the study area lie within the Designated Shellfish Waters of West Shannon Ballylongford. These waters are located southwest of the GA Concept study area. It is also noted that the Oyster Fishery Order T08-004B for European Flat Oyster is located west of the GA Concept study area, and that a small section overlaps with the GA Concept study area boundary. The Moneypoint Generating Station has however been operational for many years and there has been no reported impacts on aquaculture in the Shannon Estuary.

[58] DCC (2023) SEVESO Sites. Available at: Seveso Sites | Dublin City Council

[59] EU (2025) EU Aquaculture Assistance Mechanism – Country Information. Available at: Country information | EU Aquaculture Assistance Mechanism

[60] DAFM (2022) Food Vision 2030 - A World Leader in Sustainable Food Systems. Available at: Food Vision 2030 - A World Leader in Sustainable Food Systems

[61] DECC (2018) National Marine Planning Framework. Available at: National Marine Planning Framework

5.10 Transboundary Issues

No direct transboundary environmental effects are anticipated as a result of the implementation of the GA Concept.

There may be potential for indirect positive transboundary effects on material assets to be had as the GA Concept will facilitate a continuation of energy production at the Moneypoint Generating Station site and a reduced reliance on exported energy. Additionally, the repurposing of the Moneypoint Generating Station site into a renewable energy hub is likely to result in an overall positive transboundary effect on air quality and climate in the long term.

6. SEA Objectives and Targets

6.1 Introduction

The SEA ER is designed to assess the potential environmental effect of the policies of the GA Concept against the environmental baselines established.

The policies and associated recommendations are assessed against a range of established environmental objectives and targets. Indicators that are recommended in the SEA ER are utilised over the lifetime of the GA Concept to quantify the level of impact that the recommendations have on the environment.

6.2 SEA Objectives and Targets

Strategic Environmental Objectives (SEOs) are methodological measures against which the environmental effects of the GA Concept can be assessed. If complied with in full, SEOs would result in an environmentally positive, or neutral impact from realisation of the GA Concept.

The SEOs are set out under a range of topics and are used as standards against which the provisions of the GA Concept can be evaluated in order to help identify areas in which potential significant adverse impacts may occur. SEOs are distinct from the objectives of the GA Concept and are developed from international and national policies which generally govern environmental protection objectives. Such policies include those of various European Directives which have been transposed into Irish law and which are intended to be implemented across the country.

The SEA Directive requires that the evaluation of the GA Concept be focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected. In compliance with this requirement the SEA will focus upon the most relevant aspects of the environmental characteristics.

The SEOs are linked to indicators which can facilitate monitoring the environmental effects of the GA Concept as well identifying targets which the GA Concept can help work towards.

6.3 SEA Indicators

The assessment of aims and commitments with respect to the Environmental Objectives and Targets is required to be measurable. The Environmental Indicators need to be capable of the following:

- Describing trends in the baseline environment
- Demonstrating the likely significant effect of the implementation of the GA Concept
- Being used in a monitoring programme
- Providing an early warning of significant unforeseen adverse effects
- Prioritising key environmental effects; and

- Ensuring the number and range of environmental indicators are manageable in terms of time and resources.

SEA Objectives, Indicators and Targets are as described in Table 6.1.

Table 6.1 SEA Objectives, Indicators and Targets

Environmental Component	Strategic Environmental Objective	Targets	Indicators
Population and Human Health (P&HH)	1. Protect and enhance human health and well-being. 2. To ensure operations at Moneypoint Generating Station site are carried out safely. 3. Provide employment for the local community. 4. Provide improved low-carbon electricity supply and security across Ireland.	1. No deterioration in human health as a result of environmental factors. 5. Avoidance of health & safety incidents from occurring on site 6. No increase in number of complaints relating to disturbance or pollution from site activities and operations. 7. Long-term increase in employment opportunities associated with the GA Concept. 8. Continuation of energy generation.	1. Perceived health of the local community. 9. Number of site-related accidents/incidents reported. 10. Number of complaints received pertaining to disturbance or pollution. 11. Direct and indirect employment created by ESB/ORE Developers utilising the Moneypoint Generating Station Hub. 12. Provision of improved low-carbon electricity supply and security across Ireland.
Biodiversity (BIO)	1. Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, species, and wildlife corridors. 13. Support the achievement of the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation. 14. Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildlife Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act. 15. To minimise and, where possible, eliminate threats to biodiversity including invasive species.	1. No loss of diversity and integrity of the broad range of habitats, species, and wildlife corridors, during the lifetime of the GA Concept. 16. Improve/maintain protection for protected sites and species and protection for important wildlife sites, particularly wildlife corridors. 17. Maintenance of favourable conservation status for all habitats and species protected under the Habitats and Birds Directives. 18. Prevent the introduction of new invasive or alien species. Control/manage existing regulated invasive species.	1. Presence and status of existing biodiversity on site. 19. Level of biodiversity gain achieved as a result of the implementation of the GA Concept. 20. Number and condition of Natura 2000 network, European sites in or along the Moneypoint Generating Station site boundary, as per Article 17 Reports, and the maintenance of conservation objectives. 21. Level of biodiversity change lost as a result of the implementation of the GA Concept; and 22. Number of incident responses onsite e.g., invasive species (for example, Japanese knotweed).
Land and Soil (L&S)	1. Protect soils against pollution. 23. Minimise the excavation and movement of soils within site works. 24. Protect the coastline from erosion.	1. No incidences of soil contamination through adoption of appropriate environmental protection procedures during any construction, operation or maintenance works. 25. Ensure appropriate management of existing contaminated soil in accordance with the requirements of current waste legislation. 26. No significant erosion of the coastline	1. Incidences of spillages/leaks reported on site. 27. Incidences occurring to soil, in particular relating to any potential contamination from landfill. 28. Areas and rates of coastal erosion within the site.
Water (WAT)	1. No negative impacts on the status of transitional waters, surface waters and	1. All waters within the GA Concept area to achieve the objectives of the Water Framework Directive	1. Status and quality of waterbodies on and near the Moneypoint Generating Station site.

Environmental Component	Strategic Environmental Objective	Targets	Indicators
	groundwater, and to provide no impediment to the achievement of water body objectives under the WFD. 29. No negative impacts on flood risk management activity, and to provide no impediment to the implementation of the Floods Directive.	and the relevant River Basin Management Plan by 2027. 30. No flood risk at port facilities, with no transferred flood risk to the local area.	31. Level of compliances with EPA – IE Licence. 32. Number of significant pollution events recorded as a result of the implementation of the GA Concept. 33. Instances of flooding in the GA Concept area.
Air and Climate including Noise (AQ, C&N)	1. To avoid, prevent or reduce harmful effects on human health resulting from the emissions to air from construction and operation at the Moneypoint Generating Station site. 34. Maintain and promote continuing improvement in air quality and climate through the reduction of emissions and promotion of net zero energy generation. 35. Minimise noise and vibration impact from Moneypoint Generating Station site operations and remain at or below legislative standards or limits. 36. Minimise emissions of greenhouse gases and port carbon footprint from development and activity (where possible). 37. Adaptation to climatic change.	1. No breaches of legislative standards or limits resulting from port development and activity. 38. No increase in GHG emissions and carbon footprint from site development and operations 39. No risk from climate change influenced flooding at the Moneypoint Generating Station site, with no transferred risk to the local area.	1. General air quality results in proximity to Kilrush, Co. Clare. 40. Level of compliances with IE Licence. 41. Rates of energy and or renewable energy consumption. 42. The level of GHG emissions from the Moneypoint Generating Station site and the changes in GHG emissions over the GA Concept period. 43. As follows: 44. Onsite noise and dust monitoring at Moneypoint Generating Station site. 45. Number of complaints received relating to dust and or noise.
Archaeological, Architectural and Cultural Heritage (AA&CH)	1. Protect sites places, features, buildings, and landscapes or seascapes of cultural, archaeological, or architectural heritage and their context from significant adverse effects resulting from the implementation of the GA Concept.	1. Any projects progressed under the GA Concept will adhere to the Code of Practice between the Department of the Environment, Heritage and Local Government and ESB Networks (2009) or any future revisions to that Code of Practice.	1. Avoidance of significant adverse effects, both direct and indirect, to sites and features of archaeological/architectural/cultural heritage (both terrestrial and underwater) as a result of the implementation of the GA Concept.
Landscape and Visual (L&V)	1. Protect, and where possible enhance, the landscape / seascape character and visual amenity in the vicinity of the Moneypoint Generating Station site.	1. Any construction works and structures should be planned with cognisance of landscape and seascape sensitive areas and protected views/ prospects.	1. No deterioration of landscape and or seascapes or areas with scenic value e.g., Protected Views as a result of the implementation of the GA Concept.
Material Assets (MA)	1. Provide improved low-carbon electricity supply and security across Ireland.	1. Contribute to the continuity of energy supply in Ireland, in particular low-carbon energy supply and security.	1. Rates of energy and or renewable energy generation. 52. Records of local service disruption events.

Environmental Component	Strategic Environmental Objective	Targets	Indicators
	46. Make best use of existing infrastructure and promote the sustainable development of new infrastructure related to the GA Concept, where appropriate. 47. Minimise waste generation and increase the rates of reuse and recycling at Moneypoint Generating Station site. 48. To carefully manage water usage and wastewater generated at the site, in accordance with IE Licence conditions.	49. Minimal or no disruption to local services as a result of development on site 50. Increased rates of reuse and recycling on the site, and reduced levels of waste being sent to landfill. 51. No increase in water usage and wastewater generated outside of IE Licenced limits.	53. Quantity of waste generated, and levels of waste reused or recycled on site. 54. Level of compliances with IE Licence.

7. Alternatives Considered

7.1 Introduction

Article 5.1 of the SEA Directive requires the SEA ER to consider "reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme". Annex 1(h) of the SEA Directive, as replicated in paragraph (h) of Schedule 2B of the Planning and Development Regulations 2001, as amended, requires "an outline of the reasons for selecting the alternatives". This suggests that there are two stages to the consideration of alternatives:

1. Identify reasonable alternatives; (Refer to Section 7.2).
2. Evaluate and compare the alternatives; (Refer to Section 7.3).

7.2 Identification of Reasonable Alternatives

The Green Atlantic Concept at Moneypoint includes the consideration of alternative options for the future development of the site. These scenarios largely assumed that land uses such as the transmission infrastructure would be largely unaltered – and assumed a variable level of remediation and redevelopment across the ash storage area, main site and coal storage area.

The main alternatives considered can be summarised as:

- Alternative A - Do Nothing;
- Alternative B - Green Atlantic Concept 1;
- Alternative C - Green Atlantic Concept 2;
- Alternative D - Green Atlantic Concept 3; and
- Alternative E - Green Atlantic Concept 4.

A summary of each is provided in Sections 7.2.1 – 7.2.5 below.

7.2.1 Alternative A - Do Nothing

In this scenario the lands would continue the present-day operations and there would be no significant change to the established land uses at Moneypoint. The existing ASA and FGD landfill area would be capped and managed as on-going **Brownfield Lands (BL)**.

In line with ESB corporate commitments, Moneypoint Generation Station would cease coal fired generation in 2025 with the conversion to HFO as proposed, contingent on a grant of planning permission. Subject of further consent being granted to repower or reconfigure the station, the extensive **Industrial Energy Zone (IEZ)** (including the coal storage area) would be undeveloped.

Within the wider **General Development Zone (GDZ)** the Moneypoint Wind Farm and Synchronous Compensator would continue to operate as normal. The site would continue to act as an important electricity **transmission** node, accommodating significant high voltage networks assets onto the national grid. It would see no significant re-development associated with renewable energy, with the exception of possible new connection points for offshore wind farms.

The vegetated **Woodland Zone (WZ)** bounding onto the N67 would remain unchanged. There would be no change to the **Coastal Infrastructure Zone (CIZ)** – namely the existing jetty remaining in place. Alternative A is illustrated in Figure 7.1.

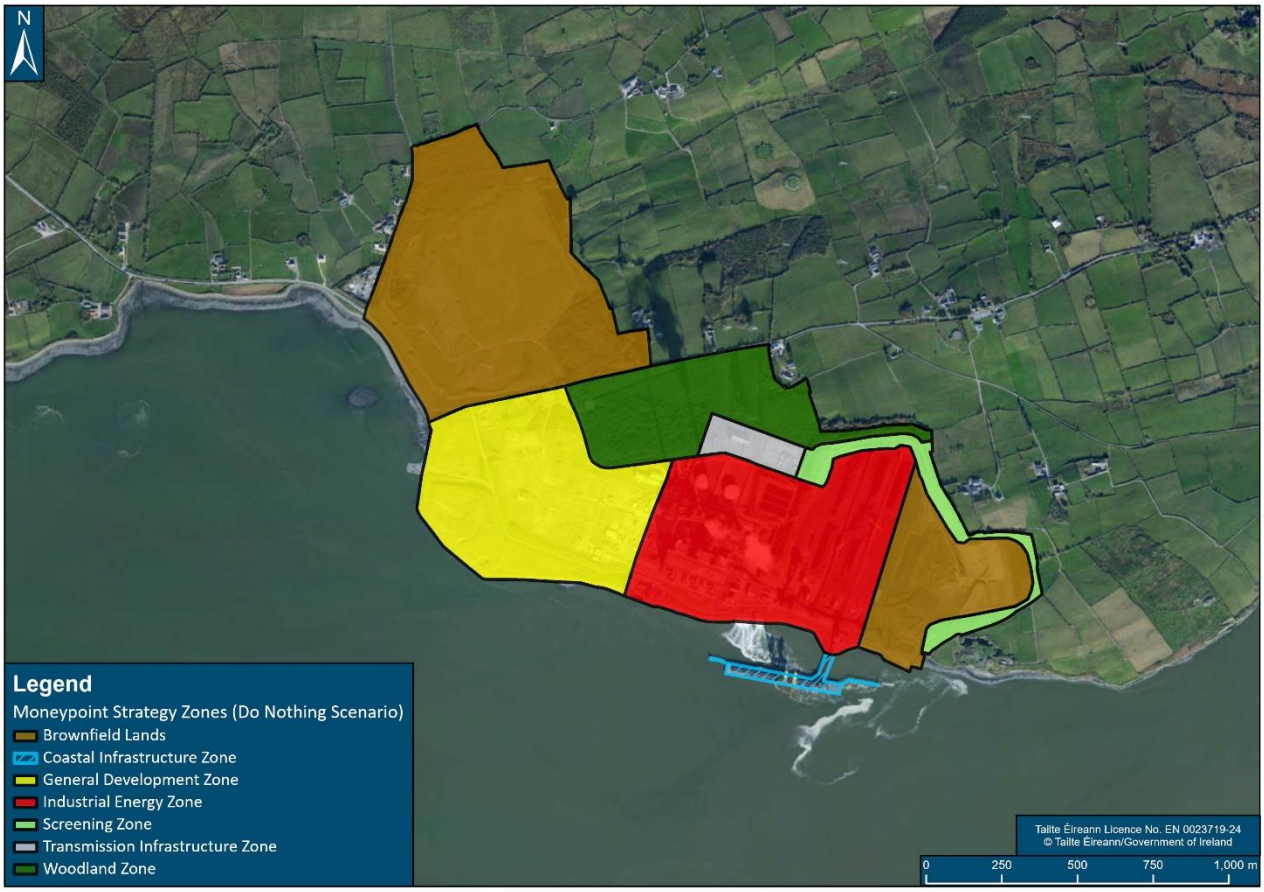

Figure 7.1 Alternative A – Do Nothing Zoning Map (Source: ESB, 2024)

7.2.2 Alternative B – GA Concept 1

In this scenario the nature of present-day operations would change to facilitate additional large-scale thermal generation, with a relatively small facility to support offshore wind energy projects.

Subject to consent for the remediation of the coal storage area and excavation of the FGD landfill area, the central **IEZ** would expand to accommodate new generation activity, likely to include gas fired generation and, in time, new zero generation fuelled by hydrogen, ammonia etc., associated with the importation of at-scale renewable energy from offshore renewable energy projects off the west-coast.

The existing ASA north of the N67 would be capped and managed as on-going **BL**.

Lands to the west of the station would be redeveloped to accommodate activities associated with offshore wind projects, namely the Moneypoint Hub within a **Marine Energy Zone (MEZ)**. Within the wider **IEZ,** the Moneypoint Wind Farm and Synchronous Compensator would continue to operate as normal. The site would continue to act as an important electricity transmission node, accommodating new connection points for offshore wind farms within the vegetated **WZ** bounding onto the N67.

On the eastern boundary, the transition between the Moneypoint lands and the adjacent agricultural lands would incorporate the underground cable corridor within a **Screening Zone (SZ)**.

The level of development associated with the **CIZ** would depend on the scale of activity associated with the Hub but would be limited to the private foreshore area. Such works could include land reclamation, or construction of new structures such as piers and jetties, as necessary to facilitate the large-scale hub for the construction, assembly and deployment of wind turbines (i.e. delivery of turbine components, deployment of substructures, assembly of turbines and limited storage, at the quayside). The configuration of new quay infrastructure would be designed to mitigation impacts to the adjacent environmentally sensitive/designated areas. Alternative B is illustrated in Figure 7.2.

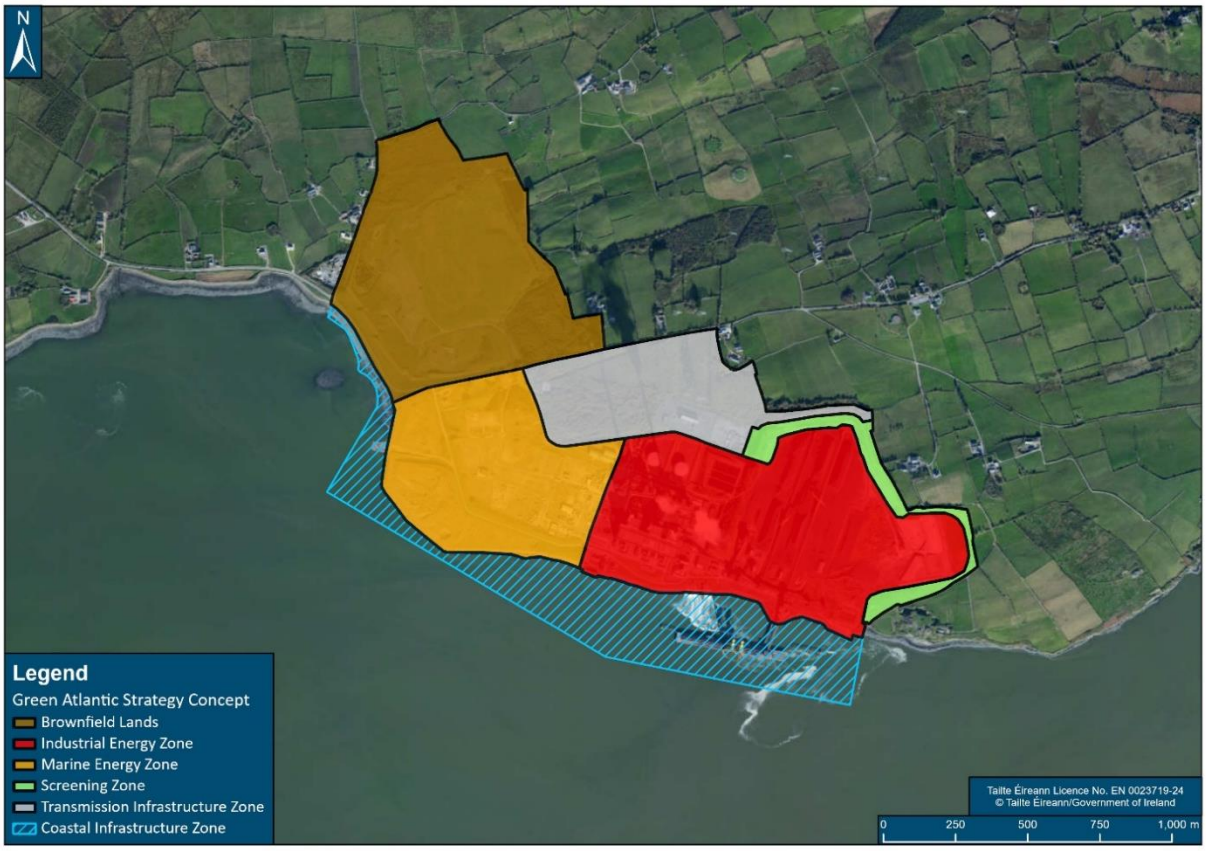

Figure 7.2 Alternative B - GA Concept 1 Source: (ESB, 2024)

7.2.3 Alternative C – GA Concept 2

In this scenario the nature of present-day operations would change fundamentally with the removal of all infrastructure associated with large-scale thermal generation – enabling the entire site to be used for the development of a facility to support offshore wind energy projects, the Moneypoint Hub, within a **MEZ**.

Both the existing ASA north of the N67 and the FGD landfill area to the east would be remediated (likely with the removal of ash) and the sites developed to accommodate new thermal general activity within an **IEZ**, likely to include gas fired generation and, in time, new zero generation fuelled by hydrogen, ammonia etc, associated with the importation of at-scale renewable energy from offshore renewable energy projects off the west-coast. The continued presence of the Moneypoint Wind Farm and Synchronous Compensator would be considered in the context of broader site development. The site would continue to act as an important electricity transmission node, accommodating new connection points for offshore wind farms within the broader site but maintaining the ecological integrity of the vegetated **WZ.**

On the eastern boundary, the transition between the Moneypoint lands and the adjacent agricultural lands would incorporate the underground cable corridor within a **SZ**.

The level of development associated with the **CIZ** would depend on the scale of activity associated with the Hub but would be limited to the private foreshore area. Such works could include land reclamation, or construction of new structures such as piers and jetties, as necessary to facilitate the large-scale hub for the construction, assembly and deployment of wind turbines (i.e. delivery of turbine components, deployment of substructures, assembly of turbines and limited storage, at the quayside). The configuration of new quay infrastructure would be designed to mitigation impacts to the adjacent environmentally sensitive/designated areas. Alternative C is illustrated in Figure 7.3.

Figure 7.3 Alternative C - GA Concept 2 Source: (ESB, 2024)

7.2.4 Alternative D – GA Concept 3

In this scenario the site would be developed to meet generation and transmission requirements for the medium and long-term. The transmission infrastructure and synchronous compensator will remain within an expansive **MEZ** that will accommodate the Moneypoint Hub, based on the phased availability of lands on the site.

Within the central core of the site the existing **IEZ** will remain at its current extent allowing for its re-development as the site transitions to increasingly lower carbon dispatchable energy generation, while protecting the site's strategic function as a nationally significant electricity generation asset. These activities may include gas fired generation and, in time, new zero carbon generation fuelled by hydrogen, ammonia etc, associated with the importation of at-scale renewable energy from offshore renewable energy projects off the west-coast. Given the need to meet security of supply demands, the development of that area will be phased and likely occur in parallel with other smaller thermal units being developed within the broader **MEZ**. The Coal Storage Area will require decommissioning and remediation, subject of a grant of consent.

The partial or wholesale remediation and redevelopment of the existing ASA north of the N67, within a **Landfill Management Zone (LMZ)**, will be subject to consenting for plans to remove existing ash. Given the visual sensitivity of the ASA, a **Buffer Zone (BZ)** that will accommodate small scale, low-level development to manage the transition between industrial and greenfield lands, will surround that site to provide visual screening of new development. The area between the ASA and the N67, may be suited to limited scale General Development. The site would continue to act as an important electricity transmission node, accommodating new connection points for offshore wind farms within the broader site but maintaining the ecological integrity of the vegetated **WZ.**

On the eastern boundary, the transition between the Moneypoint lands and the adjacent agricultural lands would incorporate the underground cable corridor within a **SZ.** The level of development associated with the **CIZ** would depend on the scale of activity associated with the Hub but would be limited to the private foreshore area. Such works could include land reclamation, or construction of new structures such as piers and jetties – as necessary to facilitate the large-scale hub for the construction, assembly and deployment of wind turbines (i.e. delivery of turbine components, deployment of substructures, assembly of turbines and limited storage, at the quayside). The configuration of new quay infrastructure would be designed to mitigation impacts to the adjacent environmentally sensitive/designated areas. Alternative D is illustrated in Figure 7.4.

Figure 7.4 Alternative D - GA Concept 3 Source: (ESB, 2024)

7.2.5 Alternative E – GA Concept 4

In this scenario the site would be developed to meet generation and transmission requirements for the medium and long-term. The transmission infrastructure and Synchronous Compensator will remain within an expansive **MEZ** that will accommodate the Moneypoint Hub, based on the phased availability of lands on the site.

To protect the site's strategic function as a nationally significant electricity generation asset, the central **IEZ** will be expanded east into the coal storage area to accommodate new generation activity, likely to include energy storage and lower carbon fired generation (HVO or Distillate) and, in time, new zero generation fuelled by hydrogen, ammonia etc associated with the importation of at-scale renewable energy from offshore renewable energy projects off the west-coast. Given the need to meet security of supply demands, the development of that area will be phased and likely occur in parallel with other smaller thermal units being developed within the broader **MEZ.**

The partial or wholesale remediation and redevelopment of the existing ASA north of the N67, within a **LMZ** will be subject to consenting for plans to remove existing ash. Given the visual sensitivity of the ASA, a **BZ** that will accommodate small scale, low-level development to manage the transition between industrial and greenfield lands, will surround that site to provide visual screening of new development. The area between the ASA and the N67, may be suited to limited scale General Development. The site would continue to act as an important electricity transmission node, accommodating new connection points for offshore wind farms within the broader site but maintaining the ecological integrity of the vegetated **WZ.**

On the eastern boundary, the transition between the Moneypoint lands and the adjacent agricultural lands would incorporate the underground cable corridor within a **SZ**. The level of development associated with the **CIZ** would depend on the scale of activity associated with the Hub but would be limited to the private foreshore area. Such works could include land reclamation, or construction of new structures such as piers and jetties – as necessary to facilitate the large-scale hub for the construction, assembly and deployment of wind turbines (i.e. delivery of turbine components, deployment of substructures, assembly of turbines and limited storage, at the quayside). The configuration of new quay infrastructure would be designed to mitigation impacts to the adjacent environmentally sensitive/designated areas. Alternative E is illustrated in Figure 7.5.

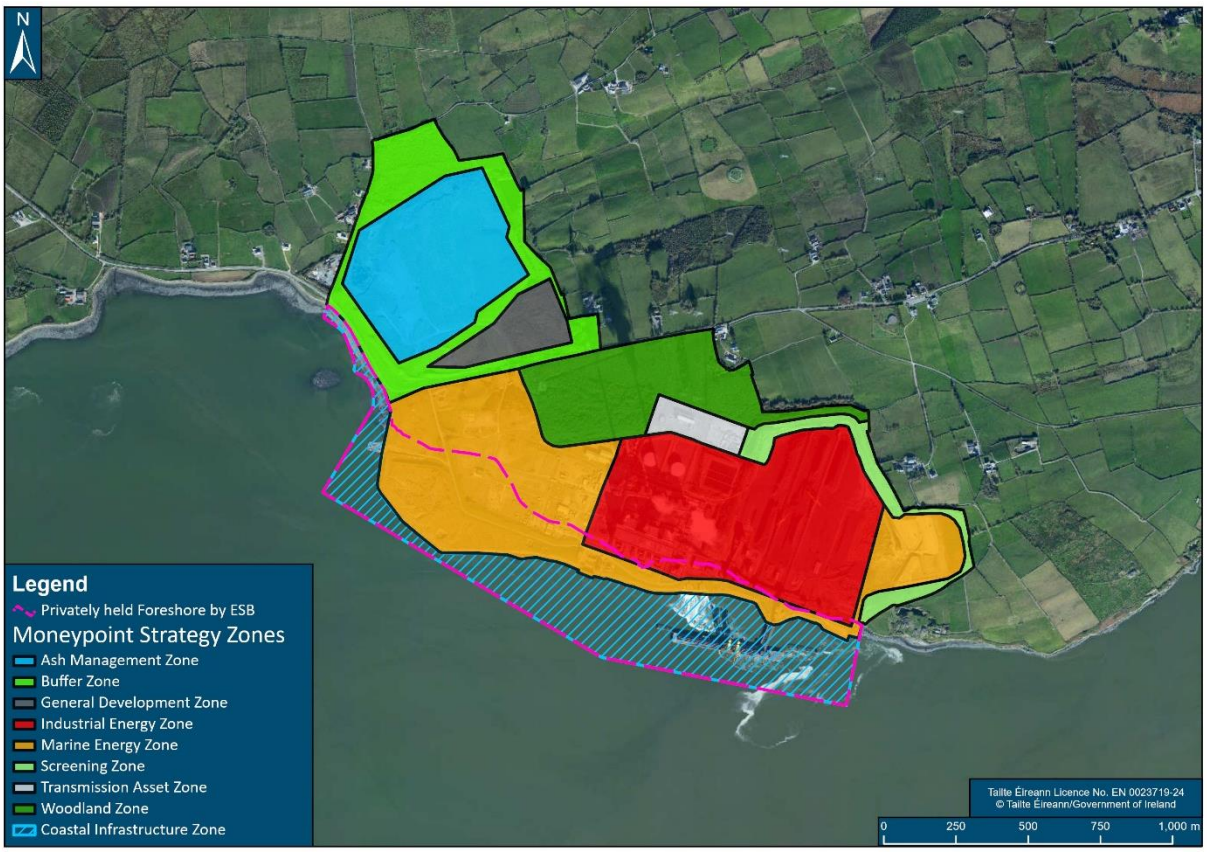

Figure 7.5 Alternative E - GA Concept 4 Source: (ESB, 2024)

7.3 Evaluation and Comparison of Alternatives

7.3.1 Introduction

This Section provides a detailed description and assessment of those alternatives outlined in Section 7.2.

The assessment process categorised environmental impacts using the ratings outlined in Table 7.1 which is based on the impact assessment criteria defined by the EPA for environmental impact assessment.

Table 7.1 Impact Ratings

Significance of Effects	
	Neutral
	Positive
	Negative
	Uncertain (Unknown or both positive and negative effects likely)

Table 7.2 identified the likely unmitigated impacts associated with each of the alternatives considered when assessed against the Strategic Environmental Objectives (SEOs) outlined in Section 6.

Table 7.2 High Level Environmental Assessment of Alternatives

Alternative Number	Description of Alternative Scenario:	P&HH	Bio	L&S	Wat	AQ&C	AA&CH	L&V	MA
Alternative A	Do Nothing	Neutral	Neutral	Neutral	Neutral	Negative	Neutral	Neutral	Neutral
Alternative B	GA Concept 1	Positive	Negative	Negative	Negative	Positive	Uncertain	Uncertain	Positive
Alternative C	GA Concept 2	Positive	Negative	Negative	Negative	Positive	Uncertain	Uncertain	Positive
Alternative D	GA Concept 3	Positive	Negative	Negative	Negative	Positive	Uncertain	Uncertain	Positive
Alternative E	GA Concept 4	Positive	Negative	Negative	Negative	Positive	Uncertain	Uncertain	Positive

7.3.2 Alternative A – Do Nothing

When assessed against the SEOs and in the absence of mitigation, Alternative A (Do Nothing) has potential to have *neutral* impacts on all environmental components. The 'Do Nothing' Scenario represents a continuation of the baseline environment at Moneypoint Generating Station site and thus, overall, P&HH, BIO, L&S, WAT, AA&CH, L&V and MA have been assessed as neutral. However, AQ, C and N has been assessed as having potential to result in negative impacts. GHG emissions from the Moneypoint Generating Station site will remain constant in this Alternative as the Moneypoint Generating Station would continue to rely on coal and oil fuelled electricity generation. A description of each environmental indicator when assessed against the SEOs is provided below:

- **P&HH:** The levels of employment within the local community have potential to remain the same in this Alternative. Moneypoint will continue to carry out its operations in a safe manner and will continue to support energy supply across Ireland. ESB will continue to operate the Moneypoint plant in accordance with its IE Licence ensuring no deterioration in human health as a result of environmental emissions.
- **BIO:** The Moneypoint Generating Station site is not considered to be of significant biodiversity value, with the exception of areas of mature woodland to the north of the site, and indeed the site's shoreline/marine area. ESB will continue to avoid loss of habitat, species and wildlife within the Moneypoint site and prevent/control/manage the introduction of new invasive or alien species.
- **L&S:** ESB will continue to ensure no significant erosion to the coastline at Moneypoint and protect soil and subsoil against contamination in this Alternative. ESB will continue to deposit combustion by-product from Moneypoint Generation Station in the Ash Storage Area and FGD landfill area. Once the capacity is reached, the ASA and FGD landfill area will be capped and managed as Brown Field Lands in accordance with its IE Licence.
- **WAT:** The Lower Shannon Estuary currently has a 'good' WFD status, current operations do not have any implications on the Lower Shannon Estuary reaching and maintaining good status. ESB will continue to discharge storm and process water to the Shannon Estuary in accordance with their IE Licence.
- **AQ, C&N:** The site will continue to rely on coal and oil fuelled electricity generation. Use of lower carbon generation will not be achieved.
- **AA&CH:** No further development will be facilitated in this Alternative and so, neutral impacts have been assessed as likely to occur.

- **L&V:** Moneypoint is an established industrial site characterised by large-scale generation infrastructure set within a broad and open brownfield site, with associated shoreside activity. Alternative A is likely to have a *neutral* impact on landscape/seascape and visual amenities; and

- **MA:** ESB will continue operate the site as normal. The switch from Coal to HFO fired generation (2025) is likely to reduce the volume of generation by-product deposited in the ASA and FGD extending the life of the ASA to the north and east of the site. Once the capacity is reached, the ASA and FGD landfill area will be capped and managed as Brown Field Lands in accordance with its IE Licence.

7.3.3 Alternative B – GA Concept 1

When assessed against the SEOs and in the absence of mitigation, Alternative B has potential to have a positive impact on P&HH, MA and AQ, C&N. Reductions in GHG emissions are likely to be facilitated in this Alternative by the move away from coal (from 2025) and oil fuelled electricity generation (ceasing in 2029) to zero carbon and near zero carbon generation (2029 onwards). Alternative B has potential to have a negative impact on BIO, WAT and L&S and otherwise, uncertain impacts have been identified for Alternative B. A description of each environmental indicator when assessed against the SEOs is provided below:

- **P&HH:** Alternative B has potential to have a *positive* impact on P&HH. The Moneypoint site will continue to carry out its operations in a safe manner and in accordance with its IE Licence ensuring no deterioration in human health as a result of environmental emissions. The Moneypoint site will also continue to support energy supply and security across Ireland in this Alternative. The levels of direct and indirect employment within the local community and wider area are likely to increase as a result of new large scale thermal generation and ORE hub activities during their construction and operation.

- **BIO:** Alternative B has potential to have a *negative* impact on BIO. There is potential for negative impacts to habitats/species within the Shannon Estuary as a result of development in the Coastal Infrastructure Zone. Where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V. In this Alternative, negative impacts are also likely to occur as development is proposed within the vegetated Woodland Zone. The expansion of the Transmission Infrastructure Zone into the wooded area is likely to result in a loss or disturbance to habitats, species and wildlife.

- **L&S:** Overall, Alternative B has potential to result in a *negative* impact on L&S. Where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V. Substantial development will be occurring onshore and in the privately held foreshore of the site, including removal and redevelopment of the current woodland area. In this Alternative, the coal storage area and FGD landfill area will also be remediated to expand the central Industrial Energy Zone to the east to accommodate new generation activity. However, it is thought that the generation plant will not be constrained by the existing topography of the site and the quantities of excavated material would be minimal. The excavation of the FGD landfill area presents an opportunity for ESB to recover the waste FGD by product for beneficial reuse (subject to further assessment and EPA licencing). However, overall, it is considered that negative impacts have potential to occur for L&S as a result of development in this Alternative.

- **WAT:** Overall, Alternative B has potential to result in *negative* impacts on WAT. Although, the Lower Shannon Estuary currently has a 'good' WFD status – it cannot be ascertained at this time that the development as outlined Alternative B will result in no deterioration of the good status. As with any development of this scale and nature there is potential for temporary negative impacts to surface water quality. During works to create infrastructure in the coastal infrastructure zone and works to remediate the coal storage area and FGD landfill area, there is potential for disturbance and mobilisation of soils which could be accidentally released to the Shannon estuary causing an impact to water quality.

  During operation of new ORE infrastructure there is also potential for negative impacts on water quality through the accidental releases of pollutants from vessels and runoff from new hardstand areas. It is noted that, as the proposed works will include a new purpose-built facility, it will be designed to fully incorporate the drainage and wastewater requirements of a commercial port to ensure that its operations will not result in a deterioration of WFD status in the local waterbodies. However, overall negative impacts have been assessed.

- **AQ, C&N:** Alternative B has potential to result in an overall *positive* impact on AQ, C&N through the reduction of GHG emissions brought about by the move away from coal (from 2025) and oil fuelled electricity generation (ceasing in 2029) to zero carbon and near zero carbon generation (2029 onwards). Furthermore, the development of port infrastructure to facilitate the construction and deployment of offshore renewables will aid in the decarbonisation of the electricity generation sector. During construction and operation there is potential for negative impacts on GHG emissions and carbon footprint through the use of large volumes of concrete to construct the berthing and hardstand area and associated construction emissions associated with ORE. However, it is considered that the emissions associated with the construction phase of development will be offset by emission reductions during the operational phase of the development.
- **Air Quality and Noise:** During the construction and operation of Alternative B, there is the potential for temporary negative impacts to the local community. There is also the potential for negative impacts on to the local community as a result of higher noise and vibration levels.
- **AA&CH:** The Moneypoint site comprises of highly disturbed land, and the likelihood of discovering previously unknown archaeological features is considered low. However, any development in the marine environment has the potential to disturb any undiscovered underwater cultural heritage. Overall Alternative B has potential to result in an *uncertain* impact on cultural, archaeological, or architectural heritage as it is not currently possible to ascertain the level of impact that is likely to occur on marine cultural, archaeological, or architectural heritage. The collection and interpretation of geophysical data, side-scan sonar and bathymetry information as part of future developments will aid in minimising impacts or the possibility of destruction of any undiscovered heritage features in areas of heritage potential. However, as this data is not yet available, Alternative B has been assessed as having potential to result in an *uncertain* impact on AA&CH.
- **L&V:** Moneypoint is an established industrial site characterised by large-scale generation infrastructure set within a broad and open brownfield site, with associated shoreside activity. However, as it is not currently possible to ascertain the location, scale and type of new infrastructure on, near or offshore, Alternative B has potential to have an *uncertain* impact on landscape/seascape and visual amenities; and
- **MA:** Overall, Alternative B has potential to result in *positive* impacts to Material Assets through the development of new low carbon thermal generation infrastructure and infrastructure to support the ORE industry.

7.3.4 Alternative C – GA Concept 2

When assessed against the SEOs and in the absence of mitigation, Alternative C has potential to have a positive impact on P&HH, MA and AQ, C&N. Reductions in GHG emissions are likely to be facilitated in this Alternative by the move away from coal (from 2025) and oil fuelled electricity generation (ceasing in 2029) to zero carbon and near zero carbon generation (2029 onwards). Alternative C has potential to have a negative impact on BIO, WAT and L&S and uncertain impacts on L&V and AA&CH. A description of each environmental indicator when assessed against the SEOs is provided below:

- **P&HH:** Alternative C has potential to have a *positive* impact on P&HH. The levels of direct and indirect employment within the local community and wider area are likely to increase as a result of ORE hub activities during their construction and operation. The Moneypoint site will also continue to support energy supply and security across Ireland in this Alternative.
- **BIO:** Alternative C has potential to have a *negative* impact on BIO. There is potential for *negative* impacts to habitats/species within the Shannon Estuary as a result of development in the Coastal Infrastructure Zone. Where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V.

- **L&S:** Alternative C has potential to have *negative* impact on L&S. Where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V. Substantial development will be occurring onshore and in the foreshore of the site. In particular, for the Marine Energy Zone, development will be constrained by the existing topography of the site and, to make the main site operationally feasible for use as an ORE port, the remediation of the coal storage area and FGD landfill area will likely require the mass excavation and movement of soils to create a reasonable flat area.

- **WAT:** Overall, Alternative C has potential to have a *negative* impact on WAT. Although, the Lower Shannon Estuary currently has a 'good' WFD status – it cannot be ascertained at this time that the development as outlined Alternative C will result in no deterioration of the good status. As with any development of this scale and nature there is potential for temporary negative impacts to surface water quality. During works to create infrastructure in the Coastal Infrastructure Zone and works to remediate the coal storage area and FGD landfill area, there is potential for disturbance and mobilisation of soils which could be accidentally released to the Shannon estuary causing an impact to water quality. During operation of a new ORE infrastructure there is also potential to have a negative impact on water quality through the accidental releases of pollutants from vessels and runoff from new hardstand areas. . It is noted that, as the proposed works will include a new purpose-built facility, it will be designed to fully incorporate the drainage and wastewater requirements of a commercial port to ensure that its operations will not result in a deterioration of WFD status in the local waterbodies. However, overall negative impacts have been assessed.

- **AQ, C&N:** Alternative C has potential to have an overall *positive* impact on AQ, C&N through the reduction of GHG emissions brought about by the move away from coal (from 2025) and oil fuelled electricity generation (ceasing in 2029) to zero carbon and near zero carbon generation (2029 onwards). Furthermore, the development of port infrastructure to facilitate the construction and deployment of offshore renewables will aid in the decarbonisation of the electricity generation sector. During construction and operation there is potential for negative impacts on GHG emissions and carbon footprint through the use of large volumes of concrete to construct the berthing and hardstand area and associated construction emissions associated with ORE. However, it is considered that the emissions associated with the construction phase of development will be offset by emission reductions during the operational phase of the development.

- **Air Quality:** During the construction and operation of Alternative C, there is the potential for temporary negative impacts to the local community. There is also the potential for negative impacts on to the local community as a result of higher noise and vibration levels.

- **AA&CH:** The Moneypoint site comprises of highly disturbed land, and the likelihood of discovering previously unknown archaeological features is considered low. However, any development in the marine environment has the potential to disturb any undiscovered underwater cultural heritage. Furthermore, the remediation of the Ash Storage Area also has the potential to disturb any undiscovered underwater cultural heritage. Overall Alternative C is likely to have an *uncertain* impact on cultural, archaeological, or architectural heritage as it is not currently possible to ascertain the level of impact that is likely to occur on marine cultural, archaeological, or architectural heritage. The collection and interpretation of geophysical data, side-scan sonar and bathymetry information as part of future developments will aid in minimising impacts or the possibility of destruction of any undiscovered heritage features in areas of heritage potential. However, as this data is not yet available, Alternative C has been assessed as having potential to have an *uncertain* impact on cultural, archaeological, or architectural heritage.

- **L&V:** Moneypoint is an established industrial site characterised by large-scale generation infrastructure set within a broad and open brownfield site, with associated shoreside activity. However, as it is not currently possible to ascertain the location, scale and type of new infrastructure on, near or offshore, Alternative C has potential to have an *uncertain* impact on landscape/seascape and visual amenities; and

- **MA:** Overall, Alternative C has potential to result in a *positive* impact to MA through the development of new low carbon thermal generation infrastructure and infrastructure to support the ORE industry. The excavation of the FGD landfill area also presents an opportunity for ESB to recover the waste FGD by product for beneficial reuse (subject to further assessment and EPA licencing).

7.3.5 Alternative D – GA Concept 3

When assessed against the SEOs and in the absence of mitigation, Alternative D has potential to have a positive impact on P&HH, MA and AQ, C&N. Reductions in GHG emissions are likely to be facilitated in this Alternative by the move away from coal (from 2025) and oil fuelled electricity generation (ceasing in 2029) to zero carbon and near zero carbon generation (2029 onwards). Alternative D will likely have an uncertain impact on L&V and AA&CH. Finally, Alternative D has potential to have a negative impact on BIO, WAT and L&S. A description of each environmental indicator when assessed against the SEOs is provided below:

- **P&HH:** Alternative D has potential to have a *positive* impact on P&HH. The levels of direct and indirect employment within the local community and wider area are likely to increase as a result of ORE hub activities during their construction and operation. The Moneypoint site will also continue to support energy supply and security across Ireland in this Alternative.

- **BIO:** Alternative D has potential to have a *negative* impact on BIO. There is potential for *negative* impacts to habitats/species within the Shannon Estuary as a result of development in the Coastal Infrastructure Zone. Where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V. However, the extent of negative impact in this Alternative is considered to be less significant than that of Alternative B and C as it will retain the Woodland Zone on site, which is of high ecological importance, and also will incorporate a new Buffer and Screening Zone within the site boundary. The Buffer and Screening Zones aim to minimise impacts to surrounding ecology and sensitive receptors, in so far as possible, to the northwest and east of the site.

- **L&S:** Alternative D has potential to result in *negative* impacts on L&S. Where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V. Substantial development will be occurring onshore and in the foreshore of the site. The Marine Energy Zone will likely include development of the ORE port and will be constrained by the existing topography of the site. To make the main site operationally feasible for use as an ORE port, the remediation of the coal storage area and FGD landfill area will likely require the mass excavation and movement of soils to create a reasonable flat area.

- **WAT:** Overall, Alternative D has potential to have a *negative* impacts on WAT. Although, the Lower Shannon Estuary currently has a 'good' WFD status – it cannot be ascertained at this time that the development as outlined Alternative D will result in no deterioration of the good status. As with any development of this scale and nature there is potential for temporary negative impacts to surface water quality. During works to create infrastructure in the coastal infrastructure zone and works to remediate the coal storage area and FGD landfill area, there is potential for disturbance and mobilisation of soils which could be accidentally released to the Shannon estuary causing an impact to water quality. During operation of a new ORE infrastructure there is also potential to have a negative impact on water quality through the accidental releases of pollutants from vessels and runoff from new hardstand areas. It is noted that, as the proposed works will include a new purpose-built facility, it will be designed to fully incorporate the drainage and waste water requirements of a commercial port to ensure that its operations will not result in a deterioration of WFD status in the local waterbodies. However, overall negative impacts have been assessed.

- **AQ, C&N:** Alternative D has potential to have an overall *positive* impact on AQ, C&N through the reduction of GHG emissions brought about by the move away from coal (from 2025) and oil fuelled electricity generation (ceasing in 2029) to zero carbon and near zero carbon generation (2029 onwards). Furthermore, the development of port infrastructure to facilitate the construction and deployment of offshore renewables will aid in the decarbonisation of the electricity generation sector. During construction and operation there is potential for negative impacts on GHG emissions and carbon footprint through the use of large volumes of concrete to construct the berthing and hardstand area and associated construction emissions associated with ORE. However, it is considered that the emissions associated with the construction phase of development will be offset by emission reductions during the operational phase of the development.

- **AQ, C&N:** During the construction and operation Alternative D, there is the potential for temporary negative impacts to the local community. There is also the potential for negative impacts on to the local community as a result of higher noise and vibration levels.

- **AA&CH:** The Moneypoint site comprises of highly disturbed land, and the likelihood of discovering previously unknown archaeological features is considered low. However, any development in the marine environment has the potential to disturb any undiscovered underwater cultural heritage. Overall Alternative D is likely to have an *uncertain* impact on cultural, archaeological, or architectural heritage as it is not currently possible to ascertain the level of impact that is likely to occur on marine cultural, archaeological, or architectural heritage. The collection and interpretation of geophysical data, side-scan sonar and bathymetry information as part of future developments will aid in minimising impacts or the possibility of destruction of any undiscovered heritage features in areas of heritage potential. However, as this data is not yet available, Alternative D has been assessed as having potential to have an *uncertain* impact on AA&CH.

- **L&V:** Moneypoint is an established industrial site characterised by large-scale generation infrastructure set within a broad and open brownfield site, with associated shoreside activity. However, as it is not currently possible to ascertain the location, scale and type of new infrastructure on, near or offshore, Alternative D has potential to have an *uncertain* impact on landscape/seascape and visual amenities; and

- **MA:** Overall, Alternative D has potential to result in a *positive* impact to MA through the development of new low carbon thermal generation infrastructure and infrastructure to support the ORE industry.

7.3.6 Alternative E – GA Concept 4

When assessed against the SEOs and in the absence of mitigation, Alternative E has potential to have a positive impact on P&HH, MA and AQ, C&N. Reductions in GHG emissions are likely to be facilitated in this Alternative by the move away from coal (from 2025) and oil fuelled electricity generation (ceasing in 2029) to zero carbon and near zero carbon generation (2029 onwards). Alternative E has potential to have an uncertain impact on L&V and AA&CH. Finally, Alternative E will likely have a negative impact on BIO, WAT and L&S. A description of each environmental indicator when assessed against the SEOs is provided below:

- **P&HH:** Alternative E has potential to have a *positive* impact on P&HH. The levels of direct and indirect employment within the local community and wider area are likely to increase as a result of ORE hub activities during their construction and operation. The Moneypoint site will also continue to support energy supply and security across Ireland in this Alternative.

- **BIO:** Alternative E has potential to have a *negative* impact on BIO. There is potential for *negative* impacts to habitats/species within the Shannon Estuary as a result of development in the Coastal Infrastructure Zone. Where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V. However, the extent of negative impact in this Alternative is considered to be less significant than that of Alternative B and C as it will retain the Woodland Zone on site, which is of high ecological importance, and also will incorporate a Buffer and Screening Zone within the site boundary. The Buffer and Screening Zones aim to minimise impacts to surrounding ecology and sensitive receptors, in so far as possible, to the northwest and east of the site.

- **L&S:** Alternative E has the potential to have *negative* impact on L&S. Where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V. Substantial development will be occurring onshore and in the foreshore of the site. The development of new energy storage and/or generation assets within the Industrial Zone will likely include the remediation and reuse of brownfield lands at its current profile negating the need for mass excavation.

- **WAT:** Overall, Alternative E has potential to have a *negative* impact on WAT. Although, the Lower Shannon Estuary currently has a 'good' WFD status – it cannot be ascertained at this time that the development as outlined Alternative E will result in no deterioration of the good status. As with any development of this scale and nature there is potential for temporary negative impacts to surface water quality. During works to create infrastructure in the CIZ and works to remediate the coal storage area and FGD landfill area, there is potential for disturbance and mobilisation of soils which could be accidentally released to the Shannon estuary causing an impact to water quality. During operation of new ORE infrastructure there is also potential to have a negative impact on water quality through the accidental releases of pollutants from vessels and runoff from new hardstand areas.

It is noted that, as this will be a new purpose-built facility, it will be designed to fully incorporate the drainage and waste water requirements of a commercial port to ensure that its operations will have not result in a deterioration of WFD status in the local waterbodies. However, overall negative impacts have been assessed.

- **AQ, C&N:** Alternative E has potential to have an overall *positive* impact on AQ, C&N through the reduction of GHG emissions brought about by the move away from coal (from 2025) and oil fuelled electricity generation (ceasing in 2029) to zero carbon and near zero carbon generation (2029 onwards). Furthermore, the development of port infrastructure to facilitate the construction and deployment of offshore renewables will aid in the decarbonisation of the electricity generation sector. During construction and operation there is potential for negative impacts on GHG emissions and carbon footprint through the use of large volumes of concrete to construct the berthing and hardstand area and associated construction emissions associated with ORE. However, it is considered that the emissions associated with the construction phase of development will be offset by emission reductions during the operational phase of the development.
- **AQ, C&N:** During the construction and operation of Alternative E, there is the potential for temporary negative impacts to the local community There is also the potential for negative impacts on to the local community as a result of higher noise and vibration levels.
- **AA&CH:** The Moneypoint site comprises of highly disturbed land, and the likelihood of discovering previously unknown archaeological features is considered low. However, any development in the marine environment has the potential to disturb any undiscovered underwater cultural heritage. Overall Alternative E has potential to have an *uncertain* impact on cultural, archaeological, or architectural heritage as it is not currently possible to ascertain the level of impact that is likely to occur on marine cultural, archaeological, or architectural heritage. The collection and interpretation of geophysical data, side-scan sonar and bathymetry information as part of future developments will aid in minimising impacts or the possibility of destruction of any undiscovered heritage features in areas of heritage potential. However, as this data is not yet available, Alternative E has been assessed as having potential to have an *uncertain* impact on AA&CH.
- **L&V:** Moneypoint is an established industrial site characterised by large-scale generation infrastructure set within a broad and open brownfield site, with associated shoreside activity. However, as it is not currently possible to ascertain the location, scale and type of new infrastructure on, near or offshore, Alternative E has potential to have an *uncertain* impact on landscape/seascape and visual amenities; and
- **MA:** Overall, Alternative E has potential to result in a *positive* impact to MA through the development of new low carbon thermal generation and electricity storage infrastructure and infrastructure to support the ORE industry.

7.3.7 Comparison of Alternatives – Conclusion

The following comparative conclusions have been drawn from the Alternatives assessment (as detailed in Section 7.3.1 to Section 7.3.6):

- From a construction (and associated impacts) point of view, Alternative A would be the preferred Alternative. However, Alternative A is not considered feasible as the transformation and redevelopment of Moneypoint Generating Station site is necessary in order to aid decarbonisation within the energy sector, meet Ireland climate targets and ensure the security of supply of energy for Ireland's future.
- From an environmental perspective it is considered that any changes to MEZ and IEZ (as outlined in Alternative B, C, D and E), General Development Zone and Brownfield Lands (as outlined in Alternative A) are not likely to result in substantial environmental degradation as the lands included in these areas are brownfield in nature. It is considered that where development will occur in greenfield areas (such as the woodland zone), more significant negative impacts are likely to occur, than when development is proposed on a brownfield site. Furthermore, any changes to the brownfield lands located northwest of the Moneypoint Generating Station site (Alternative A and Alternative B namely 'Brownfield lands', Alternative C namely 'IEZ' and Alternative D and E namely 'Buffer Zone', 'Ash Management Zone' and 'General Development Zone') are not likely to result in substantial environmental degradation as the lands included in these areas are also brownfield in nature.

- It is noted that Alternative A (Do Nothing Scenario) will not result in any development, whereas Alternatives B, C, D and E will result in substantial development and construction (both on and offshore). However, overall, it is considered that the positive operational impacts to air quality and climate, resulting from the redevelopment of the site, will offset any temporary and localised impacts that may occur from construction.
- It is noted that Alternative B will accommodate new connection points for offshore wind farms within the current vegetated Woodland Zone bounding onto the N67. Whereas, Alternatives A, C, D & E will retain the vegetated Woodland Zone on site, the mature woodland habitats are of high ecological value. Thus, Alternative B is likely to result in more significant negative effects, than that of Alternatives A, C, D and E; and
- All of the Alternatives will retain the Screening Zone located to the east of the site. Alternative D and E include both a Buffer Zone and the Screening Zone on site. Screening and Buffer Zones are considered to be positive from both a biodiversity, land/soils and air quality, climate and noise perspective, as they represent areas reserved from development.

Thus, in terms of preferred Scenario, Alternative D and E are considered to be the Preferred Scenarios for the GA Concept from an environmental perspective.

Although Alternative D and E will give rise to similar levels of development as Alternatives B and C, Alternative D and E will retain the vegetated Woodland Zone on site, include a Screening Zone (east of the site) and also include a Buffer Zone which surrounds the Ash Management Zone and the General Development Zones. There is further potential for positive impacts to ecology and surrounding sensitive receptors where both the Buffer Zone and Screening Zones are incorporated into the Moneypoint Generating Station site. Thus, it is considered that Alternative D and E are likely to result in less significant environmental degradation than that of Alternative C, D and E, and will aid decarbonisation and security of supply for energy across Ireland. However, in terms of overall preferred Scenario from a plan development perspective, Alternative E - GA Concept 4 was chosen.

8. Assessment of Significant Effects

8.1 Introduction

The approach used for assessing likely significant effects was objectives led. The assessment was primarily qualitative in nature, with some assessment based on expert judgement. This qualitative assessment compares the likely effects against the Strategic Environmental Objectives to see which recommendations of the GA Concept meet the Strategic Environmental Objectives and which, if any, contradict these.

Particular reference was made to the potential for cumulative effects in association with other relevant plans and programmes.

8.2 Assessment of Environmental Effects

The environmental effects of the GA Strategies recommendations were assessed with respect to the existing environmental baseline as outlined in Section 5 and the environmental objectives listed in Section 6. The assessment process categorises environmental effects using the ratings outlined in Table 8.1 which is based on the impact assessment criteria defined by the EPA for environmental impact assessment.

Table 8.1 SEA Significance criteria

Significance of Effects	
	Neutral
	Positive
	Negative
	Uncertain (Unknown or both positive and negative effects likely)

The potential environmental impact is assessed under the following headings:

- P&HH
- BIO
- L&S
- WAT
- AQ, C&N
- AA&CH
- L&V; and
- MA.

8.3 Principal Environmental Effects

As previously discussed, the GA Concept aims to enable the repurposing of the Moneypoint Generating Station site into a renewable energy hub and a strategic resource for the ORE sector, whilst also maintaining Moneypoint Generating Station as a strategically critical electricity generating location that it is at present.

The GA Concept sets out a single, spatial concept for the transformation of ESB's lands at Moneypoint Generating Station site and aims to provide an overall framework for the land's redevelopment in-line with this broader vision for the site. Furthermore, it enables individual projects to be seen in the context of this 'bigger picture' and wider land-use considerations for the Moneypoint Generating Station area. It is intended to engage stakeholders on ESB's plans for Moneypoint Generating Station site and also, to support individual project proposals and planning applications.

In order to provide an overall framework for the land's redevelopment in-line with this broader vision for the site, a number of principles guiding development have been included in the GA Concept, in relation to particular areas of the site and the identified, generalised land use activities suited to those locations. These indicative activity zones have been listed as follows:

- Coastal Infrastructure Zone
- Marine Energy Zone
- Industrial Energy Zone
- Transmission Asset Zone
- General Development Zone;
- Buffer Zone
- Ash Management Zone
- Screening Zone; and
- Woodland Zone.

Three drafts of the SEA ER were issued to ESB during the SEA process, the first draft included a number of recommendations of the SEA, for the consideration of ESB to incorporate into the GA Concept. Some recommendations included textual updates to principles and some included general clarifications.

One recommendation of the SEA was to incorporate a number of Overarching Principles (OPs) into the GA Concept. Some examples of OPs related to the appropriate environmental assessments being undertaken, having due regard to ecological, visual and flooding sensitivities in the area, amongst others, refer to Section 9.1.1 for the full list of OPs. ESB incorporated OPs from the SEA, AA and SFRA processes into the GA Concept. Nevertheless, the assessment[62] of the principles set out in the GA Concept, as detailed in Table 8.2, represents an assessment of the 'unmitigated' version of those principles- i.e. in the absence of the OPs being in place. This is to ensure that a worst-case scenario assessment is undertaken, and the appropriate mitigation measures are proposed alongside the OPs. The mitigation measures as outlined in Section 9.1 of this report, in combination with the OPs as outlined in the GA Concept, aim to mitigate any adverse effects that may result from the implementation of the GA Concept.

[62] This assessment also has regard for potential transboundary effects of the GA Strategy on the environment in Northern Ireland.

Table 8.2 Environmental Assessment of principles guiding development in the GA Concept.

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
Marine Energy Zone (MEZ): To be developed to facilitate onshore development associated with marine-related industries, the Moneypoint Hub Project and ORE developments in the maritime area.	MEZ1	ESB will develop these lands for activities relating to marine energy and associated industrial activity. While the primary focus will be on development associated with the construction and operation of the Moneypoint Hub – a strategic base for ORE; such developments may include large-scale energy users that require a location adjacent to estuarine/deep water; have a dependency on marine transport, transhipment, bulk cargo; or where the industrial processes benefit from a location adjacent to the marine area and/or proximity to a major energy generation hub. Development will be phased based on the availability of land, as existing uses e.g. FGD landfill area is remediated. Typical uses will include: • facilities utilising renewable energy in the production of alternative low-carbon / zero-carbon fuels such as hydrogen, ammonia, etc.; • construction yard – area for the fabrication and assembly of renewable energy technology infrastructure including fixed and floating foundations, etc.; • turbine laydown - storage of turbine elements (blades, nacelle, tower, mooring lines / anchors etc); • turbine assembly and integration – quayside area for the assembly of turbines and their integration on to floating platforms; and • ancillary laydown areas and compounds. It is noted that proposals for that facility will incorporate sufficient flexibility in design to future proof the site and ensure it remains a viable base for long-term operations, allowing for increased scale of deployed units etc. The ramp area near the jetty has been identified as vulnerable to coastal inundation. Land uses in this area will be demonstrably 'water compatible' in-line with the relevant Guidelines. Ancillary development may include: • supporting infrastructure – including control buildings, materials handling infrastructure such as concrete batching plant etc.; • operation and maintenance (O & M) functions for the ORE industry; • grid support services e.g., BESS units; • substation compound to facilitate offshore grid connection; • small scale, temporary generation facilities – such as those used for emergency generation; • areas of external electrical plant (small scale); • storage facilities (open air or enclosed); • lay down areas, car parking etc.; and • ancillary industrial activities.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
		SEA ER Comments: Positive long-term impacts on P&HH, AQ, C&N and MA are predicted as a result of the Marine Energy Zone outlined in this principle, all of which aim to aid the gradual decarbonisation of the Moneypoint Generating Station site and a continued and improved supply of energy across Ireland. This principle is likely to give rise to development, and, where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has also been prepared and has informed the GA Concept). However, as the boundary of this zone is located along the coastline, there may be potential for negative impacts on previously unknown/ unrecorded marine archaeology. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	MEZ2	All development proposals will have regard to the prevailing land use zoning of the site, and the visual and ecological sensitivity of the adjoining coastline, noting the proximity to a European site. As such, any development in this area will be required to demonstrate that it does not negatively impact on the conservation objectives of the adjoining Lower River Shannon SAC (site code 0002165) and River Shannon and River Fergus Estuaries SPA.								
		SEA ER Comments: Overall neutral impacts have been assessed for this principle. It is considered that this principle represents the existing baseline environment in that, all development proposals must comply with the prevailing land use zoning of the wider site and must demonstrate that development does not negatively impact upon the visual and ecological sensitivity of designated sites.								
	MEZ3	ESB, and third parties including EirGrid, may develop infrastructure e.g., underground export cables, onshore substation, serving ORE developments such as those ESB propose to develop, in this zone.								
		SEA ER Comments: Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aim to aid the gradual decarbonisation of the Moneypoint Generating Station site and a continued and improved supply of energy across Ireland. This principle is considered as likely to give rise to development, and, where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S and WAT. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as the boundary of this zone is located along the coastline, there may be potential for negative impacts on previously unknown/ unrecorded marine archaeology. Uncertain impacts have also been assessed for L&V as the type, scale and location of the potential development is currently unknown. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
	MEZ4	ESB will remediate brownfield lands, including the FGD landfill, in line with environmental licensing requirements and planning consents.								
	SEA ER Comments: Potential positive impacts have been assessed for BIO, L&S, WAT and L&V as a result of this principle, the remediation of these lands will aim to restore the quality of the brownfield lands. Otherwise, neutral impacts on P&HH, AQ, C&N, AA&CH and MA are predicted as a result of this principle.									
	MEZ5	ESB will manage the existing FGD landfill in accordance with the appropriate licences and consents. ESB will investigate the feasibility of developing this area, in scenarios where the landfilled FGD is removed, and where it is not.								
	SEA ER Comments: This principle represents a continuation of the existing environment at the existing FGD landfill area which is currently managed in accordance with appropriate licences and consents. For the purposes of this assessment, it is considered that 'investigating the feasibility of developing this area', in scenarios where the FGD is removed, and where it is not', will result in feasibility studies being undertaken and not development. Thus, overall neutral environmental impacts are identified for the purposes of this assessment.									
	MEZ6	In-line with the promotion of the circular economy, ESB will seek to realise the commercial value of landfilled FGD located to the east of the station. If feasible this will necessitate the excavation of the material and its export from the site for use or disposal, off-site, subject to consent. Such works would be carried out in-line with Waste Management Regulations.								
	SEA ER Comments: Overall, potential negative impacts have been identified for P&HH, BIO, L&S, WAT and AQ, C&N as a result of the likely impacts from excavation of materials. Excavation of landfilled material has the potential to result in negative impacts to surrounding P&HH and environmental components, particularly as a result of dust, leachate and or run-off. Transport emissions resulting from the removal of materials off site are also likely. Refer to Section 9.1 for mitigation measures. Neutral impacts are also anticipated for L&V. For the purposes of this assessment, it is considered that only excavations will be taking place, and no new, above ground infrastructure will be incorporated into this area. Overall, it is considered that there is potential for uncertain impacts on MA as a result of this principle, as there is potential for both positive and negative impacts associated with this principle and MA. Material excavation and export from the site for use or disposal, off-site has potential to cause capacity issues at waste disposal locations, however, also has potential for positive impacts if materials are reused. Overall, potential neutral impacts have been identified for AA&CH, as the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has also been prepared and has informed the GA Concept). It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.									
	MEZ7	Where FGD area exceeds capacity, alternative disposal capacity for FGD waste will be sought in favour of developing Landfill Area B to the west of the existing station.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
		SEA ER Comments: This principle is considered likely to result in an overall neutral impact. Seeking alternative disposal capacity for FGD waste, as outlined in this principle, is not likely to improve nor degrade the existing condition of BIO, L&S, WAT, AQ, C&N, AA&CH and L&V onsite. Thus, overall neutral environmental impacts are identified for the purposes of this assessment. It is considered that there is potential for uncertain impacts on MA, in that, seeking alternative disposal capacity for FGD waste has potential to cause capacity issues at waste disposal locations. As the location or type of alternative disposal capacity has not been specified, MA has been assessed as uncertain for the purposes of this assessment. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	MEZ8	Electrical infrastructure will not be located in proximity of the existing wind turbines and the met mast. All other development at these locations will be assessed having regard to the risk of conflicts arising.								
		SEA ER Comments: Potential positive impacts have been assessed for MA as a result of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy for electricity sources. For the purposes of this assessment, it is considered that this principle will ensure electrical infrastructure will not be located in proximity to wind turbines and net masts in order to establish there will be no interaction or disruption of services, relating to any upgrade or construction works. Thus, overall neutral impacts have been assessed for all other components related to this principle.								
	MEZ9	ESB will consider the removal or relocation of wind turbines and / or the met mast as necessary, where this would facilitate the broader scale development of the Moneypoint site for purposes associated with marine energy.								
		SEA ER Comments: Potential positive impacts have been assessed for P&HH and MA, as a result of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland. This principle is considered as likely to give rise to development particularly in the form of relocating wind turbines. Where any development is likely to occur, there is potential for negative environmental impacts, thus, BIO, L&S and WAT have been assessed as having potential for negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AQ, C&N, AA&CH, and L&V. This principle is considered likely to give rise to development, however, it is currently unknown what type, extent or location of development will be provided, removed, or reallocated as a result of this principle. Furthermore, while it is acknowledged that positive impacts are also likely for AQ, C&N in terms of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland, overall uncertain impacts have been assessed as a result of the short term impacts likely to occur from development. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
Coastal Infrastructure Zone (CIZ): To be managed and developed to maintain	CIZ1	ESB will seek to develop and enhance coastal infrastructure at the Moneypoint site to facilitate its development as a hub for the ORE industry. It is expected that new infrastructure will be required for the delivery of turbine elements, deployment of substructures, assembly of turbines and limited storage, at the quayside. This may require the removal of the existing jetty and the development of new quayside infrastructure including infilling/ land reclamation; and / or the repurposing of the existing jetty and barge landing facility for alternative uses.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
operations at the existing generating station and facilitate offshore development associated with the Moneypoint Hub Project		SEA ER Comments: Overall positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. However, with regards to MA, it is noted that there may be potential for negative impacts to occur on aquaculture where any development is likely to occur in the CIZ. Any development likely to occur in the CIZ must include an assessment of impacts on aquaculture in Shannon Estuary. This principle is considered as likely to give rise to development in immediate proximity to the Shannan Estuary which is designated as both and SAC and SPA. This principle is therefore likely to give rise to negative impacts on BIO, L&S, WAT and L&V. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone is located along the coastline and within ESB's privately held foreshore, there may be potential for negative impacts on previously unknown/ unrecorded marine archaeology. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	CIZ2	All development proposals will be developed having regard to the prevailing land use zoning of the wider site, the over-arching requirement to develop facilities to support the development of at-scale ORE development and the ecological sensitivity of the adjoining Shannon Estuary. Proposals will incorporate sufficient flexibility in design to future proof the site and ensure it remains a viable base for long-term operations. Any development in this area will be required to demonstrate that it does not negatively impact on the conservation objectives of the adjoining Lower River Shannon SAC (site code 0002165) and River Shannon and River Fergus Estuaries SPA, or that circumstances prevail whereupon consent can be granted having regard to broader considerations.								
		SEA ER Comments: Overall neutral impacts have been assessed for this principle. It is considered that this principle represents the existing baseline environment in that, all development proposals must comply with the prevailing land use zoning of the wider site and must demonstrate that development does not negatively impact upon designated sites.								
	CIZ3	ESB will work with other developers and operators in the Shannon Estuary, and wider coastal area, to develop additional support infrastructure including wet storage facilities, to meet the needs of the emerging ORE industry. The design and siting of any development in this zone will take cognisance of the visual and ecological sensitivity of the adjoining coastline, which includes the Lower River Shannon SAC (site code 0002165) and River Shannon and River Fergus Estuaries SPA.								
		SEA ER Comments: Overall, positive impacts on P&HH, AQ, C&N and MA are predicted as a result of this principle, all of which aim to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. However, with regards to MA, it is noted that there may be potential for negative impacts to occur on aquaculture where any development is likely to occur in the CIZ. Any development likely to occur in the CIZ must include an assessment of impacts on aquaculture in Shannon Estuary.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
	This principle is likely to give rise to development, and, where any development is likely to occur, there is potential for negative environmental impacts. Thus BIO, L&S, WAT and L&V have been assessed as likely to result in negative impacts. However, as this principle also aims to take cognisance of the visual and ecological sensitivity of the adjoining coastline, it is considered that there is potential to reduce and/or avoid the full extent of negative impacts identified on BIO, WAT and L&V. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Potential uncertain impacts have been identified for L&V and AA&CH. The Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone is located along the coastline and within ESB's privately held foreshore, there may be potential for negative impacts on previously unknown/ unrecorded marine archaeology. As no details have been provided on the location, extent, or scale of development likely to take place from this principle, potential uncertain impacts have been identified for L&V. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	CIZ4	All works will be planned and carried out having regard to the requirements to avoid impacts on the 220kV and 400kV underground cables (UGCs) – with planned re-routing of such services where required.								
	SEA ER Comments: This principle represents the existing situation regarding requirements to avoid impacts on the 220kV and 400kV UGCs. Thus, an overall neutral environmental impact is identified. A likely positive impact on P&HH and on MA is identified however, as this principle is seeking to avoid unplanned energy service disruption.									
	CIZ5	Electrical infrastructure will not be located in proximity of the existing wind turbines located in the adjacent Marine Energy Zone. All other development at these locations will be assessed having regard to the risk of impacts arising.								
	SEA ER Comments: Overall, potential positive impacts have been assessed for P&HH and MA, as a result of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland. However, with regards to MA, it is noted that there may be potential for negative impacts to occur on aquaculture where any development is likely to occur in the CIZ. Any development likely to occur in the CIZ must include an assessment of impacts on aquaculture in Shannon Estuary. This principle is considered as likely to give rise to development, where any development is likely to occur, there is potential for negative environmental impacts, thus, BIO, L&S and WAT have been assessed as having potential for negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AQ, C&N, AA&CH, and L&V. This principle is considered likely to give rise to development, however, it is currently unknown what type, extent or location of development will be provided, removed, or reallocated as a result of this principle. Furthermore, while it is acknowledged that positive impacts are also likely for AQ, C&N in terms of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland, overall uncertain impacts have been assessed as a result of the short term impacts likely to occur from development. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.									
	CIZ 6	ESB will consider the removal or relocation of the wind turbine where such a proposal would facilitate the broader scale development of the site for purposes associated with marine energy.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
	SEA ER Comments: Overall, potential positive impacts have been assessed for P&HH and MA, as a result of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland. However, with regards to MA, it is noted that there may be potential for negative impacts to occur on aquaculture where any development is likely to occur in the CIZ. Any development likely to occur in the CIZ must include an assessment of impacts on aquaculture in Shannon Estuary. This principle is considered as likely to give rise to development particularly in the form of relocating wind turbines. Where any development is likely to occur, there is potential for negative environmental impacts, thus, BIO, L&S and WAT have been assessed as having potential for negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AQ, C&N, AA&CH, and L&V. This principle is considered likely to give rise to development, however, it is currently unknown what type, extent or location of development will be provided, removed, or reallocated as a result of this principle. Furthermore, while it is acknowledged that positive impacts are also likely for AQ, C&N in terms of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland, overall uncertain impacts have been assessed as a result of the short term impacts likely to occur from development. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	CIZ7	All developments within the maritime area will be assessed to identify - and where possible, mitigate against, impacts on marine archaeology.								
	SEA ER Comments: Overall, neutral impacts have been assessed as likely to occur as a result of this principle. Positive impacts have been assessed for AA&CH as this principle aims to protect and where possible, mitigate against, impacts on marine archaeology.									
	CIZ8	ESB may develop infrastructure serving the ORE developments e.g. underground export cables, substations, in this zone.								
	SEA ER Comments: Overall, positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. However, with regards to MA, it is noted that there may be potential for negative impacts to occur on aquaculture where any development is likely to occur in the CIZ. Any development likely to occur in the CIZ must include an assessment of impacts on aquaculture in Shannon Estuary. This principle is considered as likely to give rise to development, and, where any development is likely to occur, there is potential for negative environmental impacts. Thus BIO, L&S and WAT have been assessed as likely to result in negative impacts. Refer to Section9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone is located along the coastline and within ESB's privately held foreshore, there may be potential for negative impacts on previously unknown/ unrecorded marine archaeology. Uncertain impacts have also been assessed for L&V as the type, scale and location of the potential development is currently unknown. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.									

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
	CIZ9	Having regard to broader proposals for the development of additional undersea cables, international electricity interconnectors and two-way gas pipelines within the Shannon Estuary, it is acknowledged that this zone may be developed to accommodate such strategic infrastructure.								
	SEA ER Comments: Overall, positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. However, with regards to MA, it is noted that there may be potential for negative impacts to occur on aquaculture where any development is likely to occur in the CIZ. Any development likely to occur in the CIZ must include an assessment of impacts on aquaculture in Shannon Estuary. This principle is considered as likely to give rise to substantial development, and, where any development is likely to occur, there is potential for negative environmental impacts, negative impacts have been assessed for BIO, L&S and WAT, particularly within the marine setting. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone is located along the coastline and within ESB's privately held foreshore, and this principle mentions undersea cables and international interconnectors, there may be potential for negative impacts on previously unknown/ unrecorded marine archaeology. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.									
Industrial Energy Zone (IEZ): To be developed to facilitate continued large scale electricity generation	IEZ1	ESB will continue to operate the existing Moneypoint generating station in-line with all consents and licences, supporting the energy security of the Region and the State.								
	SEA ER Comments: This principle represents a continuation of the existing environment at the Moneypoint Generating Station and is thus likely to result in an overall neutral environmental effect. Potential positive impacts have been assessed for P&HH as a result of this principle supporting the energy security of the Region and the State.									
	IEZ2	ESB will develop these lands for activities relating to energy generation and associated industrial activity. Given the strategic importance of Moneypoint as a generation asset, the development of this zone will be phased and Moneypoint 'repowered' with the introduction of energy storage, development of new generation capacity and the introduction of new thermal technologies, to ensure the site continues to support energy security. Ancillary developments in the area may include: • supporting infrastructure – including control buildings, materials handling infrastructure such as concrete batching plant etc., • energy and fuel storage, • grid support services, • substation compound and areas of external electrical plant • small scale, temporary generation facilities – such as those used for emergency generation • storage facilities (open air or enclosed), • lay down areas, car parking etc., and									

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
		• ancillary industrial activities. The ramp area near the jetty has been identified as vulnerable to coastal inundation. Land uses in this area will be demonstrably 'water compatible' in-line with the relevant Guidelines.								
	SEA ER Comments: Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site, whilst ensuring the Station continues to support energy security. This principle is likely to give rise to development, and, where any development is likely to occur, there is potential for negative environmental impacts on BIO, L&S, WAT, and L&V. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Potential neutral impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land and the IEZ in particular is a brownfield area, thus the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	IEZ3	ESB will manage and develop this zone to accommodate large-scale electricity generation, and all associated above and below ground infrastructure. It is envisaged that, over time, these operations will transition the site to a low- and zero carbon operating profile, in-line with the strategic objectives of ESB.								
	SEA ER Comments: Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. This principle is considered as likely to give rise to development, and where any development is likely to occur, there is potential for negative environmental impacts. Thus BIO, L&S, WAT and L&V have been assessed as likely to result in negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Potential neutral impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land and the IEZ in particular is a brownfield area, thus the likelihood of is covering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	IEZ4	ESB will examine the feasibility of repurposing all, or part of, the existing generating station, where such proposals align with ESB's corporate commitments to decarbonise electricity generation activities, in support of national and international targets.								
	SEA ER Comments: This principle represents the potential for the repurposing of the existing Generating Station at the Moneypoint Generating Station site which is a brownfield site. Thus, this principle is likely to result in overall neutral environmental impact. Potential positive impacts have been assessed for P&HH, AQ, C&N and MA. There is potential for increased employment and economic activity, potential for full or partial decarbonisation of electricity generation onsite and, an improved supply of energy through improved and/or repurposed electricity generation infrastructure and additional facilities onsite.									

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
	IEZ5	ESB will seek the wholesale replacement of structures on this site to facilitate the introduction of increasingly lower carbon technology, transitioning over time to alternative low and zero carbon fuels, such as green hydrogen and ammonia, and ensuring Moneypoint continues to operate as a strategic asset in Ireland's energy system.								
	SEA ER Comments: Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of this principle, as it aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improve supply of energy. This principle is likely to give rise to development, and, where any development is likely to occur, there is potential for negative environmental impacts. However, as the type and scale of development likely to occur as a result of this objective is currently unknown, BIO, L&S and WAT have been assessed as uncertain for the purposes of this assessment. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential neutral impacts have also been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land and the IEZ in particular is a brownfield area, thus, the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). Uncertain impacts have been assessed for L&V as the type, scale and location of the potential development is currently unknown. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	IEZ6	All development proposals will be developed having regard to the prevailing land use zoning of the site, and the visual and ecological sensitivity of the adjoining coastline. Any development in this area will be required to demonstrate that it does not negatively impact on the conservation objectives of the adjoining Lower River Shannon SAC (site code 0002165) and River Shannon and River Fergus Estuaries SPA.								
	SEA ER Comments: Overall neutral impacts have been assessed for this principle. It is considered that this principle represents the existing baseline environment in that, all development proposals must comply with the prevailing land use zoning of the wider site and must demonstrate that development does not negatively impact upon the visual and ecological sensitivity of designated sites.									
	IEZ7	All works will be planned and carried out having regard to the requirements to avoid impacts on the 220kV and 400kV UGCs and extensive water and drainage networks – with planned re-routing of such services where required.								
	SEA ER Comments: Positive impacts on P&HH and MA are predicted as a result of the provision of improved facilities and supporting infrastructure that will aid the production and supply of renewable energy for electricity sources. Overall, potential neutral impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land and the IEZ in particular is a brownfield area, thus, the likelihood of discovering previously unknown archaeological features is low within this zone (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER. Otherwise, neutral impacts have been assessed for this principle.									

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
Ash Management Zone (AMZ): To be managed appropriately with any new development having regard to the sensitivities of the area.	AMZ1	ESB will manage this zone in accordance with the appropriate licences and consents.								
	SEA ER Comments: Overall neutral impacts have been assessed for this principle. For the purposes of this assessment, it is considered that managing this zone in accordance with the appropriate licences and consents is representative of maintaining the existing environmental baseline conditions.									
	AMZ2	ESB will continue to utilise the ASA for the storage of ash and/or FGD, seeking revised consents and licences, as required.								
	SEA ER Comments: This principle represents a continuation of the existing environment and is thus likely to result in overall neutral environmental impact.									
	AMZ3	Where landfilled material remains in situ, the existing landfill will be managed, capped, and ultimately decommissioned in-line with the requirements of the Decommissioning Management Plan (DMP) and Closure, Restoration and Aftercare Management Plan (CRAMP).								
	SEA ER Comments: Overall neutral impacts have been assessed as likely to occur where the landfill at Moneypoint will be managed, capped, and decommissioned in-line with the requirements of the DMP and CRAMP.									
	AMZ4	Where landfilled material is removed, or the site otherwise engineered to accommodate new development, ESB may develop this area to accommodate development ancillary to the primary activities of the main site, such as: • generation activity • supporting services and infrastructure – including control buildings, modules etc, • areas of external electrical plant, • storage facilities (open air or enclosed), • lay down areas, car parking etc.								
	SEA ER Comments: Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. This principle is likely to give rise to development, and there is, as such, potential for negative environmental impacts on BIO, L&S, WAT and L&V. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites.									

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
	Potential neutral impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land and the IEZ in particular is a brownfield area, thus the likelihood of is covering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.									
	AMZ5	Any new development within this zone will be subject of robust environmental assessment to confirm that it does not impact on the on-going management of the capped landfill. Specifically, a detailed Hydrogeological Risk Assessment will be prepared and a construction methodology submitted to the EPA for approval, in advance of works being permitted or commenced.								
	SEA ER Comments: Overall neutral impacts are anticipated for this principle. For the purposes of this assessment, it is considered that this principle aims to ensure no impacts occur to the on-going management of the capped landfill and so, it is considered that this principle represents a continuation of the current environmental baseline.									
	AMZ6	ESB will seek to realise the re-use of the landfilled material at the ASA and to remediate this part of the site rendering it suitable for new development. If feasible, this will necessitate the excavation of the material and its export from the site for use or disposal off-site, subject to consent. Such works would be carried out in-line with Waste Management Regulations.								
	SEA ER Comments: Overall, potential uncertain impacts have been identified for P&HH, BIO, L&S, WAT and AQ, C&N as there is potential for both positive and negative impacts associated with this principle and these environmental components. The remediation of the site is positive as it will aim to restore environmental quality on the brownfield land. However, excavation of material has the potential to result in negative impacts on surrounding P&HH and environmental components, particularly as a result of dust, leachate and or run-off. Transport emissions resulting from the removal of materials off site are also likely. It is also considered that there is potential for uncertain impacts on MA as a result of this principle, as there is potential for both positive and negative impacts associated with this principle and MA. Material excavation and export from the site for use or disposal, off-site has potential to cause capacity issues at waste disposal locations, however, also has potential for positive impacts if materials are reused. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER. Potential neutral impacts have been identified for AA&CH, as the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has also been prepared and has informed the GA Concept). Finally, although there is potential for negative impacts to occur on AQ, C&N as a result of the excavation of materials, overall, it is considered that this principle will aid the gradual decarbonisation of the Moneypoint Generating Station site and improve supply of energy during operation. Thus, it is considered that the positive operational impacts for climate will offset any temporary or localised construction impacts.									
	AMZ7	Where new development is located on the ASA lands, the scale of new development will be appropriate to the location and setting. The transition between any new development and adjoining agricultural areas will be managed and the sensitivity of views from the N67 and the coast considered in project design. Screen planting will be incorporated into development proposals, as appropriate.								
	SEA ER Comments: Positive impacts on L&V are predicted as a result of this principle, where the scale of new development will be appropriate to the location and setting as well as the sensitivity of views from the N67 and the coast. Otherwise, overall neutral impacts have been assessed for P&HH, AQ, C&N, AA&CH and MA. The incorporation of screen planting has potential to reduce noise impacts on and surrounding the site and increased tree planting is likely to positively impact AQ.									

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
	Neutral impacts are also anticipated for BIO as this location is a brownfield site, consisting of FGD by-product landfill and so, it is considered that this area is likely to be near devoid of biodiversity, thus minimum impacts are likely. This principle is considered likely to give rise to development, where any development is likely to occur, there is potential for negative environmental impacts. Thus L&S and WAT have been assessed as likely to result in negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential neutral impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). Neutral impacts were also assessed as likely for MA. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	AMZ8	Electrical infrastructure will not be located in proximity of the existing wind turbine. All other development at these locations will be assessed having regard to the risk of impacts arising.								
	SEA ER Comments: Potential positive impacts have been assessed for P&HH and MA, as abas a result of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland. This principle is considered as likely to give rise to development, where any development is likely to occur, there is potential for negative environmental impacts, thus, BIO, L&S and WAT have been assessed as having potential for negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AQ, C&N, AA&CH, and L&V. This principle is considered likely to give rise to development, however, it is currently unknown what type, extent or location of development will be provided, removed, or reallocated as a result of this principle. Furthermore, while it is acknowledged that positive impacts are also likely for AQ, C&N in terms of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland, overall uncertain impacts have been assessed as a result of the short term impacts likely to occur from development. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	AMZ9	ESB will consider the removal or relocation of the wind turbine where such a proposal would facilitate the broader scale development of the site for purposes associated with marine energy.								
	SEA ER Comments: Potential positive impacts have been assessed for P&HH and MA, as a result of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland. This principle is likely to give rise to development particularly in the form of relocating wind turbines. Where any development is likely to occur, there is potential for negative environmental impacts, thus, BIO, L&S and WAT have been assessed as having potential for negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AQ, C&N, AA&CH, and L&V. This principle is considered likely to give rise to development, however, it is currently unknown what type, extent or location of development will be provided, removed, or reallocated as a result of this principle. Furthermore, while it is acknowledged that positive impacts are also likely for AQ, C&N in terms of the provision of improved facilities and supporting infrastructure that will aid the production of renewable energy, and a continued and improved supply of energy across Ireland, overall uncertain impacts have been assessed as a result of the short term impacts likely to occur from development. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
General Development Zone (GDZ): To accommodate general development, of a relatively small scale.	GDZ1	These lands lie outside the engineered landfill. ESB may develop these to accommodate relatively small-scale development ancillary to the primary activities of the main site, such as: • supporting services and infrastructure – including control buildings, modules etc.; • areas of external electrical plant; • storage facilities (open air or enclosed); and • lay down areas, car parking etc.								
	SEA ER Comments: Overall negative impacts have been assessed as a result of the location of this principle. Refer to Section 9.1 for mitigation measures. The GDZ predominantly consists of greenfield land and includes areas of extensive tree cover. Any development that will take place in this zone has been assessed as likely to result in negative environmental impacts. The impacts are likely to be of a greater extent than development that will take place on brownfield site. Thus BIO, L&S and WAT have been assessed as likely to result in negative impacts. L&V has also been identified as likely to result in negative impacts, given the uncertainty of the type, location, and scale of development that may be likely to occur and considering its proximity to neighbouring dwellings. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Positive impacts on P&HH are predicted as a result of the developments outlined in this principle, all of which aim to facilitate an improved supply of energy. Potential uncertain impacts are however anticipated for AQ, C&N, and MA, in that, it is considered the developments proposed in this principle may not be directly linked to the production and supply of renewable energy on site. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone is predominantly greenfield in nature, there may be potential for negative impacts on previously unknown/ unrecorded archaeology. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	GDZ2	The scale of any new development will be appropriate to the location and setting. The transition between any new development and adjoining agricultural areas will be managed and the sensitivity of views from the N67 considered in project design. Screen planting will be incorporated into development proposals, as appropriate.								
	SEA ER Comments:									

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
		The GDZ predominantly consists of greenfield land and includes areas of tree cover. Any development that will take place in this zone has been assessed as likely to result in negative environmental impacts. The impacts are likely to be of a greater extent than development that will take place on brownfield site. Thus BIO, L&S and WAT have been assessed as likely to result in negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Positive impacts on P&HH and AQ, C&N are predicted as a result of this principle. Potential positive impacts have been identified for L&V in that, the sensitivity of views from the N67 and the coast will be considered during project design. The incorporation of screen planting will reduce the potential for L&V impacts to arise as a result of his principle. Screening also has potential to reduce noise impacts on and surrounding the site. Neutral impacts have been assessed as likely to occur for MA. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone is predominantly greenfield in nature, there may be potential for negative impacts on previously unknown/ unrecorded archaeology. Potential neutral impacts have been assessed for MA. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	GDZ3	ESB may develop infrastructure e.g. underground cables, substations, serving the ORE developments in this zone.								
		SEA ER Comments: Overall negative impacts have been assessed as a result of the location of this principle. The GDZ predominantly consists of greenfield land and includes areas of tree cover. Any development that will take place in this zone has been assessed as likely to result in negative environmental impacts. The impacts are likely to be of a greater extent than development that will take place on brownfield site. Thus BIO, L&S and WAT have been assessed as likely to result in negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone is predominantly greenfield in nature, and this principle relates to serving the ORE developments such as Moneypoint Offshore Wind, there may be potential for negative impacts on previously unknown/ unrecorded marine/land-based archaeology. Uncertain impacts are likely for L&V. However, principle GDZ2 is acknowledged within this principle and it is therefore considered that any negative impacts on L&V are likely to be offset. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
Buffer Zone (BZ): To accommodate small scale, low-level	BZ1	These lands will accommodate small-scale, low-level development to ensure they do not have a disproportionate visual impact on adjoining agricultural lands and the adjoining coastal zone.								
		SEA ER Comments: Overall negative impacts have been assessed as a result of the location of this principle. Refer to Section 9.1 for mitigation measures. The BZ predominantly consists of greenfield land and includes areas of tree cover. Any development that will take place in this zone has been assessed as likely to result in negative environmental impacts. The								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
development to manage the transition between industrial and greenfield lands	impacts are likely to be of a greater extent than development that will take place on brownfield site. Thus BIO, L&S and WAT have been assessed as likely to result in negative impacts. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Positive impacts on P&HH are predicted as a result of the developments outlined in this principle, all of which aim to facilitate an improved supply of energy. Potential uncertain impacts are however anticipated for AQ, C&N, and MA, in that, the type, location, and scale of development likely to occur is currently unknown. As a result, it is unknown whether or not the developments proposed in this principle will be directly linked to the production and supply of renewable energy on site or not. Neutral impacts have been assessed L&V as a result of the principle. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone contains areas of greenfield land, there may be potential for negative impacts on previously unknown/ unrecorded archaeology. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	BZ2	New development within the buffer zone around the ASA will be sited having regard to the ecological value of the dense oak-dominated immature woodland located to the north of the ASA. The coastal side of the buffer area (and adjacent section of the N67) has been identified as being potentially vulnerable to coastal inundation. Land uses in this area will be demonstrably 'less vulnerable' or 'water compatible' in-line with the relevant Guidelines.								
	SEA ER Comments: Positive impacts on P&HH are predicted as a result of the developments outlined in this principle, all of which aim to facilitate an improved supply of energy. This principle is considered as likely to give rise to development in immediate proximity to the Shannan Estuary which is designated as both and SAC and SPA. This principle is therefore likely to give rise to negative impacts on environmental components such as L&S and WAT. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. For the purposes of this assessment BIO has been assessed as having potential uncertain impacts. It is unclear what 'having regard to the ecological value of the dense oak-dominated immature woodland located to the north of the ASA' will entail for development. It is considered that there is potential for negative impacts to occur on surrounding BIO as the site is in such close proximity to sensitive sites. For the purposes of this assessment potential neutral impacts have been assessed for L&V having regard to principle BZ1. Potential uncertain impacts are however anticipated for AQ, C&N, and MA, in that, the type, location, and scale of development likely to occur is currently unknown. As a result, it is unknown whether or not the developments proposed in this principle will be directly linked to the production and supply of renewable energy on site or not. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone contains areas of greenfield land, there may be potential for negative impacts on previously unknown/ unrecorded archaeology. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	BZ3	The protected earthwork to the north of the ASA will be protected *in situ*. Development will generally not be located within 30m of that feature. A suitably qualified archaeologist will be engaged to assess the impact of any works in this area on that monument. It is understood that it may be permissible to install underground services e.g. cables, in this area where it can be demonstrated that their works will have no direct impact on the monument.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
		SEA ER Comments: Overall negative impacts have been assessed as a result of the location of this principle. Refer to Section 9.1 for mitigation measures. The BZ predominantly consists of greenfield land and includes areas of tree cover. Any development, including the installation of underground cables, that will take place in this zone has been assessed as likely to result in negative environmental impacts. The impacts are likely to be of a greater extent than development that will take place on brownfield site. Thus BIO, L&S and WAT have been assessed as likely to result in negative impacts. Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. For the purposes of this assessment potential neutral impacts have been assessed for L&V having regard to principle BZ1. Potential neutral impacts have also been identified for AA&CH. A suitably qualified archaeologist will be retained to assess the impact of any works in this area on that monument and the Moneypoint Generating Station site comprises highly disturbed land that has been subject to a detailed assessment of the cultural heritage potential of the site which was prepared and has informed the GA Concept. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
	BZ4	ESB may develop infrastructure serving ORE developments - e.g. underground export cables, substations, in this zone.								
		SEA ER Comments: The BZ predominantly consists of greenfield land and includes areas of tree cover. Any development that will take place in this zone has been assessed as likely to result in negative environmental impacts. The impacts are likely to be of a greater extent than development that will take place on brownfield site. Thus BIO, L&S and WAT have been assessed as likely to result in negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aim to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. For the purposes of this assessment potential neutral impacts have been assessed for L&V having regard to principle BZ1. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone contains areas of greenfield land, and this principle relates to serving the ORE developments, there may be potential for negative impacts on previously unknown/ unrecorded marine/ land-based archaeology. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.								
Transmission Asset Zone (TAZ): To be maintained and developed to	TAZ1	ESB recognises the importance of Moneypoint as a strategic node in the transmission network These lands will be maintained to enhance transmission infrastructure.								
		SEA ER Comments: Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aim to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
protect and enhance electricity transmission assets	Otherwise, this principle relates to an area of brownfield land and represents a continuation of the existing environment at Moneypoint Generating Station and is thus likely to result in overall neutral environmental impact.									
	TAZ2	ESB may develop infrastructure e.g., underground export cable, substation, serving the ORE developments such as Moneypoint 1 and 2 Offshore Wind, in this zone.								
	SEA ER Comments: Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. This principle is considered as likely to give rise to development, where any development is likely to occur, there is potential for negative environmental impacts. However, for the purposes of this assessment BIO, L&S and WAT have been assessed as having potential for uncertain impacts. This zone is located further inland than other zones onsite and so, developments occurring in this area will not be located in as close proximity to the sensitive coastline. Furthermore, it is currently unknown what development will take place. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone contains areas of greenfield land, and this principle relates to serving the ORE developments, there may be potential for negative impacts on previously unknown/ unrecorded marine/ land-based archaeology. Uncertain impacts have also been assessed for L&V as the type, scale and location of the potential development is currently unknown. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.									
Screening Zone (SZ): To be maintained and developed to protect underground services and provide visual screening	SZ1	This site accommodates existing and proposed strategic cables. The route of these cables will be maintained, as required.								
	SEA ER Comments: Overall negative impacts have been assessed as a result of the location of this principle. The SZ predominantly consists of greenfield land and includes areas of dense tree cover. Any development that will take place in this zone has been assessed as likely to result in negative environmental impacts, the impacts are likely to be of a greater extent than development that will take place on brownfield site. Thus BIO, L&S, WAT and L&V have been assessed as likely to result in negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Positive impacts on P&HH, AQ, C&N and MA are predicted as a result of the developments outlined in this principle, all of which aims to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. For the purposes of this assessment, it is anticipated that only underground works will be taking place and so, neutral impacts have been assessed for L&V. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed GA Concept). However, as this zone is predominantly greenfield in nature, there may be potential for negative impacts on previously unknown/ unrecorded archaeology. It is a recommendation of this SEA ER that this principle incorporates the mitigation measures in Section 9 of SEA ER.									
	SZ2	Existing berms provide screening between the coal fields and adjoining agricultural lands – noting the significant change in levels due to the excavations undertaken to create the coalfields. These will be retained and incorporated into future layouts to manage interactions between the site and adjoining land users.								

Zone & Use	Principle reference number:	Principle Guiding Development	P&HH	Bio	L&S	Wat	AQ,C&N	AA&CH	L&V	MA
	SEA ER Comments: This principle represents a continuation of the existing berms onsite and is thus likely to result in overall neutral environmental impact.									
The Woodland Zone (WZ): To protect existing woodland and provide a visual buffer between the site and the N67.	WZ1	The protected mature woodland will be maintained free from development to ensure it is retained as a visual and ecological asset on the site.								
	SEA ER Comments: Overall positive impacts are assessed for this principle. Protecting the mature woodland onsite and maintaining it free from development, to ensure it is retained as a visual and ecological asset on the site will result in positive impacts on P&HH, BIO, L&S, WAT, AQ, C&N. Otherwise neutral impacts have been assessed for AA&CH, L&V and MA.									
	WZ2	The remaining lands immediately south of the N67 may accommodate small scale development, where they demonstrably do not impact on the ecological integrity of the woodland or the visual amenity of the N67.								
	SEA ER Comments: Overall negative impacts have been assessed as a result of the location of this principle. The WZ predominantly consists of greenfield land and includes areas of dense tree cover. Any development that will take place in this zone has been assessed as likely to result in negative environmental impacts. The impacts are likely to be of a greater extent than development that will take place on brownfield site. Thus BIO, L&S and WAT have been assessed as likely to result in negative impacts. Refer to Section 9.1 for mitigation measures. Any development likely to occur as a result of the GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Positive impacts on P&HH, AQ, C&N, L&V and MA are predicted as a result of the developments outlined in this principle, all of which aim to aid the gradual decarbonisation of the Moneypoint Generating Station site and improved supply of energy. As a result of any development facilitated by this principle being small scale development, it is anticipated that minimal impacts will be had on L&V. Overall, potential uncertain impacts have been identified for AA&CH, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept). However, as this zone is greenfield in nature, there may be potential for negative impacts on previously unknown/ unrecorded archaeology. It is a recommendation of this ER SEA that this principle incorporates the mitigation measures in Section 9 of SEA ER.									

8.4 Summary of Principle Environmental Effects Identified

The principles in the GA Concept were assessed with respect to the existing environmental baseline and the environmental objectives, indicators, and targets.

The principles included in the GA Concept were developed as a means to repurpose Moneypoint Generating Station site into a renewable energy hub and a strategic resource for the ORE sector, as a result the environmental assessment outcomes are generally positive, or neutral in relation to AQ, C&N, P&HH and MA.

Overall, potential for positive impacts were identified with regards to MA and P&HH due to the gradual decarbonisation of the Moneypoint Generating Station site and the promotion of a continued and improved supply of energy across Ireland. However, with regards to MA, it is noted that there may be potential for negative impacts to occur on aquaculture where any development is likely to occur in the CIZ. Any development likely to occur in the CIZ must include an assessment of impacts on aquaculture in Shannon Estuary.

Predominantly positive impacts have been assessed as likely to occur for AQ, C&N. There is potential for negative impacts on Air, Climate and Noise during any construction works required to implement the GA Concept. However, predominantly positive ratings were predicted for Air, Climate and Noise as a result of facilitating a gradual reduction and phasing out of coal and oil fired electricity generation through the GA Concept.

In order to achieve the gradual decarbonisation of the Moneypoint Generating Station site, substantial development and construction will be necessary. Thus, potential for negative impacts have been identified for BIO, WAT and L&S in all principles that relate to development. It was noted throughout the assessment of effects that, where development will be taking place in zones of greenfield sites (e.g., the GDZ, BZ, SZ and WZ), more significant negative impacts are likely to occur, than when development is proposed on a brownfield site (e.g., the MEZ, CIZ, IEZ and AMZ).

With regards to AA&CH, neutral and uncertain impacts are anticipated across the principles. Overall neutral impacts are likely to occur in that, the Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low. Furthermore, a detailed assessment of the cultural heritage potential of the site was also prepared and informed the GA Concept, refer to Appendix A.6. However, negative impacts were also identified where development is proposed in zones that are predominantly greenfield in nature and where principles propose development in or along the Coastal Infrastructure Zone, as there may be potential for negative impacts on previously unknown/ unrecorded marine archaeology.

Predominantly neutral impacts have been assessed as likely to occur for L&V. There is potential for negative impacts on L&V where development is likely to occur, especially where development is likely to be large scale in nature. Potential for uncertain impacts were also assessed where the type, scale and location of the potential development is currently unknown.

Predominantly positive and neutral impacts were identified for principles that describe the appropriate development that will take place having regard to ecological, visual, or heritage-based sensitivity, and managing the site/zones in accordance with the appropriate licences and consents.

Neutral impacts were assessed across principles that represent a continuation of the existing environment.

8.5 Cumulative Effects

Cumulative effects are those that arise when the effects of the implementation of a plan or project to occur in combination with those of other plans or projects. Cumulative effects can be described as the addition of many small impacts to create one larger, more significant, impact.

To implement the principles of the GA Concept, a range of individual project proposals and planning applications related to ESB's Moneypoint Generating Station site would be required. Each of these should be subject to cumulative assessment at project level, as necessary, to determine whether the subject project is likely to give rise to cumulative effects with other proposed or existing projects. However, it is thought that

the mitigation measures outlined in Section 9 of this report will assist in the reduction or avoidance of cumulative environmental effects.

The two types of potential cumulative effects that have been considered throughout this assessment are:

- Potential Intra-Plan cumulative effects, which arise from the interactions between different types of potential environmental effects resulting from a plan, programme, or policy where there are elevated levels of environmental sensitivities.

  Environmental sensitivities have been identified in Section 5 of this SEA ER to inform whether future development could potentially result in environmental conflicts and lead to a deterioration in environmental quality. The interrelationships between environmental components that help determine these potential effects are identified in Table 8.3 below; and

- Potential Inter-Plan cumulative effects arise when the effects of the implementation of one plan occur in combination with those of other plans, programmes, developments, etc. Other policies, plans and programmes, as outlined in Section 3 and Appendix A.2 have therefore been considered for their potential to give rise to potential cumulative effects with the GA Concept.

Within the GA Concept, a range of potential developments are proposed. Each of these should be subject to cumulative assessment at project level, as necessary, to determine whether the subject project is likely to give rise to cumulative effects with other proposed or existing projects. However, it is thought that the mitigation measures outlined in Section 9 of this report will assist in the reduction or avoidance of cumulative environmental effects.

8.5.1 Intra-Plan Cumulative Effects

The SEA Directive requires the SEA ER to include information on the likely significant effects on the environment, including on issues such as biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape, and the interrelationship between the above factors.

The presence of significant interactive effects between environmental factors is identified on Table 8.3 below.

Table 8.3 Intra-Plan Cumulative Effects

Environmental Aspect	P&HH	Bio	L&S	Wat	AQ, C&N	AA&CH	L&V	MA
P&HH								
Bio	No							
L&S	Yes	Yes						
Wat	Yes	Yes	Yes					
AQ, C&N	Yes	Yes	No	No				
AA&CH	No	No	Yes	No	No			
L&V	Yes	Yes	No	No	No	No		
MA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

Potential negative intra-plan cumulative effects are identified between P&HH, BIO, WAT, L&S and AQ, C&N in that, increased development across the Moneypoint Generating Station site is likely to be facilitated through the GA Concept. Any development that involves excavation, as well as the potential excavation of the landfill site could result in dust arisings which has potential to impact air quality for surrounding P&HH and BIO. Furthermore, contaminated run-off or silt has potential to impact soil quality and to enter the watercourse and impact water quality. Further, the watercourse (Shannon Estuary) is both a SAC and an SPA thus, there is also potential for interactive effects on biodiversity as a result.

Potential uncertain intra-plan cumulative effects have been identified for AA&CH and L&V in that, increased development across the Moneypoint Generating Station site is likely to be facilitated through the

GA Concept. The Moneypoint Generating Station site comprises highly disturbed land, and so the likelihood of discovering previously unknown archaeological features is low (a detailed assessment of the cultural heritage potential of the site has been prepared and has informed the GA Concept).

However, as the Moneypoint Generating Station site boundary extends into the privately held foreshore of Shannon Estuary, there may be potential for negative impacts on previously unknown/ unrecorded marine archaeology. Any development that involves excavation has potential impact soil quality through contaminated run-off or silt and also has potential to impact unknown/ unrecorded marine archaeology.

Development as a result of the GA Concept will enable the repurposing of the Moneypoint Generating Station site into a renewable energy hub and a strategic resource for the ORE sector, whilst also maintaining and operating Moneypoint Generating Station as the strategically critical Generating Station that it is at present. Potential positive intra-plan cumulative effects are identified between P&HH, AQ, C&N and MA in that, the principles outlined in the GA Concept aim to aid the gradual decarbonisation of the Moneypoint Generating Station site and aim provide a continued and improved supply of energy across Ireland.

Potential negative and uncertain intra-plan cumulative effects are identified between MA and BIO, L&S, WAT, AQ, C&N, AA&CH and L&V, with the exception of P&HH, as previously discussed potential positive intra-plan cumulative effects are identified between MA and P&HH. Development taking place will enable the repurposing of the Moneypoint Generating Station site into a renewable energy hub and in doing so, impacts to MA are likely to be predominantly positive as increased infrastructure and supply of energy will be facilitated. However, where any development will take place to increase infrastructure and the supply of energy onsite there is also potential for simultaneous impacts to BIO, L&S, WAT, AQ, C&N, AA&CH and L&V.

8.5.2 Inter-Plan Cumulative Effects

Cumulative effects of the GA Concept have been detailed Table 8.4 below with reference to the schematic included in Section 3 (Figure 3.1), that was recommended by the EPA, inclusive to key plans and programmes and their interlinkage with the GA Concept.

Table 8.4 Cumulative Effects of the GA Concept with key plans and programmes

Environmental Component	Potential Cumulative Effects that could generally occur across environmental components
P&HH	There is potential for cumulative positive effects on communities and/or individuals to occur as a result of additional and improved electricity supply and security resulting from the implementation of the GA Concept, in combination with the investment and policies emanating from a number of plans outlined in Appendix A.2, including the National Development Plan 2021-2030, the Regional and Spatial Economic Strategies and specific Energy Policies and Strategies. All such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), and AA as necessary in line with Article 6 of the Council Directive 92/43/EEC. There is potential for cumulative negative effects on communities and/or individuals to occur as a result of any construction/development (which could potentially result in air, noise, water emissions and visual disturbance) associated with the implementation of the GA Concept, particularly in combination with any construction/ development planned for any relevant LAP's/CDP's or energy policies and strategies which will involve physical works. However, all such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), AA as necessary in line with Article 6 of the Council Directive 92/43/EEC. It is anticipated that any negative impacts to P&HH resulting from development plans will be minimised insofar as possible, through the relevant mitigation and monitoring outlined in SEA and AA processes. Thus, there is no potential for likely significant cumulative effects to occur on P&HH as a result of the implementation of plans and the GA Concept.
BIO	There is potential for cumulative negative effects on BIO to occur as a result of increased development, associated construction works and potential land-use change emanating from the implementation of the GA Concept in combination with the increased development, land-use change and associated development emanating in line with any relevant LAP's/CDP's and any other plans which may affect areas in close proximity to developments arising from the implementation of the GA Concept. However, all such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), and AA as necessary in line with Article 6 of the Council Directive 92/43/EEC. It is anticipated that any negative impacts to BIO resulting from development plans will be minimised insofar as possible, through the relevant mitigation and monitoring outlined in SEA and AA processes. Thus, there is no potential for likely significant cumulative effects to occur on BIO as a result of the implementation of relevant local/county level development plans and the GA Concept.
L&S	There is potential for cumulative negative effects to occur on L&S, as a result of any development of new infrastructure related to the GA Concept, in combination with new development and or land use changes in line the various strategic national and regional plans and energy policies and strategies. However, all such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), AA as necessary in line with Article 6 of the Council Directive 92/43/EEC, and relevant mitigation and monitoring. Thus, it is anticipated that any cumulative negative effects on L&S will be minimised insofar as possible through SEA and AA mitigation measures.
WAT	There is potential for cumulative negative effects to occur on water quality as a result of construction works or operation of any new development associated with the implementation of the GA Concept, particularly in combination with any plans related to marine and land use planning (i.e. SIFP for the Shannon Estuary). However, all such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), and AA as necessary in line with Article 6 of the Council Directive 92/43/EEC. It is anticipated that any negative impacts to water quality resulting from the aforementioned plans will be minimised insofar as possible, through the relevant mitigation and monitoring outlined in SEA and AA processes. Thus, there is no potential for likely significant cumulative effects to occur on water quality as a result of the implementation of plans and the GA Concept.
AQ, C&N	There is potential for cumulative positive effects to occur on AQ, C&N as a result of the implementation of the GA Concept in combination with the implementation of relevant LAPS's, CDP's (i.e., Kildare/Meath CDP's) and renewable energy and climate policies and strategies (i.e. National Energy & Climate Plan (NECP) 2021 – 2030 and CAP 24) as all plans will aim to reduce GHG emissions and encourage a shift to green/renewable energy and thus, a more sustainable future, resulting in a positive in-combination effect on AQ, C&N.

Environmental Component	Potential Cumulative Effects that could generally occur across environmental components
	There is a potential for cumulative negative effects to occur on AQ, C&N at a result of the implementation of these plans due to any construction works that may occur as a result of these plans (i.e. through air emissions). However, all such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), AA as necessary in line with Article 6 of the Council Directive 92/43/EEC, and relevant mitigation and monitoring. Thus, it is anticipated that any negative effects on AQ, C&N will be minimised insofar as possible through the relevant mitigation and monitoring outlined within the SEA and AA of these Plans.
AA&CH	There is potential for cumulative negative effects to occur on AA&CH due to works associated with any new development (particularly on known or previously unknown archaeological sites and features) arising as a result of the implementation of the GA Concept, in combination with any plans which also reference marine and land use planning (i.e. SIFP for the Shannon Estuary). However, all such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), AA as necessary in line with Article 6 of the Council Directive 92/43/EEC, and relevant mitigation and monitoring. Thus, it is anticipated that any negative effects to AA&CH will be minimised insofar as possible through the relevant mitigation and monitoring outlined within the SEA and AA of these Plans.
L&V	There is potential for cumulative negative effects to occur on L&V due to visual disturbance associated with any construction works/ operation associated with any new developments that are likely to arise as a result of the implementation of the GA Concept. These effects could result in negative in-combination effects with any plans which also require the development of new infrastructure (i.e., any relevant LAP's/CDP's or energy policies and strategies which will involve physical works). However, all such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), AA as necessary in line with Article 6 of the Council Directive 92/43/EEC, and relevant mitigation and monitoring. Thus, it is anticipated that any negative effects to L&V will be minimised insofar as possible through the relevant mitigation and monitoring outlined within the SEA and AA of these Plans.
MA	There is potential for cumulative positive effects on MA (i.e. increased renewable energy developments and replacement of energy produced solely from fossil fuel to green energy overtime) to occur as a result of additional and improved electricity supply and security resulting from the implementation of the GA Concept, in combination with the implementation of a number of plans outlined in Section 3 and Appendix A including the CAP 24, National Development Plan 2021-2030, the Regional and Spatial Economic Strategies and specific Energy Policies and Strategies which all include aims and objectives to improve energy security and use of green energy across Ireland. All such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), and AA as necessary in line with Article 6 of the Council Directive 92/43/EEC. There is potential for cumulative negative effects on MA to occur as a result of any construction/development associated with the implementation of the GA Concept, particularly in combination with any marine and land use planning or energy policies and strategies which will involve physical works on or surrounding the Plan area, as there is a potential for disturbance to utilities and services (i.e., the extensive existing underground services that traverse the Moneypoint Generating Station site have potential to impact future development), generation of waste material, possible changes in land-use of any new developments. However, all such plans will be subject to SEA in line with the SEA Directive (2001/42/EC), and AA as necessary in line with Article 6 of the Council Directive 92/43/EEC. It is anticipated that any negative impacts to MA resulting from development plans will be minimised insofar as possible, through the relevant mitigation and monitoring outlined in SEA and AA processes. Thus, there is no potential for likely significant cumulative effects to occur on MA as a result of the implementation of plans and the GA Concept.

8.6 Likely Evolution of the Baseline Environment in the Absence of the Implementation of the GA Concept

In the absence of the implementation of the GA Concept, the baseline environment outlined in Section 5 is likely to continue as follows.

8.6.1 Population and Human Health

In the absence of the GA Concept, the Population & Human Health baseline environment is likely to evolve as follows:

- Ireland's National Planning Framework projects that Ireland will be home to an additional one million people by 2040, projected population increases will increase pressure on land use
- There will be an increased pressure on existing energy supply and security due to the projected population increase. Negative impacts may arise for the population if electricity supply, security and generation input were to stay constant, as the growing demand for energy supply and security could not be sustained. There is also potential for negative impacts on human health in the future, if the level of fossil fuels burned in the Moneypoint Generating Station stayed constant going forward
- The extent of potential health benefits correlated with reduced emissions and improved air quality due to the decarbonisation of the energy sector may not be realised
- The potential for economic growth aided by increased development and/ re-development at Moneypoint Generating Station on and surrounding the site would be limited
- In the absence of the GA Concept, uptake of renewable energy sources would potentially remain constant, and decarbonisation of the Moneypoint Generating Station site may not be fully realised; and
- The number of people employed at and surrounding the Moneypoint Generating Station site would potentially remain constant.

8.6.2 Biodiversity

In the absence of the GA Concept, the biodiversity baseline environment is likely to evolve as follows:

- Impacts of climate change and pollution will continue to alter species and habitat ranges across Ireland, the extent of these impacts may have been mitigated by the implementation of the GA Concept, as a result of the potential GHG and pollution reductions it could facilitate.

8.6.3 Land and Soils

In the absence of the GA Concept, the land and soils baseline environment is likely to evolve as follows:

- The current brownfield industrial landbank lands occupied by the Moneypoint Generating Station site would remain in place without any new developments and or redevelopment. Soil quality as a result is likely to remain constant with no further disruption.

8.6.4 Water

In the absence of the GA Concept, the water baseline environment is likely to evolve as follows:

- Impacts of climate change and pollution will continue to impact water quality and flooding, the extent of these impacts may have been mitigated by the implementation of the GA Concept, as a result of the potential GHG and pollution reductions it could facilitate
- Water on and surrounding the Moneypoint Generating Station site, in particular, the protected coastal habitat (SPA and SAC) in the privately owned foreshore area of the site boundary would remain constant, without any redevelopment; and
- Water quality and any current issues relating to the same would potentially remain constant.

8.6.5 Air Quality and Climate (including Noise)

In the absence of the GA Concept, the Air Quality & Climate (including Noise) baseline environment is likely to evolve as follows:

- potential improvements on local air quality are likely as a result of continued sectoral decarbonisation across Ireland. However, the energy sector may not see as substantial reductions in emissions in the absence of the GA Concept and its associated uptake in green energy
- there would likely be less use of machinery and or construction onsite, compared to existing trends. There is potential for local air quality and noise onsite to remain constant; and
- impacts of climate change and pollution will continue to impact air quality and climate, the extent of these impacts may have been mitigated by the implementation of the GA Concept, as a result of the potential GHG and pollution reductions it could facilitate.

8.6.6 Archaeological, Architectural and Cultural Heritage

In the absence of the GA Concept, the Archaeological, Architectural and Cultural Heritage baseline environment is likely to evolve as follows:

- Legislation and guidance at both international and national level afford both the architectural and archaeological elements a high level of protection and will continue to do so; and
- The archaeological, architectural, and cultural heritage environment onsite is likely to remain constant.

8.6.7 Landscape and Visual

In the absence of the GA Concept, the Landscape and Visual baseline environment is likely to evolve as follows:

- the land and seascape appearance surrounding Moneypoint Generating Station site would potentially remain as is at the existing baseline.

8.6.8 Material Assets

The re-development of the Moneypoint Generating Station site may not occur which may have resulted in improvement in the material assets baseline.

- In the absence of the GA Concept, renewable energy sources on or related to the Moneypoint Generating Station site would potentially remain constant, it is likely that the renewable energy potential for the Moneypoint Generating Station site may not be fully realised; and
- In the absence of the GA Concept the Moneypoint Generating Station site is likely to continue operating under its current IE Licence and activity onsite will continue to operate in a manner that will protect the environment from pollution that might otherwise arise.

9. Mitigation Measures and Monitoring

9.1 Mitigation

Mitigation measures are measures envisaged and designed to prevent, reduce and as fully as possible offset any significant adverse effects on the environment during both the construction and operational phases of the implementation of the GA Concept. All mitigation measures have been developed and agreed with ESB as part of the SEA iterative process.

It is recommended that all environmental requirements and guidelines outlined in this SEA ER are adhered to. In addition, future legislation, policies, environmental requirements and guidelines should also be fully integrated into the GA Concept and SEA ER.

In general terms, all proposals for development will be required to have due regard to environmental considerations outlined in this SEA ER and associated AA. In addition, many impacts will be more adequately identified and mitigated at project and EIA/AA level. Any new projects or plans arising from the implementation of the GA Concept shall be subject to appropriate environmental assessments, where required.

As discussed in Section 1.1, it should also be noted that Moneypoint Generating Station site is licenced by the EPA under an Industrial Emissions (IE) Licence (Ref. P0605-04). The IE Licence authorises the following activities:

- Activity 1.1 (IED) / 2.1 (EPA Act 1992, as amended): “Combustion of fuels in installations with a total thermal output of 50MW or more”; and
- Activity 5.4 (IED) / 11.5 (EPA Act 1992, as amended): “Landfills, within the meaning of Section 5 (amended by Regulation 11(1) of the Waste Management (Certification of Historic, Unlicenced Water Disposal and Recovery Activity) Regulations 2008 (SJ. No 524 of 2008) of the Act of 1996, receiving more than 10 tonnes of waste per day or with a total capacity exceeding 25,000 tonnes, other than landfills of inert waste”.

The IE Licence contains conditions on how the activity must operate in order to protect the environment from pollution that might otherwise arise. Limits and controls are imposed on emissions to air, water, dust, and noise. The Licence also includes requirements relating to site operations, such as, the implementation of an EMS, energy efficiency, incident response and waste management. In line with the IE Licence, environmental monitoring of the site is on-going. Throughout its operation, Moneypoint Generating Station has been maintained and improved to meet relevant environmental standards, and the IE Licence reviewed as appropriate.

Moneypoint Generating Station is also an Upper Tier Control of Major Accident Hazard (COMAH) site and therefore falls under the requirements of the COMAH Regulations (2015).

Lastly, ESB has held a foreshore lease (Ref. No. FS006389 (MS51/11/126) for the area where a jetty is located, since 1985. Additional foreshore consent (Ref. No. FS006318) was granted to ESB in 2015 to facilitate the erection of wind turbines on the site. Since 2015, the entire foreshore area (Ref. No. CE57420F) is under ESB ownership.

The majority of principles included in the GA Concept are predicted to have a positive environmental effect, particularly on P&HH, AQ, C&N and MA. However, a number of principles are proposed that may have a negative environmental effect, particularly those relating to new development where BIO, L&S, WAT and L&V impacts may arise. The relevant mitigation measures outlined in

Table 9.1 below should be adhered to in full during the implementation of the GA Concept.

Further, as outlined in Section 4.1 and 5.3, a combined Screening for AA and NIS has been prepared for the GA Concept. The mitigation measures set out in the accompanying Screening for AA and NIS are included in Appendix A.4 and should be read in conjunction with those set out in Table 9.2.

The SEA ER, combined Screening for AA and NIS and SFRA mitigation measures will be appended to form part of the final GA Concept. The recommendations of the SEA ER and combined Screening for AA and NIS have been incorporated into the GA Concept.

9.1.1 Inherent Mitigation

Any developments arising from the implementation of the GA Concept must comply with ESB's IE Licence (Ref. P0605-04). This Licence ensures all operations at the Moneypoint Generating Station site comply with environmental law to ensure that these operations don't endanger human health or harm the environment.

Furthermore, any developments arising from the implementation of the GA Concept shall comply with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following:

- EU Directives, including the Habitats Directive (92/43/EEC, as amended), the Birds Directive (2009/147/EC), the Environmental Liability Directive (2004/35/EC), the Environmental Impact Assessment Directive (2011/92/EU, as amended by 2014/52/EC), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC);
- National legislation, including the Wildlife Acts 1976 and 2010 (as amended), the Planning and Development Act 2000 (as amended)[63] and associated regulations, Environmental Impact Assessment Regulations, the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), the Flora Protection Order 2015;
- National policy guidelines;
- Catchment and water resource management plans;
- Biodiversity plans and guidelines including Ireland's 4th National Biodiversity Action Plan 2023-2030, All-Island Pollinator Plan; Clare Biodiversity Action Plan 2017-2023; and
- Requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EU), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Water) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (and any updated/superseding documents).

Finally, and as previously discussed, a number of OPs have been included within the GA Concept. The OPs will apply to individual projects promoted by implementation of the GA Concept. The OPs have potential to mitigate significant environmental effects at individual project level. Refer to Table 9.1 for the full list of OPs.

[63] **Note:** The new Planning and Development Act (2024) was signed into law on the 17th of October 2024; however, the Act is currently being commenced on a phased basis to facilitate the transition from the arrangements under the current Act to those under the new Act. At the time of writing this report, certain provisions of the Act (2024) are yet to be commenced, including those relevant to SEA. It is envisaged that the commencement of the remainder of the Planning and Development Act 2024 will be carried out across 4 phases in 2025/2026. As the relevant provisions to SEA have not yet been commenced in the new Planning and Development Act 2024, this report references the Planning and Development Act 2000, as amended.

Table 9.1 Overarching Principles (OPs)

OP reference number:	OP
OP1	The Green Atlantic @ Moneypoint Concept will be implemented having due regard for the sensitivity of the local environment, including the adjoining coastline, which includes the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA.
OP2	As required under prevailing legislation, development proposals will be required to comply with the requirements of the Environmental Impact Assessment and Habitats Directives.
OP3	All development proposals on the Moneypoint site will need to be evaluated to consider combined risks and potential consequences to the environment, given its SEVESO status. Development proposals will be supported by all relevant environmental assessments necessary to determine the acceptability of residual impacts on environmental receptors.
OP4	Mitigation measures identified by project specific environmental assessment and approved as part of the statutory consenting process, will be implemented to mitigate against impacts arising on the local environment.
OP5	ESB will continue to operate and manage the site in-line with all consents – including planning permissions, environmental licences, waste licences etc., and in-line with relevant Regulations e.g. COMAH
OP6	ESB will continue to operate within its Environmental Management System (EMS) which is externally accredited to the ISO 14001 Standard and provides a framework for ensuring that ESB complies with its legislative and regulatory obligations, while also providing assurance that it is managing its environmental risks in a proactive and responsible way. In-line with the EMS, construction based mitigation will be applied, as appropriate, to mitigate against impacts on the local environment. Construction Environmental Management Plans (CEMPs) will be prepared and implemented for any major construction/upgrade works. The CEMP will include, but not be limited to, the following information: • Description of the project; • Description of the construction works required (including duration and phasing, location, sensitive receptors etc.); • Details of any environmental assessments carried out to inform the CEMP; • Roles and responsibilities (including training and competencies); • Details on environmental management, including details of any environmental management systems, identification of the relevant regulations and requirements, environmental awareness and commitments; • Identification of potential negative environmental effects and mitigation measures to reduce or avoid said impacts (including mitigation measures relating to population and human health, biodiversity, land and soils, water, air and climate, archaeological, architectural and cultural heritage, landscape and visual, material assets (including infrastructure, waste and resources); and • Procedures for audits, monitoring and inspections.
OP7	Operational Phase Maintenance Plans will be developed where relevant for any major developments arising from the implementation of the GA Concept.
OP8	The implementation of this GA Concept will aim to protect, restore and enhance biodiversity and ecological connectivity - including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, geological and geo-morphological systems, other landscape features, natural lighting conditions, and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping-stones in the context of Article 10 of the Habitats Directive. . The design of any developments should aim, where practicable, to incorporate Biodiversity Net Gain.
OP9	Appropriate invasive species surveys shall be carried out in advance of any construction/reinstatement works and inform the implementation of Invasive Species Management Plans where required.

OP reference number:	OP
OP10	Where appropriate, development proposals will be subject of design level modelling to determine any potential hydrological change that may arise and impact on the hydrology of sites within the zone of influence of the site, including European Sites designated for their international nature conservation importance. Such models will inform mitigation strategies and ensure that site infrastructure is appropriately designed.
OP11	Where proposed works have the potential to impact on the quality of a water body and / or the integrity of a European Site, a Surface Water Management Plan (SWMP) and / or a Water Protection Plan will be prepared and implemented.
OP12	In carrying out all works – and notably in undertaking remediation works to brownfield lands, ESB will ensure that appropriate and adequate soil protection measures are undertaken where appropriate on any developments arising from the implementation of the GA Concept y. Adequate and appropriate investigations shall be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, particularly where brownfield development is proposed.
OP13	To develop and manage drainage systems on the site in-line with the principles of sustainable urban drainage. On-site systems will continue to be routinely inspected and maintained.
OP14	All waste arising during any development and continued operation of the site shall be managed and disposed of in accordance with relevant legislation. Waste management plans shall be implemented to minimise waste and ensure correct handling and disposal of construction wastes streams.
OP15	Implement recommendations of the Strategic Flood Risk Assessment of the Green Atlantic @ Moneypoint Concept including ensuring areas vulnerable to coastal inundation are reserved for 'water compatible' uses; ensuring that the finished floor level of any new development is set above the 1 in 200-year coastal flood level, including allowance for climate change and freeboard (that being 4.39mOD) and that additional analysis – possibly including a wave overtopping analysis, is carried out to identify other mitigation measures that may be required.
OP16	As feasible, ESB will work with utility and service providers such as Eirgrid to accommodate the provision of strategic infrastructure at Moneypoint to serve the needs of the Shannon Estuary and wider region and to realise the potential of the offshore wind and renewable energy sector.

9.1.2 Mitigation Measures

Table 9.2 outlines mitigation measures specific to the GA Concept.

Table 9.2 Mitigation Measures

Environmental aspect	Mitigation measure	Relevant to which principle
P&HH	No potential negative or uncertain impacts were identified for P&HH during the assessment of significant effects, other than potential temporary construction related impacts. Construction based mitigation has been detailed as follows. The IE Licence ensures all operations at the Moneypoint Generating Station site do not endanger human health or harm the environment. All works should be carried out in compliance with Construction Environmental Management Plans (CEMP). CEMPs shall be prepared for any major construction/upgrade works associated with the implementation of the GA Concept. The CEMP shall include, but not limited to, the following information: • Description of the project; • Description of the construction works required (including duration and phasing, location, sensitive receptors etc); • Details of any environmental assessments carried out to inform the CEMP; • Roles and responsibilities (including training and competencies); • Details on environmental management, including details of any environmental management systems, identification of the relevant regulations and requirements, environmental awareness and commitments; • Identification of potential negative environmental effects and mitigation measures to reduce or avoid said impacts (including mitigation measures relating to population and human health, biodiversity, land and soils, water, air and climate, archaeological, architectural and cultural heritage, landscape and visual, material assets (including infrastructure, waste and resources); and • Procedures for audits, monitoring and inspections. Operational Phase Maintenance Plans should be developed where relevant for any major developments arising from the implementation of the GA Concept. Any developments arising from the implementation of the GA Concept adjoining the coastline must take cognisance of the visual and ecological sensitivity of the adjoining coastline, which includes the Lower River Shannon SAC (site code 0002165) and River Shannon and River Fergus Estuaries SPA. Lastly, any developments arising from the implementation of the GA Concept shall be subject to the relevant environmental assessments, as required (i.e. Environmental Impact Assessment, Environmental Impact Assessment Screening, Appropriate Assessment, Habitats Regulations Assessment).	MEZ1, MEZ3, MEZ8, CIZ1, CIZ3, CIZ5, CIZ7, IEZ3, AMZ7, GDZ1, GDZ3, BZ4 and TAZ2.
BIO	Biodiversity and Ecological Networks Any developments arising from the implementation of the GA Concept should aim to protect, restore and enhance biodiversity and ecological connectivity, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, geological and geo-morphological systems, other landscape features, natural lighting conditions, and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping-stones in the context of Article 10 of the Habitats Directive. The design of any developments arising from the implementation of the GA Concept should aim to incorporate Biodiversity Net Gain where practicable. Any developments arising from the implementation of the GA Concept adjoining the coastline must take cognisance of the visual and ecological sensitivity of the adjoining coastline, which includes the Lower River Shannon SAC (site code 0002165) and River Shannon and River Fergus Estuaries SPA.	MEZ1, MEZ3, MEZ7, MEZ8, MEZ9, CIZ1, CIZ3, CIZ4, CIZ5, CIZ7, CIZ8, IEZ2, IEZ3, IEZ5, IEZ7, AMZ6, AMZ7, GDZ1, GDZ2, GDZ3, BZ1, BZ3, BZ4, TAZ2, SZ1 and WZ2.

Environmental aspect	Mitigation measure	Relevant to which principle
	Invasive Species Appropriate invasive species surveys shall be carried out in advance of any construction/reinstatement works. Invasive Species Management Plans shall be prepared and implemented where required, following the assessment of invasive species surveys.	
	Direct Land Take Where possible, the design of any developments arising from the implementation of the GA Concept will ensure that measures are explored to minimise unnecessary land-take, in line with the ecological mitigation hierarchy which prioritises avoidance, and seeks to reduce, mitigate, and then compensate and offset for adverse effects on biodiversity, in that order of preference. In particular, the WZ, GDZ, SZ and BZ which are predominantly greenfield and include woodland areas. If land-take cannot be avoided, an assessment of the type (and use) of habitat present is required to determine suitable mitigation measures.	
	Hydrological Change Where proposed work has the potential to result in hydrological change, and there is a European Site within the zone of influence e.g., the Shannon Estuary (designated SPA and SAC), then coastal process modelling will be undertaken to determine any potential hydrological change as a result of any proposed construction works which may impact on the hydrology of sites within the zone of influence of the implementation of the GA Concept, including European Sites designated for their international nature conservation importance. This will also help to inform the overall design of any infrastructure requirements.	
	Water Pollution Where proposed works has the potential to result in water pollution, and there is hydrological connectivity to a European Site e.g., the Shannon Estuary (designated SPA and SAC), Surface Water Management Plans (SWMPs) will be prepared and implemented during construction. SWMPs will include appropriate measures such as temporary silt fencing, cut off ditches, settlement ponds and bunds set up early in construction to capture runoff and prevent ingress of sediments and contaminants into existing drainage infrastructure where necessary. Where implementation of the principles presents a challenge to existing drainage systems, and/or the operation of a local drainage system is known to be complicated by interactions between river, groundwater and sewer systems or river and canal systems, submission of a Water Protection Plan and detailed site drainage plans will be required with planning applications associated with developments arising from the implementation of the GA Concept, if a European Site falls within the zone of influence.	
	Air Quality Where increased air pollution may result in adverse effects on habitats, potential solutions will be implemented to mitigate air pollution. This may include tree planting to reduce deposition of pollutants on a site (this is site and habitat dependent); preparation and implementation of dust management plans, screening and the provision of compensatory habitat (where practicable).	
	Noise, vibration, and visual disturbance Development proposals will provide evidence that the design does not result in increased noise, vibration, or visual disturbance to important ecological receptors within the zone of influence, in particular those that are QI/SCIs of European Sites e.g., the Shannon Estuary (designated SPA and SAC), to the degree that the noise/vibration/visual disturbance affects the integrity of the ecological receptor.	
	Lighting Proposals arising from the implementation of the GA Concept will demonstrate, where relevant, that the design of lighting minimises the incidence of light spillage or pollution into the surrounding environment and that there is no unacceptable adverse effect on the integrity of European Sites (i.e. no unacceptable adverse effect on QIs/SCIs of European Sites) e.g., the Shannon Estuary (designated SPA and SAC).	

Environmental aspect	Mitigation measure	Relevant to which principle
L&S	Contamination Ensure that adequate soil protection measures are undertaken where appropriate on any developments arising from the implementation of the GA Concept. Adequate and appropriate investigations shall be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, particularly where brownfield development is proposed.	MEZ1, MEZ3, MEZ6, MEZ7, MEZ8, MEZ9, CIZ1, CIZ3, CIZ4, CIZ5, CIZ7, CIZ8, IEZ2, IEZ3, IEZ5, IEZ7, AMZ5, AMZ6, AMZ7, GDZ1, GDZ2, GDZ3, BZ1, BZ3, BZ4, TAZ2, SZ1 and WZ2.
WAT	Flood Risk Management Guidelines Any major developments resulting from the implementation of the GA Concept shall be subject to plan/project level flood risk assessments.	MEZ1, MEZ3, MEZ6, MEZ7, MEZ8, MEZ9, CIZ1, CIZ3, CIZ4, CIZ5, CIZ7, CIZ8, IEZ2, IEZ3, IEZ5, IEZ7, AMZ5, AMZ6, AMZ7, GDZ1, GDZ2, GDZ3, BZ1, BZ3, BZ4, TAZ2, SZ1 and WZ2.
	Sustainable Drainage Systems (SuDS) Any new developments associated with the implementation of the GA Concept should seek to tie into the existing SuDS on the site.	
AQ, C&N	Air Any developments arising from the implementation of the GA Concept should comply with the IE Licence requirements and contribute to achieving greenhouse gas emission targets. Dust management plans shall be prepared and implemented for any major construction/repurposing/upgrade works associated with the implementation of the GA Concept, particularly works related to the removal of ash from the ASA.	MEZ1, MEZ3, MEZ8, MEZ9, CIZ1, CIZ2, CIZ3, CIZ4, CIZ5, CIZ7, CIZ8, IEZ2, IEZ3, IEZ7, AMZ7, GDZ1, GDZ2, GDZ3, BZ1, BZ2, BZ3, BZ4, TAZ2 and WZ2.
	Climate adaptation and resilience Improve resilience and adaptation to climate change by taking into account issues including the following in the location and design of any developments/plans arising from the implementation of the GA Concept: • Flood risk; • Susceptibility to major accidents/disasters; and • Extreme temperature. Any new projects arising from the implementation of GA Concept shall adhere to the COMAH Regulations (2015).	
AA&CH	Archaeological Heritage Where practicable, developments arising from the implementation of the GA Concept should protect archaeological heritage by implementing the relevant provisions of the Planning and Development Act 2000 (as amended), the National Monuments Act, 1930 (as amended), the Valetta Principles for the Safeguarding and Management of Historic Cities, Towns and Urban Areas and the Convention for the Protection of the Architectural Heritage of Europe (hereafter referred to as the Granada Convention) (Council of Europe 1985). Any changes to archaeological heritage resulting from any new developments, underground works, upgrades, or alterations to existing infrastructure arising from the implementation of the GA Concept, shall be in accordance with the relevant legislation. Consultation with the National Monuments Service of the Department of Housing, Local Government and Heritage should be carried out for any plans/projects resulting from the implementation of the GA Concept where impacts on protected sites are likely to arise.	ME1, MEZ3, MEZ8, MEZ9, CIZ1, CIZ2, CIZ3, CIZ4, CIZ5, CIZ7, CIZ8, IEZ3, IEZ7, AMZ7, GDZ1, GDZ2, GDZ3, BZ1, BZ2, BZ3, BZ4, TAZ2, SZ1 and WV2.

Environmental aspect	Mitigation measure	Relevant to which principle
	Any developments associated with the implementation of the GA Concept should contribute, where relevant, towards the protection and preservation of underwater archaeological sites in riverine, intertidal, and sub-tidal locations.	
	Architectural Heritage Where possible, developments arising from the implementation of the GA Concept should contribute towards the protection of architectural heritage by adhering to the relevant legislative provisions of the Planning and Development Act 2000 (as amended) in relation to architectural heritage and the policy guidance contained in the Architectural Heritage Protection Guidelines 2011 (and any updated/superseding documents). Any changes to surrounding architectural heritage or its curtilage, resulting from any new developments, underground works, upgrades or alterations to existing infrastructure resulting from the implementation of the GA Concept, shall be in compliance with relevant legislation. Any plans/projects arising from the implementation of the GA Concept will have regard to the National Inventory of Architectural Heritage (NIAH), Records of Protected Structures (RPS) and Sites and Monuments Record (SMR). Where possible developments arising from the implementation of the GA Concept should provide a buffer area around protected sites, structures and or monuments that will be maintained free from any new structures. Any plans/projects arising from the implementation of the GA Concept will have regard to aspects of heritage not fully covered by those held on formal records - e.g. the wealth of vernacular heritage.	
	Under Water Cultural/ Archaeological Heritage Where any development arising from the implementation of the GA Concept has the potential to result in negative effects on underwater cultural heritage, a programme of pre-development underwater archaeological impact assessment should be scoped into the design process as soon as is practicable. The underwater archaeological impact assessment should be carried out at the earliest possible stage to facilitate the embedding of any recommended further mitigation within the detailed design for the project, as necessary, in order to ensure the preservation in-situ of any identified/potential underwater cultural heritage and to develop an informed archaeological strategy to be implemented in agreement with the Department co-ordinated by the Development Applications Unit (DAU) of the DHLGH. Any development in the marine environment at Moneypoint has the potential to disturb undiscovered underwater cultural heritage. The collection and interpretation of side-scan sonar and bathymetry information by qualified archaeologists as part of any future development projects will minimise any impacts or the possibility of destruction of underwater and undiscovered heritage features in areas of heritage potential.	
L&V	Developments and plans arising from the implementation of the GA Concept should contribute, where possible, towards the protection of county and local level landscape designations from incompatible developments. Any developments which may arise from the implementation of the GA Concept that have the potential to result in negative effects on these designations shall be accompanied by an assessment of the potential landscape and visual impacts of any such development. This will demonstrate that potential landscape effects have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation. Protect amenity value and minimise negative effects on amenity value resulting from any new developments, underground works, upgrades, or alterations to existing infrastructure arising from the implementation of the GA Concept. Any developments arising from the implementation of the GA Concept should protect the landscape character and visual potential of the coast and conserve the character and quality of seascapes. Any developments arising from the implementation of the GA Concept adjoining the coastline must take cognisance of the visual and ecological sensitivity of the adjoining coastline, which includes the Lower River Shannon SAC (site code 0002165) and River Shannon and River Fergus Estuaries SPA.	MEZ1, MEZ3, MEZ8, MEZ9, CIZ1, CIZ2, CIZ3, CIZ5, CIZ7, IEZ2, IEZ3, IEZ5, AMZ7, GDZ1, GDZ3, BZ4 and TAZ2.

Environmental aspect	Mitigation measure	Relevant to which principle
	Cognisance shall be given to the information and recommendations contained in the Landscape Strategy for Ireland 2015-2025 and Section 14.2.1 of CCDP (Landscape Character Assessment of County Clare) during the development of any projects and plans arising from the implementation of the GA Concept. Any future plans/programmes arising from the implementation of the GA Concept will have regard to existing and new landscape guidance documents.	
MA	Resources and Waste All waste arising during any construction or upgrade works arising from the implementation of the GA Concept shall be managed and disposed of in accordance with relevant legislation. Waste management plans shall be implemented to minimise waste and ensure correct handling and disposal of construction wastes streams. Where possible ensure that the principles of reduce, reuse and recycle are implemented on any developments arising from the implementation of the GA Concept. Land-Use and Infrastructure Any developments arising from the implementation of the GA Concept should protect public assets and infrastructure including services and utility infrastructure (electricity, gas, telecommunications, water supply, wastewater infrastructure etc). Aquaculture Any development likely to occur in the CIZ must include an assessment of impacts on aquaculture in Shannon Estuary.	MEZ1, MEZ3, MEZ6, MEZ7, MEZ8, MEZ9, CIZ1, CIZ3, CIZ4, CIZ5, CIZ7, CIZ8, IEZ2, IEZ3, IEZ5, IEZ7, AMZ4, AMZ5, AMZ6, AMZ7, GDZ1, GDZ2, GDZ3, BZ1, BZ2, BZ3, BZ4, TAZ2, SZ1 and WZ2.
All	All works should be carried out in compliance with Construction Environmental Management Plans (CEMP). CEMPs shall be prepared for any major construction/upgrade works associated with the implementation of the GA Concept. The CEMP shall include, but not limited to, the following information: • Description of the project; • Description of the construction works required (including duration and phasing, location, sensitive receptors etc); • Details of any environmental assessments carried out to inform the CEMP; • Roles and responsibilities (including training and competencies); • Details on environmental management, including details of any environmental management systems, identification of the relevant regulations and requirements, environmental awareness and commitments; • Identification of potential negative environmental effects and mitigation measures to reduce or avoid said impacts (including mitigation measures relating to population and human health, biodiversity, land and soils, water, air and climate, archaeological, architectural and cultural heritage, landscape and visual, material assets (including infrastructure, waste and resources); and • Procedures for audits, monitoring and inspections.	MEZ1, MEZ3, MEZ8, MEZ9, CIZ1, CIZ3, CIZ4, CIZ5, CIZ7, CIZ8, IEZ2, IEZ3, IEZ5, IEZ7, AMZ6, AMZ7, GDZ1, GDZ3, BZ1, BZ4, TAZ2 and WZ2.
All	Operational Phase Maintenance Plans should be developed where relevant for any major developments arising from the implementation of the GA Concept.	MEZ1, MEZ3, MEZ8, MEZ9, CIZ1, CIZ3, CIZ5, CIZ7, CIZ8, IEZ2, IEZ3, IEZ5, AMZ6, AMZ7, GDZ1, GDZ3, BZ1, BZ4, TAZ2 and WZ2.

Environmental aspect	Mitigation measure	Relevant to which principle
All	Any developments arising from the implementation of the GA Concept shall be subject to the relevant environmental assessments, as required (i.e. Environmental Impact Assessment, Environmental Impact Assessment Screening, Appropriate Assessment, Habitats Regulations Assessment).	All.
All	The ESB shall ensure that the conditions set down in the Industrial Emissions licence (PO605-04), and the associated Closure Restoration and Aftercare Management Plan are adhered to.	All.

In conclusion, the mitigation measures relevant to the GA Concept include those listed in Table 9.2, in addition to the implementation of all inherent mitigation outlined in Section 9.1.1 (ESB's IE Licence (Ref. P0605-04), compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines and the OPs as outlined in the GA Concept). It is considered that the combination of mitigation measures and inherent mitigation has potential to mitigate significant environmental effects both at plan level and at individual project level.

9.2 Monitoring

Article 10 of the SEA Directive requires that monitoring should be carried out in order to identify at an early stage any unforeseen adverse impacts associated with the implementation of the plan or programme.

A monitoring programme is developed based on the indicators selected to track progress towards achieving strategic environmental objectives and reaching targets, enabling positive and negative impacts on the environment to be measured. As previously described, the environmental indicators have been developed to show changes that would be attributable to implementation of the GA Concept.

As outlined in the EPA guidance document 'Guidance on SEA Statements and Monitoring' (EPA, 2023), SEA monitoring should reflect the nature and level of detail of the plan/programme (EPA, 2023). Many national-level plans/programmes lack geographic specificity, contain only high-level strategic objectives and do not lend themselves to cause–effect models in terms of direct measuring of environmental effects. As such, SEA monitoring for these plans should focus on national indicators to examine environmental trends.

9.2.1 SEA Monitoring

Refer to **Error! Reference source not found.** for the proposed SEA monitoring measures. The monitoring measures included are based on national indicators and informed by the content of the GA Concept.

The SEA carried out has ensured that any potential significant environmental impacts have been identified and given due consideration.

The monitoring measures outlined in this Section will be appended to the final GA Concept.

Table 9.3 Proposed monitoring measures for the GA Concept

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
P&HH	• No definitive likely negative effects on P&HH have been identified, predominantly neutral and positive impacts were identified as likely to occur for P&HH for the purposes of this assessment.	• Potential for cumulative positive effects on communities and/or individuals to occur as a result of additional and improved electricity supply and security resulting from the implementation of the GA Concept, in combination with the investment and policies emanating from a number of plans outlined in Appendix A.2. • Potential for cumulative negative effects on communities and/or individuals to occur as a result of any construction/development associated with the implementation of the GA Concept, particularly in combination with any construction/ development planned for any relevant LAP's/CDP's or	1. Perceived health of the local community. 2. Number of site-related accidents/incidents reported. 3. Number of complaints received pertaining to disturbance or pollution. 4. Direct and indirect employment created by ESB/ORE Developers utilising the Moneypoint Generating Station Hub. 5. Provision of improved low-carbon electricity supply and security across Ireland.	1. CSO Census Reports – Health and Population Statistics. 2. EPA IE Licence/ ESB AER. 3. EPA Licence/ ESB AER. 4. CSO Census Reports – Population and Employment Statistics. 5. DECC's Energy Security Packages.	1. CSO, every 6 years. 2. EPA, continuously/ annually and ESB annually. 3. EPA, continuously/ annually and ESB annually. 4. CSO, every 6 years. 5. Government of Irelands Energy Security Group, after 2030 implementation will be monitored every 5 years.

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
		energy policies and strategies which will involve physical works. • All such plans will however be subject to SEA in line with the SEA Directive (2001/42/EC) and AA as necessary, in line with Article 6 of the Council Directive 92/43/EEC.			
BIO	• Principles in the GA Concept have been identified as having potential to result in negative effects on BIO during the construction of and or any development that has potential to occur across the Moneypoint Generating Station site, e.g., ESB will seek to develop and enhance coastal infrastructure at the Moneypoint Generating Station site to facilitate its development as a hub for the ORE industry. It is expected that new	• Potential for cumulative negative effects on BIO to occur as a result of increased development, associated construction works and potential land-use change emanating from the implementation of the GA Concept in combination with the increased development, land-use change and associated development emanating in line with any relevant LAP's/CDP's and any other plans which may	1. Presence and status of existing biodiversity on site. 2. Level of biodiversity gain achieved as a result of the implementation of the GA Concept. 3. Number and condition of Natura 2000 network, European sites in or along the Moneypoint Generating Station site boundary, as per Article 17 Reports, and the maintenance of	1. As follows: – Monitoring related to the GA Concept – habitat mapping and ecological assessments/surveys carried out for any developments arising from the implementation of the GA Concept; and – Monitoring related to relevant Local Area Plans and County/City Development Plans.	1. As follows: – ESB, continually; and – Local Authorities, continuously. 2. CCC, every 6 years. 3. DHLGH, every 6 years. 4. As follows: – In accordance with the monitoring provisions of EIA/AA – NPWS, varies

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
	infrastructure will be required for the delivery of turbine elements, deployment of substructures, assembly of turbines and limited storage, at the quayside. This may require the development of new quayside infrastructure including infilling/ land reclamation. • A range of principles have also been identified, for the purposes of this assessment, as having the potential to result in 'uncertain' effects on BIO. • This means that in the worst-case scenario there is potential for further negative environmental effects to occur. The SEA monitoring measures outlined have been developed to also take these potential negative effects into account.	affect areas in close proximity to developments arising from the implementation of the GA Concept. • All such plans will however be subject to SEA in line with the SEA Directive (2001/42/EC) and AA as necessary, in line with Article 6 of the Council Directive 92/43/EEC.	conservation objectives. 4. As follows: – Level of biodiversity lost as a result of the implementation of the GA Concept. – Number of incident responses onsite e.g., invasive species (for example, Japanese Knotweed).	2. Achievement of the Objectives of the Clare's Biodiversity Action Plan. 3. The Status of EU Protected Habitats and Species in Ireland Article 17 Report (Department of Housing, Local Government and Heritage). 4. As follows: – Monitoring of the effects of any project development required under separate processes (EIA, AA) – Updates to National Red List Check List – Inland Fisheries Ireland – Protected Freshwater Species – Atlantic Salmon etc. – trends in protected freshwater species, population, distribution, health etc.	– Inland Fisheries Ireland, varies – Birdwatch Ireland, every 6 years; and – ESB, continually.

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
				– Birds of Conservation Concern Ireland – Monitoring by Birdwatch Ireland on status, distribution, population etc.; and – Monitoring related to the GA Concept such as: Monitoring of onsite vegetative health and condition to detect and mitigate against the potential impact of pests and diseases.	
L&S	• Principles in the GA Concept have been identified as having potential to result in negative effects on L&S during the construction of and or any development that has potential to occur across the Moneypoint Generating Station site e.g., ESB may develop infrastructure for example, underground export cable,	• Potential for cumulative negative effects to occur on L&S, as a result of any development of new infrastructure related to the GA Concept, in combination with new development and or land use changes in line the various strategic national and regional plans and energy policies and strategies.	1. Incidences of spillages/leaks reported on site. 2. Incidences occurring to soil, in particular relating to any potential contamination from landfill. 3. Areas and rates of coastal erosion rates within the site.	1. As follows: – Monitoring of the effects of project developments required under separate processes (EIA); and – EPA IE Licence/ ESB AER. 2. Monitoring for Geological Survey Irelands (GSI) (Ireland).	1. As follows: – In accordance with the monitoring of provisions of EIA; and – EPA, continuously/ annually and ESB annually. 2. GSI, varies. 3. CCC and ESB (onsite), continually.

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
	substation, serving the ORE developments such as Moneypoint 1 and 2 Offshore Wind, in this zone. • A range of principles have also been identified, for the purposes of this assessment, as having the potential to result in 'uncertain' effects on L&S. • This means that in the worst-case scenario there is potential for further negative environmental effects to occur. The SEA monitoring measures outlined have been developed to also take these potential negative effects into account.	• All such plans will however be subject to SEA in line with the SEA Directive (2001/42/EC) and AA as necessary, in line with Article 6 of the Council Directive 92/43/EEC.		3. Monitoring of coastal processes in Clare, in particular the monitoring of coastal erosion.	
WAT	• Principles in the GA Concept have been identified as having potential to result in negative effects on WAT during the	• Potential for cumulative negative effects to occur on water quality as a result of construction works or operation of	1. Status and quality of waterbodies on and near the Moneypoint Generating Station site.	1. As follows: – Ireland's National Water Framework Directive Monitoring	1. As follows: – EPA, continuously – EPA, continuously; and

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
	construction of and or any development that has potential to occur across the Moneypoint Generating Station site e.g., ESB may develop infrastructure for example, underground export cable, substation, serving the ORE developments such as Moneypoint 1 and 2 Offshore Wind, in this zone. • A range of principles have also been identified, for the purposes of this assessment, as having the potential to result in 'uncertain' effects on L&S. • This means that in the worst-case scenario there is potential for further negative environmental effects to occur. The SEA monitoring measures outlined have been developed to also take	any new development associated with the implementation of the GA Concept, particularly in combination with any plans related to marine and land use planning (i.e. SIFP for the Shannon Estuary). • All such plans will however be subject to SEA in line with the SEA Directive (2001/42/EC) and AA as necessary, in line with Article 6 of the Council Directive 92/43/EEC.	2. Level of compliances with EPA – IE Licence. 3. Number of significant pollution events recorded as a result of the implementation of the GA Concept. 4. Flood risk at the Moneypoint Generating Station site.	Programme, 2019-2021 – Draft Third Cycle River Basin Management Plan for Ireland (2022 – 2027); and – EPA Water Quality of Ireland Report. 2. EPA IE Licence/ ESB AER. 3. As follows: – EPA IE Licence/ EPA AER; and – Monitoring of the effects of project developments required under separate processes (EIA, AA). 4. Monitoring of the Catchment Flood Risk Assessment and Management (CFRAM) Programme.	– EPA, continuously. 2. EPA, continuously/ annually and ESB annually. 3. As follows: – EPA, continuously/ annually; and – In accordance with the monitoring of provisions of EIA/AA. 4. OPW, every 5 years.

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
	these potential negative effects into account.				
AQ, C&N	• No definitive likely negative effects on AQ, C&N have been identified, predominantly neutral and positive impacts were identified as likely to occur for AQ, C&N for the purposes of this assessment. • However, some principles have also been identified, for the purposes of this assessment, as having the potential to result in 'uncertain' effects on AQ, C&N. • This means that in the worst-case scenario there is potential for further negative environmental effects to occur. The SEA monitoring measures outlined have been developed to also take these potential negative effects into account.	• Potential for cumulative positive effects to occur on AQ, C&N as a result of the implementation of the GA Concept in combination with the implementation of relevant LAPS's, CDP's (i.e., Kildare/Meath CDP's) and renewable energy and climate policies and strategies (i.e. National Energy & Climate Plan (NECP) 2021 – 2030 and CAP 24). • Potential for cumulative negative effects to occur on AQ, C&N at a result of the implementation of these plans due to any construction works that may occur as a result of these plans (i.e. through air emissions). • All such plans will however be subject to	1. General air quality results in proximity to Kilrush, Co. Clare. 2. Level of compliances with EPA – IE Licence. 3. Rates of energy and or renewable energy consumption. 4. The level of GHG emissions from the Moneypoint Generating Station site and the changes in GHG emissions over the GA Concept period. 5. As follows: – Onsite noise and dust monitoring at the Moneypoint Generating Station site. – Number of complaints received	1. As follows: – EPA Annual Air Quality Reports; and – Air Quality Monitoring Stations around Clare. 2. EPA IE Licence/ ESB AER. 3. Monitoring related to the GA Concept - rates of energy and or renewable energy production/ consumption onsite, over the lifetime of the GA Concept. 4. EPA IE Licence/ EPA AER. 5. As follows: – Monitoring of the effects of project developments required under separate processes (EIA, AA); and	1. As follows: – EPA, annually; and – EPA, continuously. 2. EPA, continuously/ annually and ESB annually. 3. ESB, varies. 4. EPA, continuously/ annually. 5. As follows: – In accordance with the monitoring of provisions of EIA/AA; and – EPA, continuously/ annually.

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
		SEA in line with the SEA Directive (2001/42/EC) and AA as necessary, in line with Article 6 of the Council Directive 92/43/EEC.	relating to dust and or noise.	– EPA IE Licence/ EPA AER.	
AA&CH	• A range of principles have also been identified, for the purposes of this assessment, as having the potential to result in 'uncertain' effects on AA&CH. • This means that in the worst-case scenario there is potential for further negative environmental effects to occur. The SEA monitoring measures outlined have been developed to also take these potential negative effects into account. • Otherwise, neutral impacts were identified as likely to occur for AA&CH for the	• Potential for cumulative negative effects to occur on AA&CH due to works associated with any new development (particularly on known or previously unknown archaeological sites and features) arising as a result of the implementation of the GA Concept, in combination with any plans which also reference marine and land use planning (i.e. SIFP for the Shannon Estuary). • All such plans will however be subject to SEA in line with the SEA Directive (2001/42/EC) and AA as necessary, in line with Article 6 of the	1. Avoidance of significant adverse effects, both direct and indirect, to sites and features of archaeological/architectural/cultural heritage (both terrestrial and underwater) as a result of the implementation of the GA Concept.	1. As follows: – Registers of nationally protected sites and structures – Monitoring related to relevant regional, Local Area Plans and County/City Development Plans for Clare; and – Monitoring of the effects of projects and or development required under separate processes (EIA, SEA)	1. As follows: – NPWS (National Parks and Wildlife Services), NMS (National Monuments Service), UNESCO and Department for Communities Historic Environment Division (continually); – CCC, varies; and – In accordance with the monitoring provisions of EIA

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
	purposes of this assessment.	Council Directive 92/43/EEC.			
L&V	• Principles in the GA Concept have been identified as having potential to result in negative effects on L&V during the construction of and or any development that has potential to occur across the Moneypoint Generating Station site, e.g., ESB will seek to develop and enhance coastal infrastructure at the Moneypoint Generating Station site to facilitate its development as a hub for the ORE industry. It is expected that new infrastructure will be required for the delivery of turbine elements, deployment of substructures, assembly of turbines and limited storage, at the quayside. This may require the removal of the old jetty and the development of new	• Potential for cumulative negative effects to occur on L&V due to visual disturbance associated with any construction works/ operation associated with any new developments that are likely to arise as a result of the implementation of the GA Concept. • All such plans will however be subject to SEA in line with the SEA Directive (2001/42/EC) and AA as necessary, in line with Article 6 of the Council Directive 92/43/EEC.	1. No deterioration of landscape and or seascapes or areas with scenic value e.g., Protected Views as a result of the implementation of the GA Concept.	1. As follows: – Monitoring of the effects of any projects and or development required under separate processes (EIA); and – Monitoring related to relevant Local Area Plans and County/City Development Plans or RSES's e.g., Landscape Character Assessments as part of County Development Plans, for County Clare.	1. As follows: – In accordance with the monitoring provisions of EIA; and – In accordance with the monitoring provisions of Clare County/City Development Plans or RSES's – Relevant Local Authority (CCC), continuously.

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
	quayside infrastructure including infilling/ land reclamation. • A range of principles have also been identified, for the purposes of this assessment, as having the potential to result in 'uncertain' effects on L&V. • This means that in the worst-case scenario there is potential for further negative environmental effects to occur. The SEA monitoring measures outlined have been developed to also take these potential negative effects into account.				
MA	• No definitive likely negative effects on MA have been identified, predominantly neutral and positive impacts were identified as likely to occur for MA for the purposes of this assessment.	• Potential for cumulative positive effects on MA (i.e. increased renewable energy developments and replacement of energy produced solely from fossil fuel to green energy overtime) to occur as a result of	1. Rates of energy and/or renewable energy generation. 2. Records of local service disruption. 3. Quantity of waste generated, and levels	1. As follows: – Monitoring related to the GA Concept - rates of energy and or renewable energy production/ consumption onsite, over the lifetime of	1. As follows: – ESB, varies; and – SEAI, varies. – ESB, continuously. 2. ESB, varies. 3. As follows:

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
		additional and improved electricity supply and security resulting from the implementation of the GA Concept, in combination with the implementation of a number of plans outlined in Section 3 and Appendix A. • Potential for cumulative negative effects on MA to occur as a result of any construction/development associated with the implementation of the GA Concept, particularly in combination with any marine and land use planning or energy policies and strategies which will involve physical works on or surrounding the Plan area. • All such plans will however be subject to SEA in line with the SEA Directive (2001/42/EC) and AA	of waste reused or recycled on site. 4. Level of compliances with EPA – IE Licence.	the GA Concept; and – Sustainable Energy Authority of Ireland (SEAI) – Energy in Ireland Report. 2. ESB Power Check Services. 3. As follows: – Monitoring related to the GA Concept - Quantity of waste generated, and levels of waste reused or recycled on the Moneypoint Generating Station site; and – Monitoring of the effects of any projects and or development required under separate processes (EIA,). 4. EPA IE Licence/ ESB AER.	– ESB, varies; and – In accordance with the monitoring provisions of EIA. 4. EPA, continuously/ annually and ESB annually.

Environmental Component	Likely Significant Environmental Effects Identified	Potential Cumulative Effects Identified	SEA Indicators	Monitoring Source	Frequency/ Responsibility
		as necessary, in line with Article 6 of the Council Directive 92/43/EEC.			

9.2.2 Monitoring associated with EPA Licence

As previously discussed, Moneypoint Generating Station is licenced by the EPA under an IE Licence (Ref. P0605-04). Moneypoint Generating Station's IE Licence requires that activities onsite do not cause environmental nuisance such as odour, dust, or noise and the IE Licence contains conditions on how the site must operate in order to protect the environment from pollution that might otherwise arise.

In line with the IE Licence, environmental monitoring of emissions from the site is on-going. Throughout its operation, Moneypoint Generating Station has been maintained and improved to meet relevant environmental standards, and the IE Licence reviewed as appropriate. It is noted that the Moneypoint Generating Station IE Licence (Ref. P0605-04) includes a range of monitoring measures all of which must be complied with and reported upon annually.

A list of the environmental components monitored under the IE License is listed as follows.

- Emissions to Air;
- Emissions to Water;
- Emissions to Sewer;
- Waste Monitoring;
- Noise Monitoring;
- Ambient Monitoring;
- Groundwater Monitoring; and
- Soil Monitoring.

Refer to the Moneypoint Generating Station's IE Licence[64] (EPA, 2017) for full details of the specified monitoring measures.

[64] EPA (2017) INDUSTRIAL EMISSIONS LICENCE PO605-04. Available at: 01fae198-c68a-43ea-ba65-f236572fc175.pdf

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Appendix A

A.1 Combined Figures

Legend

Site Boundary

Kilometers

0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

Consultant

ARUP

50 Ringsend Road
Dublin 4
D04 T6X0
Ireland

T +353 1 233 4455
F +353 1 668 3169
W www.arup.com
E dublin@arup.com

Client

Energy for generations

Issue	Date	By	Chkd	Appd
P01	06/05/2025	KC	DM	SW

Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

Date
May 2025

Drawing Title
Study Area / Programme Boundary

Drawing Status

Figure No.
Fig A1

Project Number
298122-01

Legend

- Site Boundary

National Landcover (Tailte Éireann)

- Amenity Grassland
- Artificial Waterbodies
- Bare Peat
- Bare Soil and Disturbed Ground
- Blanket Bog
- Bracken
- Broadleaved Forest and Woodland
- Buildings
- Burnt Areas
- Coastal Sediments
- Coniferous Forest
- Cultivated Land
- Cutover Bog
- Dry Grassland
- Dry Heath
- Exposed Rock and Sediments
- Fens
- Hedgerows
- Improved Grassland
- Lakes and Ponds
- Marine Water
- Mixed Forest
- Mudflats
- Other Artificial Surfaces
- Raised Bog
- Rivers and Streams
- Salt Marsh
- Sand Dunes
- Scrub
- Swamp
- Transitional Forest
- Transitional Waterbodies
- Treelines
- Ways
- Wet Grassland
- Wet Heath

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Project Title
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Scale
1:25,000

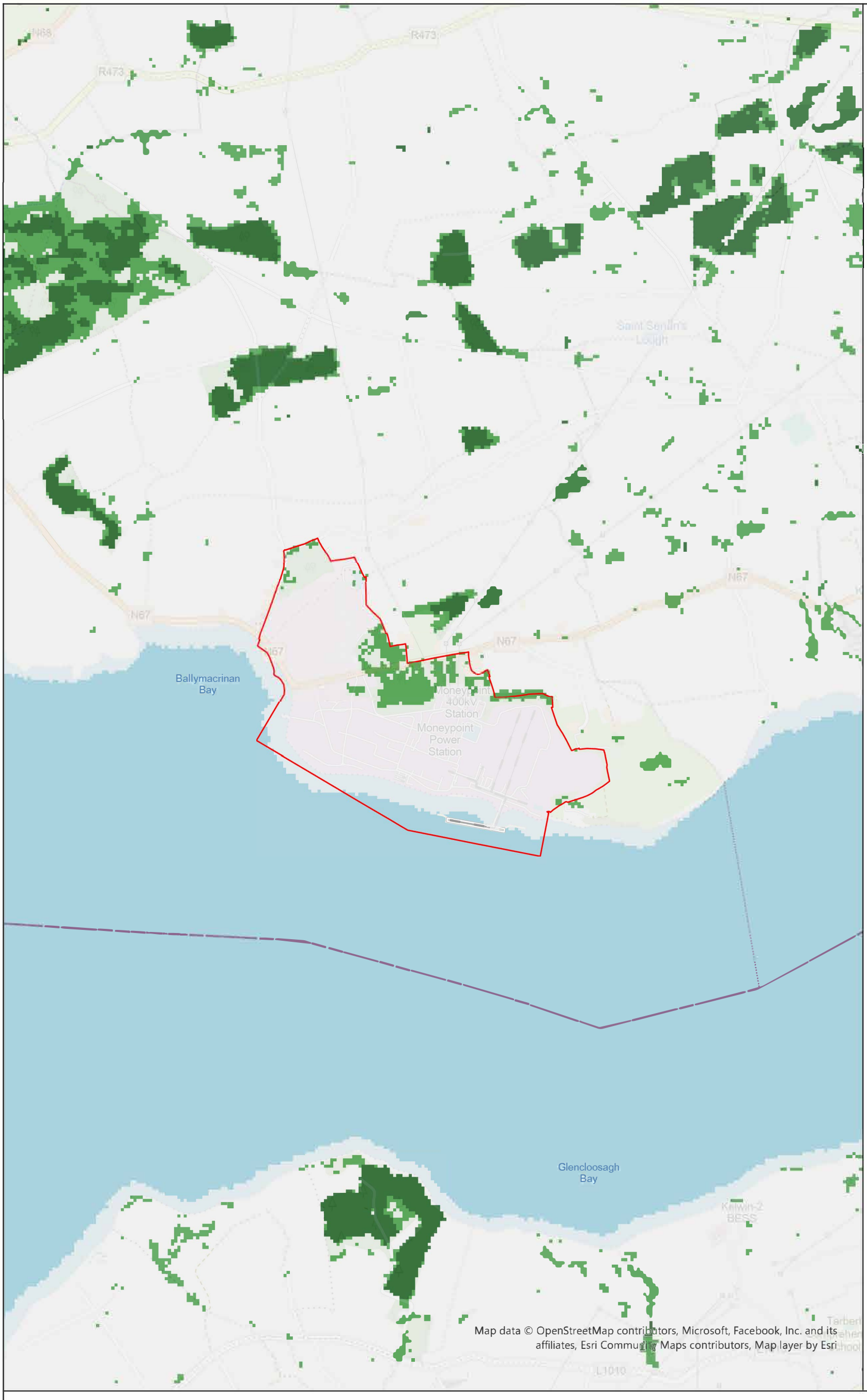
Date
May 2025

Drawing Title
National Landcover Map, Tailte Éireann
Licence No. EN 0023719-24
© Tailte Éireann/Government of Ireland

Drawing Status

Figure No.
Fig A2

Project Number
298122-01



Legend

- Site Boundary
- Copernicus Land Monitoring Dominant Leaf Type
  - All Non-Tree Covered Areas
  - Broadleaved Trees
  - Coniferous Trees
  - Unclassifiable (no satellite image available, or clouds, shadows, or snow)

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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ESB Energy for generations

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Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

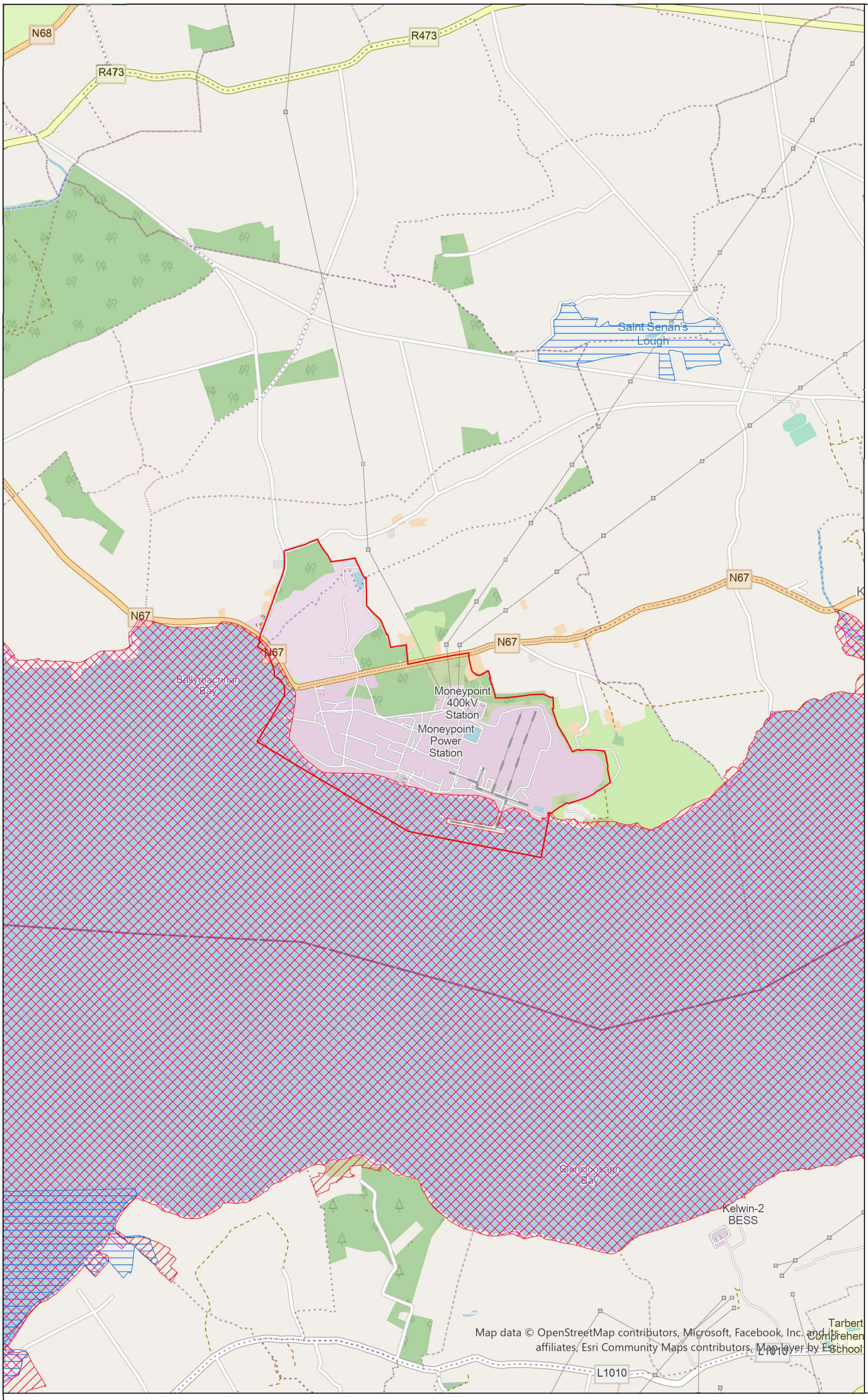
Date
May 2025

Drawing Title
Copernicus Land Monitoring Tree Cover

Drawing Status

Figure No.
Fig A3

Project Number
298122-01



Legend

- Site Boundary

Designated Sites (National Parks and Wildlife Service)

- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Proposed National Heritage Areas (pNHA)

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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50 Ringsend Road
Dublin 4
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Ireland

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P01	06/05/2025	KC	DM	SW

Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

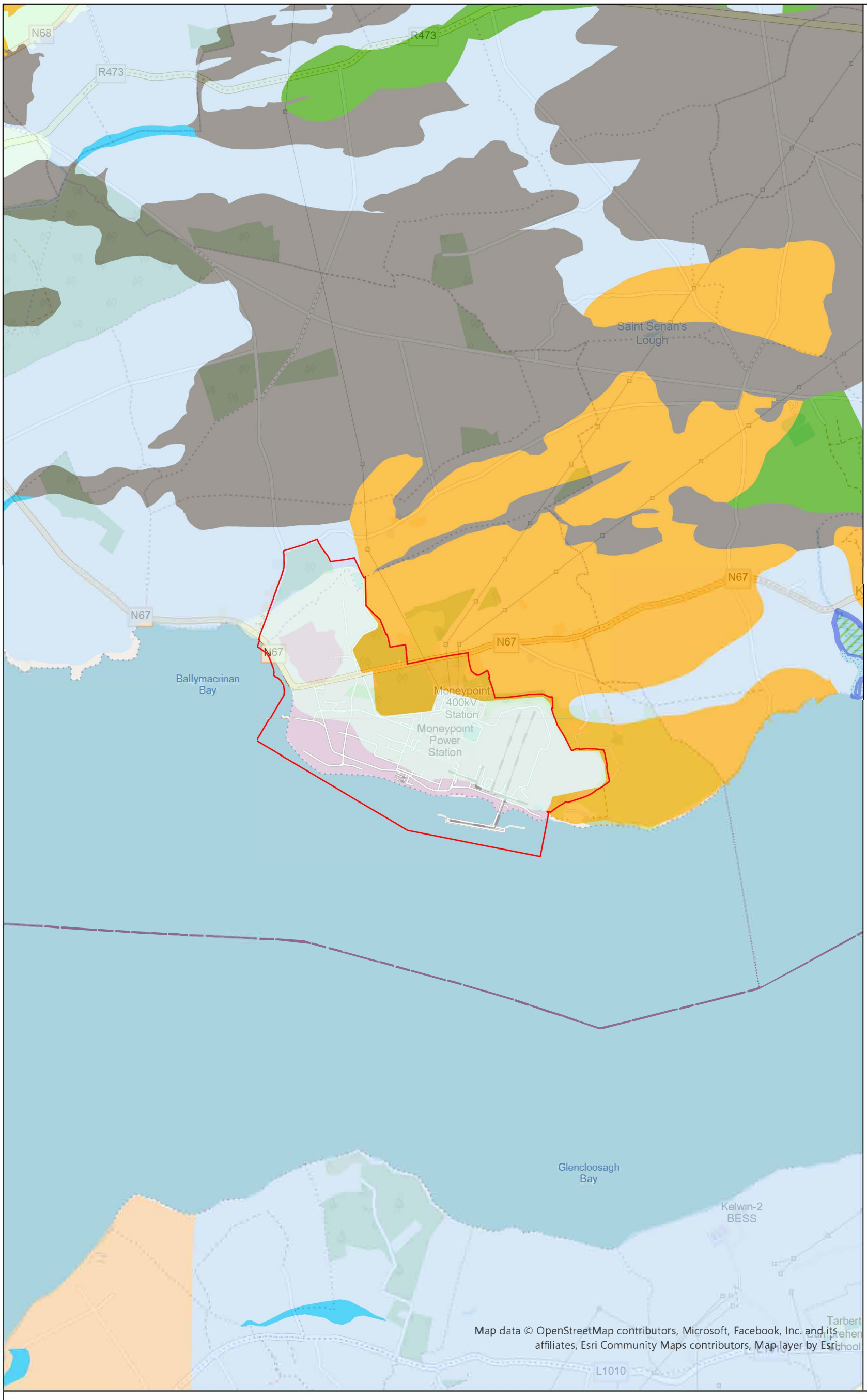
Date
May 2025

Drawing Title
Designated Sites (NPWS)

Drawing Status

Figure No.
Fig A4

Project Number
298122-01



Legend

- Site Boundary

Soils (Irish Soil Information System (ISIS))

Association Unit & Name

- 05MAR - Marine
- 05RIV - River
- 0700b - Kilrush
- 0960c - Borrisoleigh
- 1100n - Clashmore
- 1160a - Ashgrove
- 1xx - Peat
- Rock
- Tidal marsh
- Urban
- Water body

Kilometers

0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

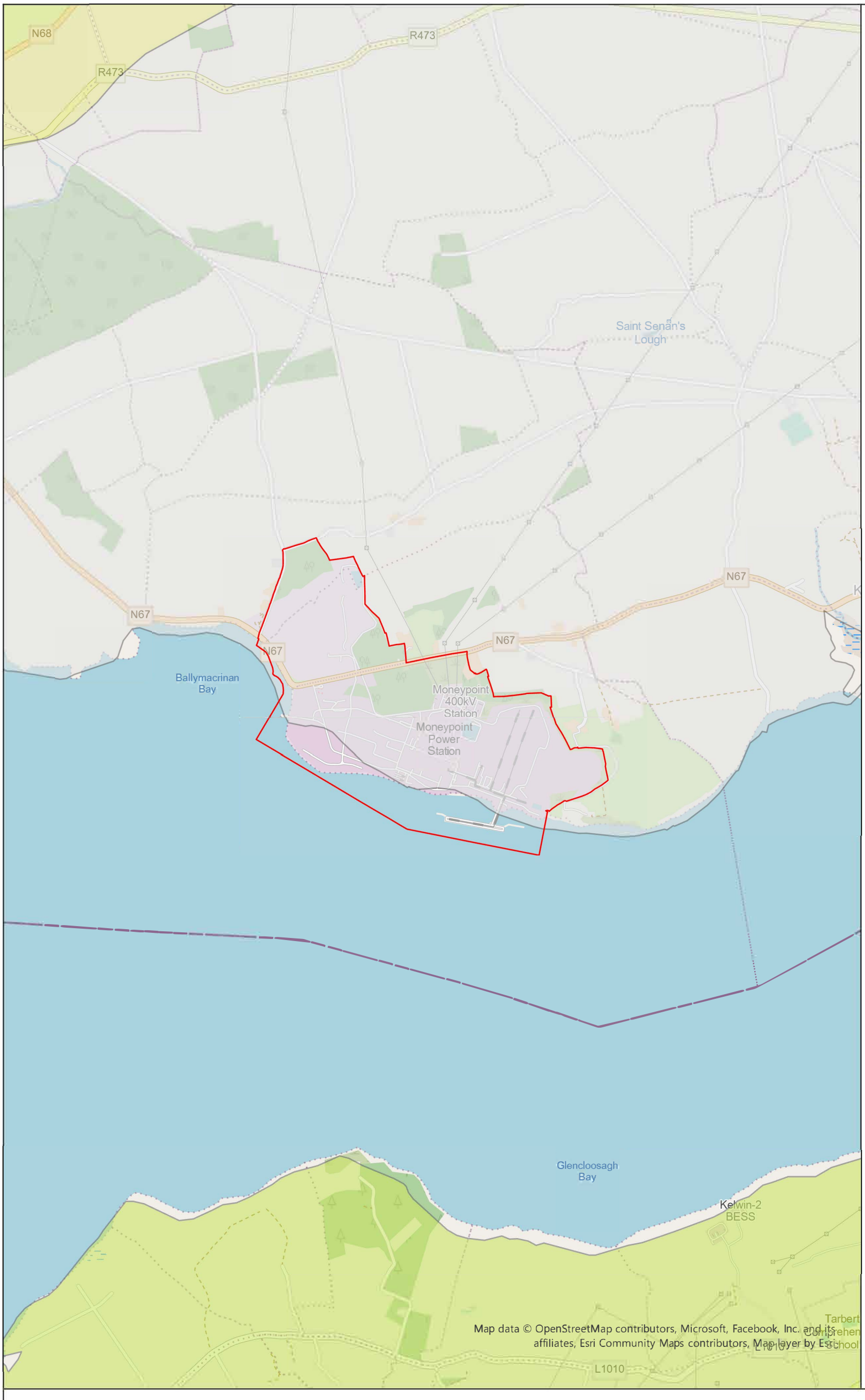
Date
May 2025

Drawing Title
Teagasc Soils

Drawing Status

Figure No.
Fig A5

Project Number
298122-01



Legend

- Site Boundary

Bedrock Geology (Geological Survey of Ireland: 100k)

Unit

- Central Clare Group
- Gull Island Formation
- Shannon Group

Kilometers

0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

Date
May 2025

Drawing Title
Bedrock Geology (GSI)

Drawing Status

Figure No.
Fig A6

Project Number
298122-01

Legend

- Site Boundary
- Republic Of Ireland
- Rivers (Environmental Protection Agency (EPA))

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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P01	06/05/2025	KC	DM	SW

Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

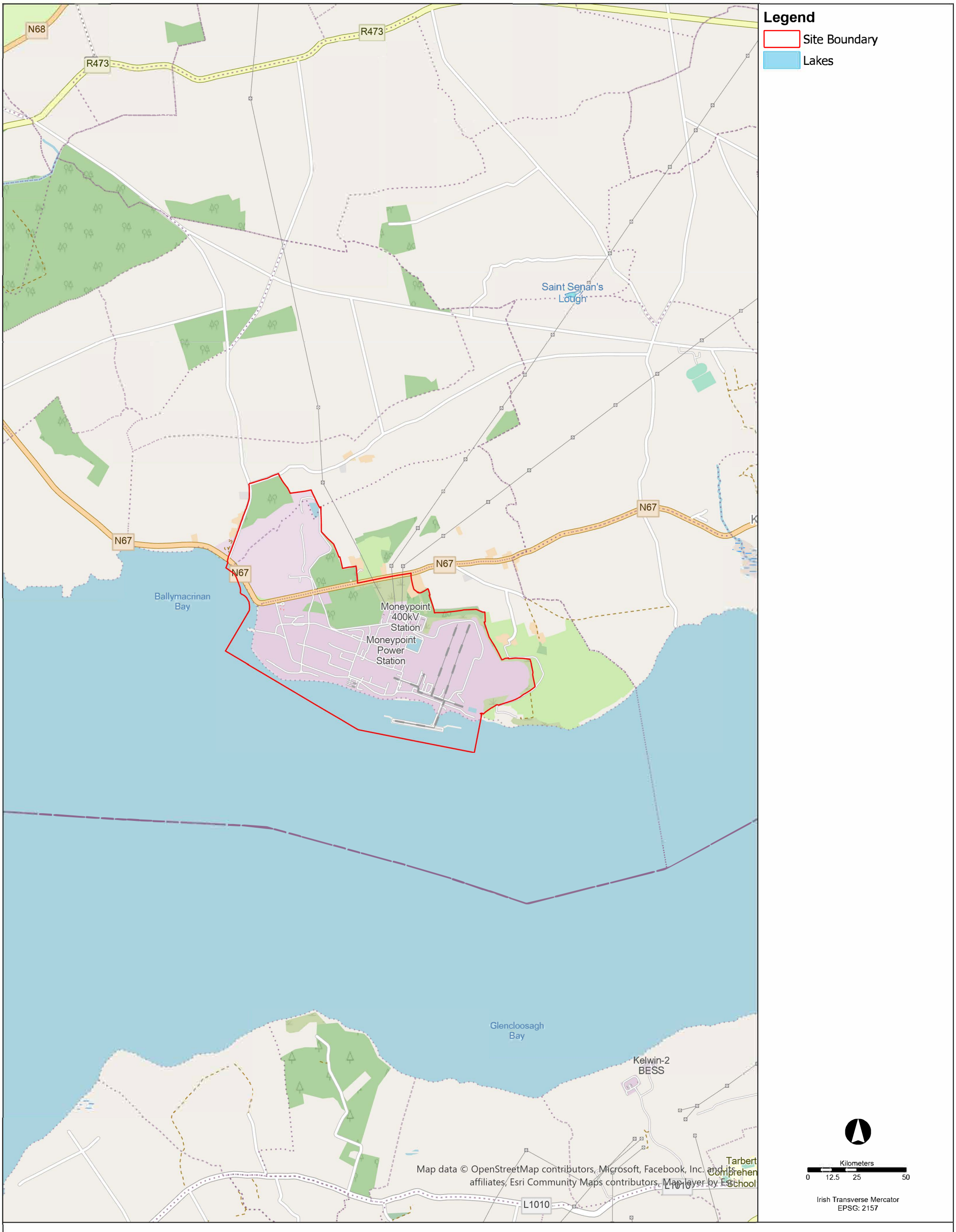
Date
May 2025

Drawing Title
River Network (EPA)

Drawing Status

Figure No.
Fig A7

Project Number
298122-01



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Issue	Date	By	Chkd	Appd
P01	06/05/2025	KC	DM	SW

Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

Date
May 2025

Drawing Title
Lake Network (EPA)

Drawing Status

Figure No.
Fig A8

Project Number
298122-01

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Dublin 4 F +353 1 668 3169
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Ireland E dublin@arup.com

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Issue	Date	By	Chkd	Appd
P01	06/05/2025	KC	DM	SW

Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
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Date
May 2025

Drawing Title
Water Framework Directive River Waterbody Status (2016 - 2021)

Drawing Status

Figure No.
Fig A9

Project Number
298122-01

Legend

- Site Boundary
- WFD River Waterbody Risk (2016 - 2021)
  - At risk
  - Not at risk
  - Review

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

Consultant

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P01	06/05/2025	KC	DM	SW

Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

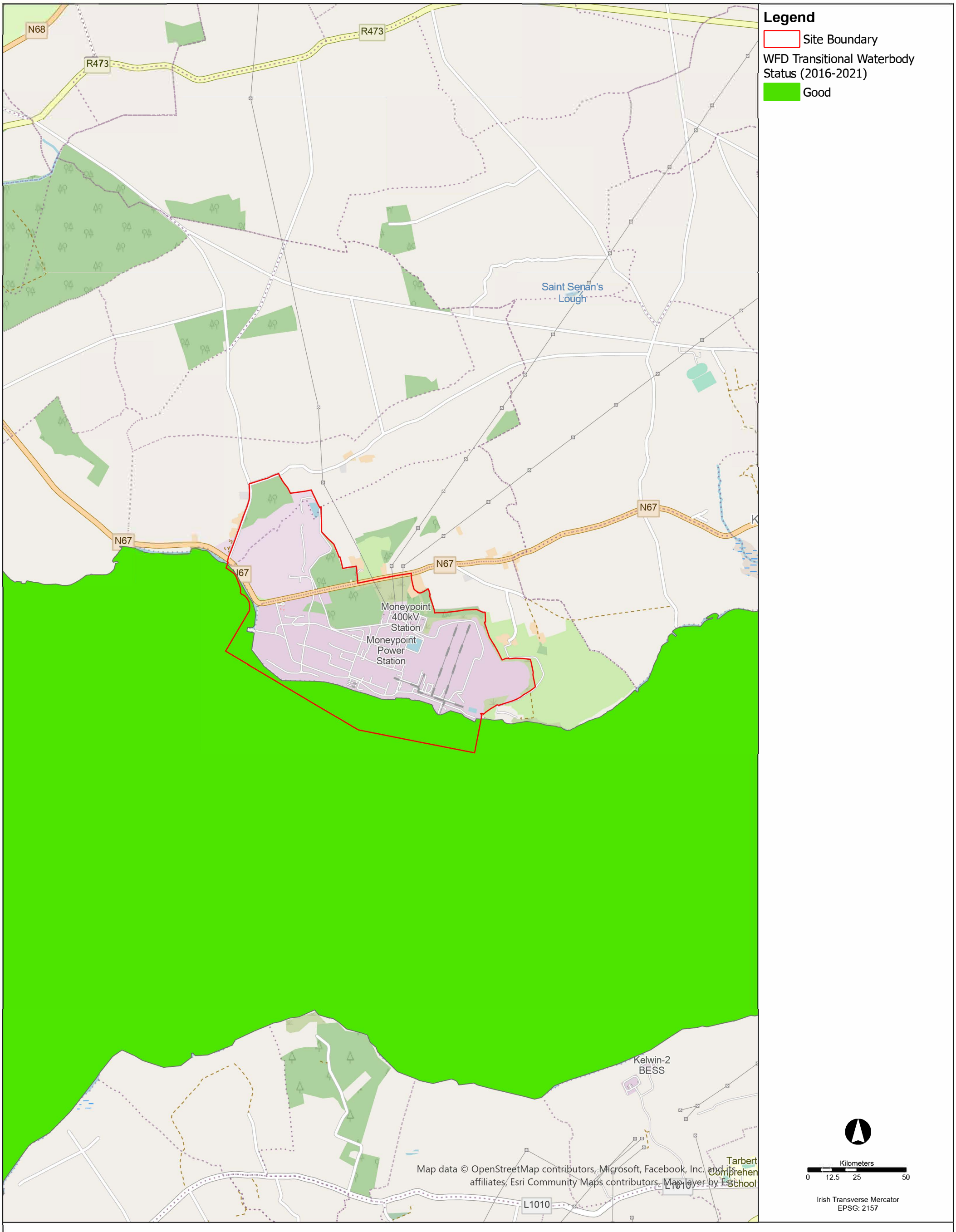
Date
May 2025

Drawing Title
Water Framework Directive River Waterbody Risk (2016 - 2021)

Drawing Status

Figure No.
Fig A10

Project Number
298122-01



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50 Ringsend Road
Dublin 4
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W www.arup.com
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Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

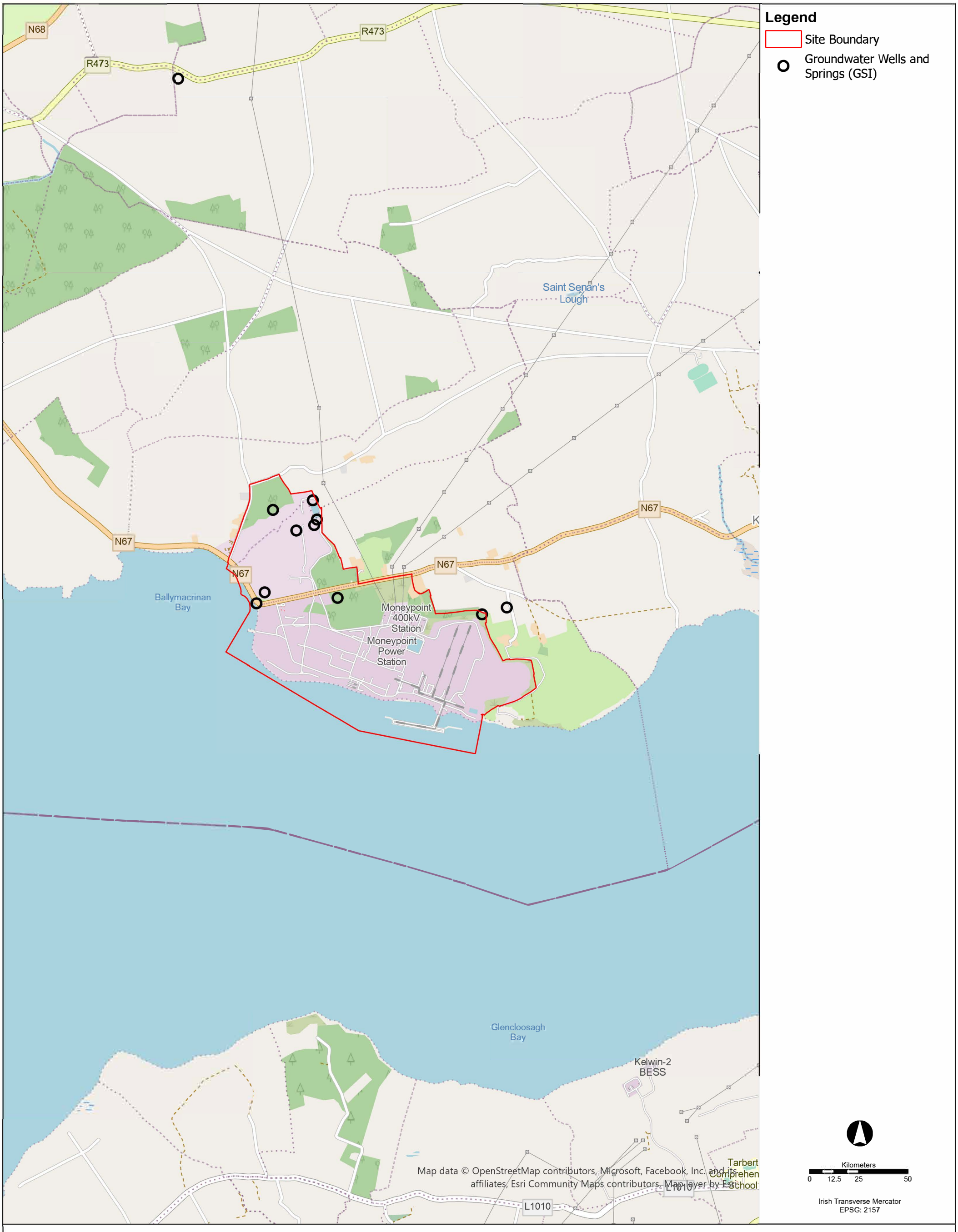
Date
May 2025

Drawing Title
Water Framework Directive Transitional Waterbody Status (2016 - 2021)

Drawing Status

Figure No.
Fig A11

Project Number
298122-01



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P01	06/05/2025	KC	DM	SW

Project Title

SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale

1:25,000 @ A3

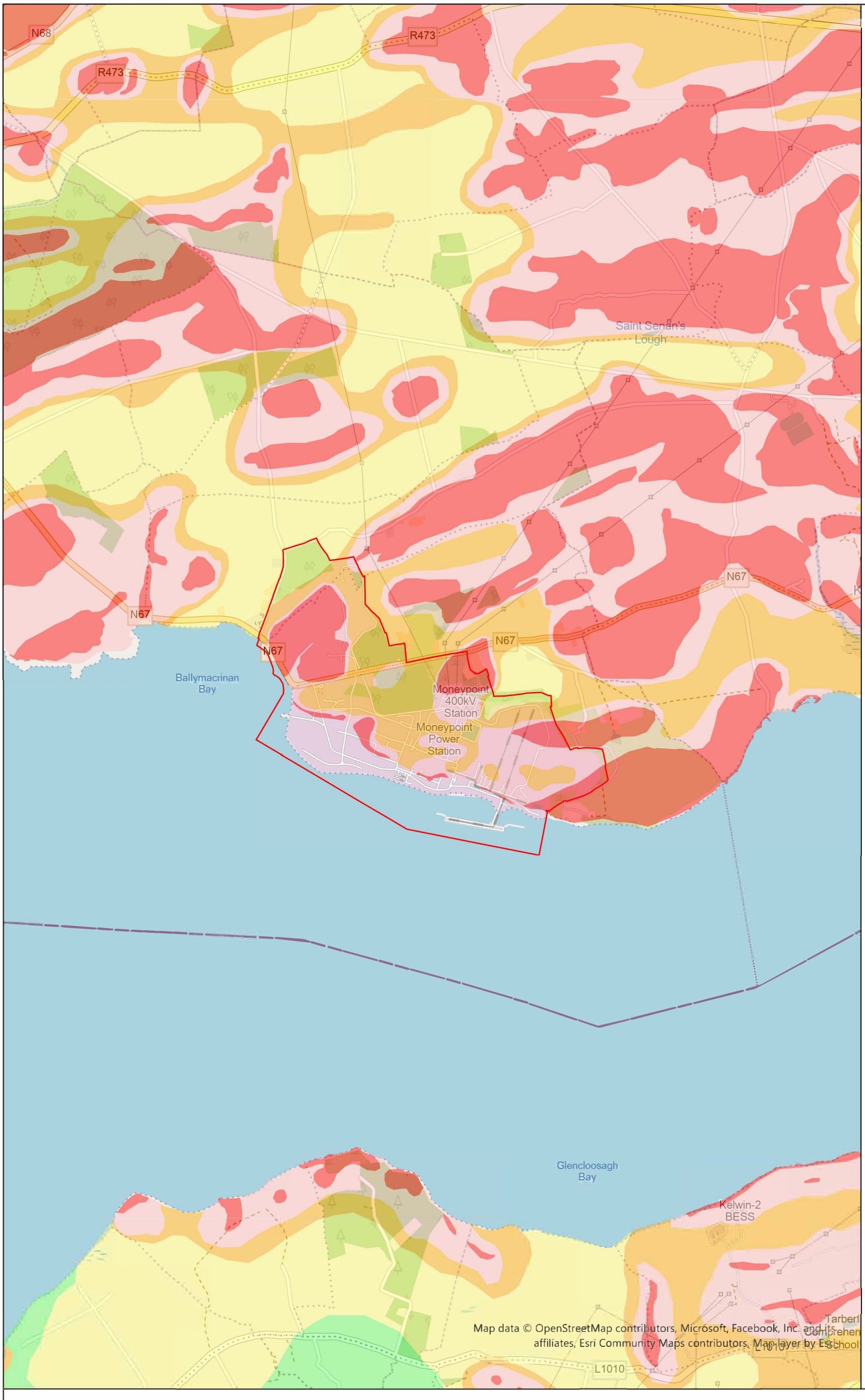
Date: May 2025

Drawing Title

Karst Landforms & Source Protection Zones (GSI)

Drawing Status

Figure No.	Project Number
Fig A12	298122-01



Legend

- Site Boundary

Groundwater Vulnerability (GSI)

- Rock at or near Surface or Karst
- Extreme
- High
- Moderate
- Low

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Ireland

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Issue	Date	By	Chkd	Appd
P01	06/05/2025	KC	DM	SW

Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

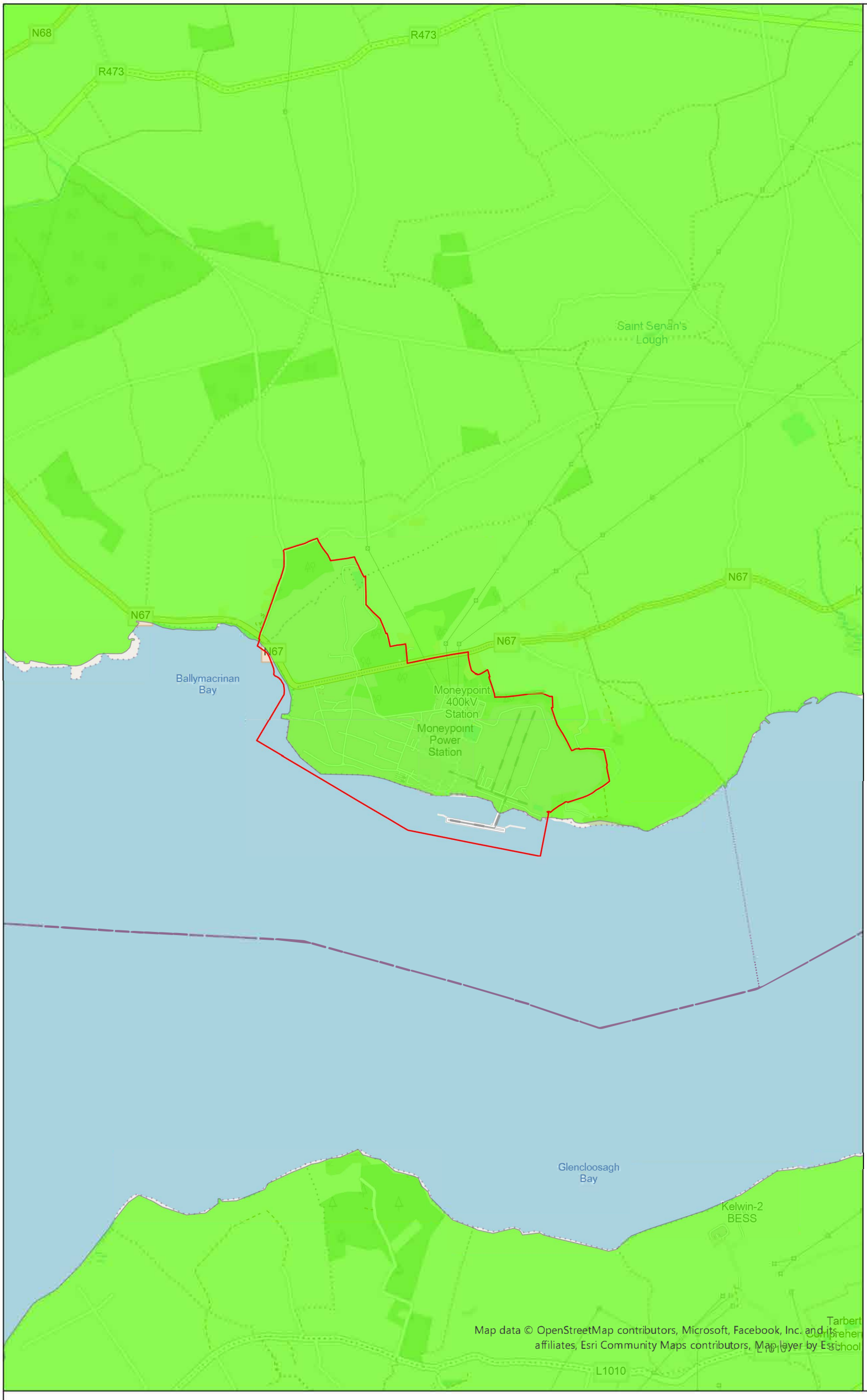
Date
May 2025

Drawing Title
Groundwater Vulnerability (GSI)

Drawing Status

Figure No.
Fig A13

Project Number
298122-01



Legend

Site Boundary

WFD Groundwater Bodies Status (2016 - 2021)

Good

Kilometers

0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

Consultant

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P01	06/05/2025	KC	DM	SW

Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

Date
May 2025

Drawing Title
WFD Groundwater Bodies Status (2016 - 2021)

Drawing Status

Figure No.
Fig A14

Project Number
298122-01

Legend

- Site Boundary
- Indicative Protective Trees

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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ARUP

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Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

Date
May 2025

Drawing Title
Indicative Protected Trees

Drawing Status

Figure No.
Fig A15

Project Number
298122-01

Legend

- Site Boundary
- National Sites and Monuments Record (SMR)
- National Inventory of Architectural Heritage (NIAH)

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Issue	Date	By	Chkd	Appd
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Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

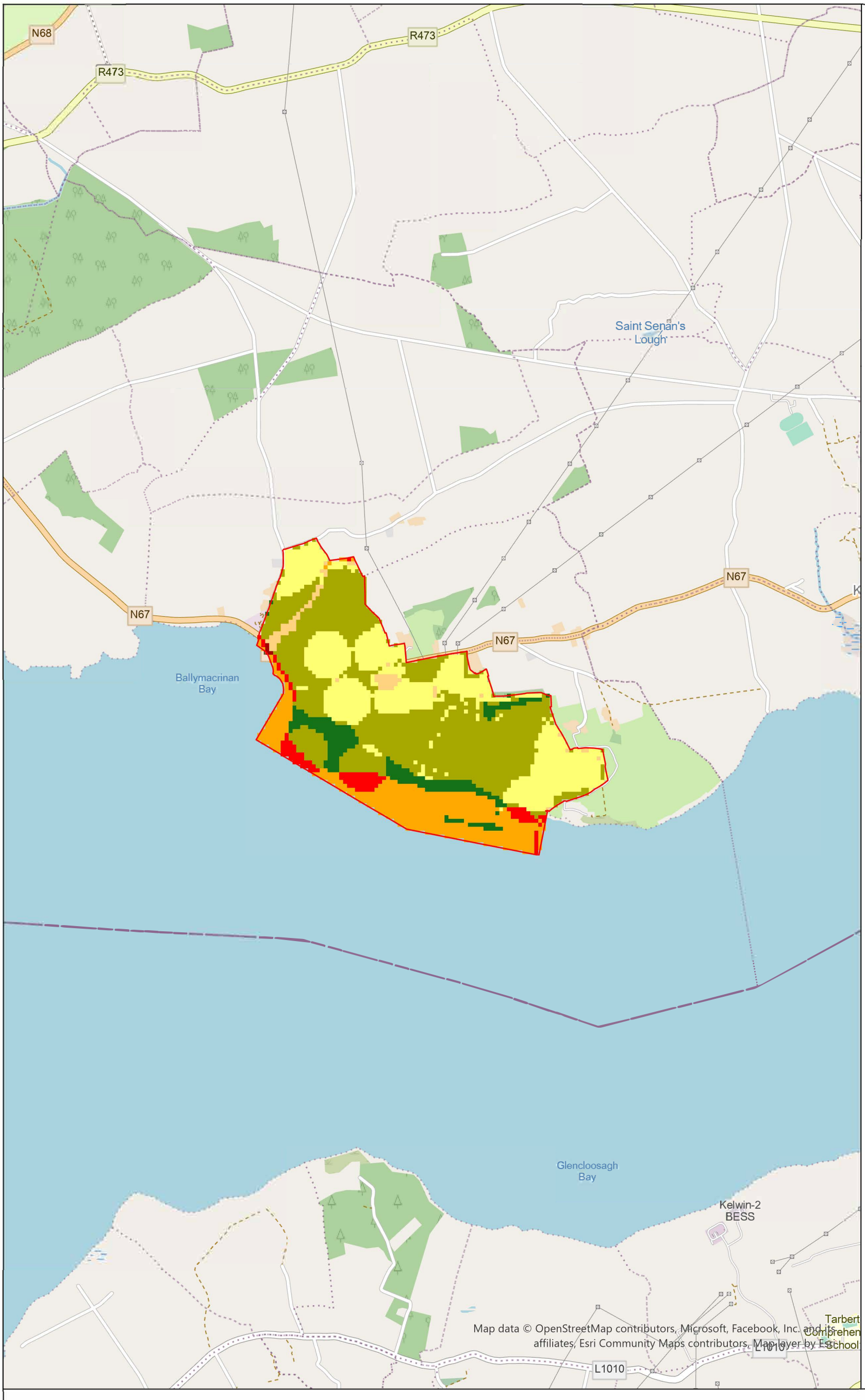
Date
May 2025

Drawing Title
Cultural, Archaeological, and Architectural Heritage (ASI/NMS)

Drawing Status

Figure No.
Fig A16

Project Number
298122-01



Legend

- Site Boundary

Environmental Sensitivity Rating

- No sensitivity
- Low-sensitivity areas
- Moderate-sensitivity areas
- Elevated-sensitivity areas
- High-sensitivity areas
- Extreme-sensitivity areas
- Acute-sensitivity areas

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Issue	Date	By	Chkd	Appd
P01	06/05/2025	KC	DM	SW

Project Title
SEA of the draft Green Atlantic @ Moneypoint Concept document

Scale
1:25,000

Date
May 2025

Drawing Title
Environmental Sensitivity

Drawing Status

Figure No.
Fig A17

Project Number
298122-01

A.2 Relationship with Other Relevant Plans, Programmes, Policy, or Legislation

Table A.1 Relationship with Other Relevant Plans, Programmes, Policy, or Legislation

Plan, Programme, Policy, or Legislation	Plan, Programme, Policy, or Legislation Objectives
Energy	
Energy Security in Ireland to 2030 (DECC, 2023)	Strategy aims to ensure energy security in Ireland for this decade, while ensuring a sustainable transition to a carbon neutral energy system by 2050. The report has 28 actions in total and is a roadmap to ensuring a sustainable, affordable and secure energy landscape that balances energy risk and resilience against our binding European and domestic energy and climate commitments.
National Energy Security Framework (NESF) (DECC, 2022)	This framework is a response to the challenges of ensuring the ongoing and long-term security of affordable energy supply. The Framework provides a single overarching and initial response to address Ireland's energy security needs in the context of the war in Ukraine. It outlines the structures which are in place within Government to monitor and manage our energy supplies. It sets out the plans which are in place to deal with energy security emergencies should they arise and outlines out how these plans will be tested in light of the war in Ukraine.
Designated Maritime Area Plan (DMAP) Proposal for ORE (DECC, 2023)	The DMAP Proposal for ORE signals Ireland's first step into the systemic, plan-led development of Ireland's huge off-shore wind potential. DMAPs will determine the broad area where ORE projects can be developed and will act as a management plan for a specific area of our marine waters, which can be used to develop multi-activity area plans to promote the use of specific activities, including offshore renewables.
National Hydrogen Strategy (DECC, 2023)	This Strategy sets out the strategic vision on the role that hydrogen will play in Ireland's energy system, looking to its long-term role as a key component of a zero-carbon economy, and the short-term actions that need to be delivered over the coming years to enable the development of the hydrogen sector in Ireland. The Strategy is being developed for three primary reasons: 1. Enhancing our energy security, through the development of an indigenous zero carbon renewable fuel which can act as an alternative to the 77% of our energy system which today relies on fossil fuel imports. 2. Decarbonising our economy, providing a solution to hard to decarbonise sectors where electrification is not feasible, or cost-effective. 3. Developing industrial opportunities, through the potential development of export markets for renewable hydrogen and other areas such as Sustainable Aviation Fuels.
EU 2030 Framework for Climate and Energy (EC, 2021)	A 2030 Framework for climate and energy, including EU-wide targets and policy objectives for the period between 2020 and 2030 that has been agreed by European countries. Targets include a 40% cut in greenhouse gas emissions compared to 1990 levels, at least a 27% share of renewable energy consumption and at least 27% energy savings compared with the business-as-usual scenario.
National Energy & Climate Plan (NECP) 2021 – 2030	Ireland's National Energy & Climate Plan (NECP) 2021-2030 takes into account energy and climate policies developed up to 2019, the levels of demographic and economic growth identified in the National Planning Framework - Project 2040 and includes all of the climate and energy measures as set out in the National Development Plan 2018- 2027.
Draft Renewable Electricity Development Framework (DCCAE) 2016	The goal of this framework is to optimise the opportunities in Ireland for renewable electricity development on land at significant scale, to serve both the All Island Single Electricity Market and any future regional market within the European Union, in accordance with European and Irish law, including Directive 2009/28/EC: On the promotion of the use of energy from renewable resources.
Renewable Energy Directive	The Renewable Energy Directive (RED) is the legal framework for the development of renewable energy across all sectors of the EU economy, supporting clean energy cooperation across EU countries.

Plan, Programme, Policy, or Legislation	Plan, Programme, Policy, or Legislation Objectives
	The Directive (2009/28/EC) was revised and entered into force in 2018, given the need to speed up the EU clean energy transition. It has been legally binding since June 2021. The RED sets the overarching European renewable energy target of 32% and includes rules to ensure the uptake of renewables in the transport sector and in heating and cooling, as well as rules for renewables support schemes, the rights to produce and consume renewable energy, to establish renewable energy communities, and sustainability criteria for biomass. The RED also establishes rules to remove barriers, stimulate investments and drive cost reductions in renewable energy technologies, and empowers citizens, consumers and businesses to participate in the clean energy transformation.
Climate and Air Quality	
Paris climate conference (COP21) 2015 (Paris Agreement)	At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2° C.
EU 2030 Framework for Climate and Energy	A 2030 Framework for climate and energy, including EU-wide targets and policy objectives for the period between 2020 and 2030 that has been agreed by European countries. Targets include a 40% cut in greenhouse gas emissions compared to 1990 levels, at least a 27% share of renewable energy consumption and at least 27% energy savings compared with the business-as-usual scenario.
European Green Deal (EGD) 2020	The deal sets out how to make Europe the first climate-neutral continent by 2050, boosting the economy, improving people's quality of life, caring for nature and leaving no one behind.
EU (2018) Clean Air Policy Package	Aims to substantially reduce air pollution across the EU.
Clean Air Strategy for Ireland	The Clean Air Strategy will provide the strategic policy framework necessary to identify and promote integrated measures across government policy that are required to reduce air pollution and promote cleaner air while delivering on wider national objectives.
National Energy & Climate Plan (NECP) 2021 – 2030	Ireland's National Energy & Climate Plan (NECP) 2021-2030 takes into account energy and climate policies developed up to 2019, the levels of demographic and economic growth identified in the National Planning Framework - Project 2040 and includes all of the climate and energy measures as set out in the National Development Plan 2018- 2027.
National Air Pollution Control Programme (DCCAE, 2019)	The National Air Pollution Control Programme (NAPCP) is the main governance instrument by which EU Member States must ensure that the emission reduction commitments for 2020-2029 and 2030 onwards are met. The first NAPCPs were due by 1 April 2019. This was the first iteration of the NAPCP report for Ireland, which comes under Article 6(10) of Directive (EU) 2016/22841. The NAPCP reports on both air quality and air pollution emissions of NO_x, SO_x, NMVOC, NH_3, and $PM_{2.5}$. The NAPCP is to be submitted every fourth year.
Ag Climatise: A Roadmap Towards Climate Neutrality 2020-2050	This document is a roadmap designed to help all stakeholders to work together to tackle climate change and air pollution, by clearly explaining what we need to do and when we need to do it. By collectively pooling expertise and energy we can determine how best to do it, ensuring our sector remains at the forefront of globally sustainable food production systems.
Draft Renewable Electricity Development Framework (DCCAE) 2016	The goal of this framework is to optimise the opportunities in Ireland for renewable electricity development on land at significant scale, to serve both the All Island Single Electricity Market and any future regional market within the European Union, in accordance with European and Irish law, including Directive 2009/28/EC: On the promotion of the use of energy from renewable resources.
CAP 2025	CAP 2025 is the third annual update to Ireland's Climate Action Plan. The CAP 2025 was published in April 2025 and was subject to SEA and AA Screening. The CAP 2025 builds upon the CAP 2024 by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings. The CAP 25 provides a roadmap for taking the necessary action to halve Ireland's emissions by 2030 and reach net zero by no later than 2050, as committed to in the Climate Action and Low Carbon Development (Amendment) Act 2021.

Plan, Programme, Policy, or Legislation	Plan, Programme, Policy, or Legislation Objectives
	In order to do so, the Plan sets out the actions the Government intends to take across sectors such as electricity, transport, built environment, industry and agriculture.
National Adaptation Framework (NAF) 2018 and associated regional, local and sectoral adaptation plans	NAF specifies the national strategy for the application of adaptation measures in different sectors and by local authorities in their administrative areas in order to reduce the vulnerability of the State to the negative effects of climate change and to avail of any positive effects that may occur.
Renewable Energy Directive	The Renewable Energy Directive (RED) is the legal framework for the development of renewable energy across all sectors of the EU economy, supporting clean energy cooperation across EU countries. The Directive (2009/28/EC) was revised and entered into force in 2018, given the need to speed up the EU clean energy transition. It has been legally binding since June 2021. The RED sets the overarching European renewable energy target of 32% and includes rules to ensure the uptake of renewables in the transport sector and in heating and cooling, as well as rules for renewables support schemes, the rights to produce and consume renewable energy, to establish renewable energy communities, and sustainability criteria for biomass. The RED also establishes rules to remove barriers, stimulate investments and drive cost reductions in renewable energy technologies, and empowers citizens, consumers and businesses to participate in the clean energy transformation.
Land Use and Planning	
CCDP 2023-2029	The CCDP 2023-2029 sets out an overall strategy for the proper planning and sustainable development of the functional area of Clare County Council over a 6-year period. Development Plans comprise a written statement supported by maps indicating the development objectives for the area in question, including a number of mandatory objectives.
SIFP for the Shannon Estuary	The SIFP for the Shannon Estuary was commissioned in 2011 by CCC, Kerry County Council (KCC), Limerick City (LC) and County Councils, Shannon Group and Shannon Foynes Port Company. It was overseen by a multi-agency Steering Group comprising of the above, and other key stakeholders with an interest in the Estuary, with CCC as lead authority. The goal at the outset of the SIFP preparation was to review existing relevant information and data, conduct additional essential research and prepare a marine and land use planning strategy for the SIFP study area.
Limerick Development Plan 2022-2028	The Limerick Development Plan 2022-2028 sets out the overall strategy for proper planning and sustainable development of Limerick over a 6-year period to 2028.
Kerry County Development Plan 2022-2028	The Kerry County Development Plan 2022-2028 is a strategic document which informs and guides the development of the county over a period of six years.
EPA Land Use Review - The Land Use Evidence Review	Aims to address land use challenges and inform consideration of policy responses, this review is being carried out in two distinct phases: Phase 1 – Evidential Review Phase 1 of the Land Use Review, which is currently underway and being led by EPA. Phase 1 aims to provide an evidence base to determine an appropriate land use indicator set for Ireland, as well as determining the environmental, ecological, and economic characteristics of land types across Ireland. Phase 1 of the Evidence Review activity commenced in June 2021 and is scheduled to complete in Quarter 3, 2022. Phase 2 – Building on the evidence base from Phase 1, Phase 2 will identify appropriate policies, measures and actions in the context of the government's wider economic, social and climate objectives. It is anticipated that such a review will allow knowledge transfer to policymakers, advisory services, and landowners in making informed choices as to how best to use land. The Department of Environment, Climate and Communications (DECC) and DAFM had prepared a concept paper for the National Land Use Evidence Review and identified policy relevant questions and policy support outputs desired from the EPA led Phase 1 Evidence Review stage. These specifics were key to informing the agile work programme devised by EPA.

Plan, Programme, Policy, or Legislation	Plan, Programme, Policy, or Legislation Objectives
Ireland 2040 - Our Plan, the National Planning Framework and the National Development Plan (2018-2027)	The National Planning Framework is the Government's high-level strategic plan for shaping the future growth and development of to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment - from villages to cities, and everything around and in between. The National Development Plan sets out the investment priorities that will underpin the successful implementation of the new National Planning Framework. This will guide national, regional and local planning and investment decisions in Ireland over the next two decades, to cater for an expected population increase of over 1 million people.
Planning, Land Use and Transport Outlook 2040 (in preparation)	The Planning, Land Use and Transport Outlook will take account of forecasted future economic and demographic scenarios, affordability considerations and relevant Government policies and will: • Quantify in broad terms the appropriate scale of financial investment in land transport over the long term. • Consider how fiscal, environmental and technological developments might impact on this investment; and, Identify strategic priorities for future investment to ensure land transport infrastructure provision facilitates the objectives of Project Ireland 2040.
National Landscape Strategy for Ireland 2015-2025	The National Landscape Strategy will be used to ensure compliance with the European Landscape Convention and to establish principles for protecting and enhancing the landscape while positively managing its change. It will provide a high-level policy framework to achieve balance between the protection, management and planning of the landscape by way of supporting actions. Landscape Strategy Vision: "Our landscape reflects and embodies our cultural values and our shared natural heritage and contributes to the well-being of our society, environment and economy. We have an obligation to ourselves and to future generations to promote its sustainable protection, management and planning."
National Rural Development Programme 2014 – 2022	The National Rural Development Programme, prepared by the Department of Agriculture, Fisheries and Food, sets out a national programme based on the EU framework for rural development and prioritises improving the competitiveness of agriculture, improving the environment, and improving the quality of life in rural areas.
Our Rural Future: Rural Development Policy 2021-2025	'Our Rural Future' provides a framework for the development of rural Ireland over the next five years. The Framework acknowledges that the country is heading into an era of unprecedented change as we recover from the impact of COVID-19, as we adapt to new ways of working, as the impact of Brexit presents itself and as we transition to a climate-neutral society. This change is considered a significant opportunity for rural areas.
Realising our Rural Potential: The Action Plan for Rural Development 2017	The Plan aims to unlock the potential of rural Ireland through a framework of supports at national and local level which will ensure that people who live in rural areas have increased opportunities for employment locally, and access to public services and social networks that support a high quality of life.
Regional Economic and Spatial Strategies 2019-2031	Regional Spatial and Economic Strategies provide a long-term strategic planning and economic framework for the Regions in order to support the implementation of the National Planning Framework.
EU Green Infrastructure Strategy	Aims to create a robust enabling framework in order to promote and facilitate Green Infrastructure (GI) projects.
Local Authority County Development Plans (CDP)	County Development Plans are used across Ireland as the main instrument used to regulate and control development in each County. The plan states the authority's policies for land use and for development control and promotion in its area. The authority, in making decisions on planning applications, must consider the provisions of the Plan, and try to secure its objectives.
Shannon Foynes Port Company Vision 2041 – Master Plan	The Shannon Foynes Port Company Vision 2041 – Master Plan is focussed upon driving growth across all sectors and modal types. Entry into new sectors and expanding existing sectors in line with international and national growth forecasts, including offshore renewables (ORE), biomass, energy, waste to energy and recycling are also key targeted growth areas.

Plan, Programme, Policy, or Legislation	Plan, Programme, Policy, or Legislation Objectives
Archaeological and Cultural Heritage	
UNESCO (1972) The Convention for the Protection of the World Cultural and Natural Heritage	Links concepts of nature conservation and the preservation of cultural properties; and recognises the way in which people interact with nature, and the fundamental need to preserve the balance between the two.
Convention of the Protection of the Architectural Heritage of Europe (Granada 1995)	The main purpose of the Convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It also affirms the need for European solidarity with regard to heritage conservation and is designed to foster practical co-operation among the Parties. It establishes the principles of "European co-ordination of conservation policies" including consultations regarding the thrust of the policies to be implemented.
Clare County Heritage Plan 2024-2030	The Clare County Heritage Plan 2024- 2030 sets out the framework for heritage activity and management for the next six years and represents an agreed way forward with partners and the community as well as the ongoing commitment to heritage by Clare County Council's Executive and Elected Members. It is the 4th Clare County Heritage Plan and was developed against a backdrop of challenges including the deepening climate crisis and global biodiversity collapse. The Draft Heritage plan builds on the work of previous County Heritage Plans for 2003 - 2007, 2011-2017 and 2017-2023.
Water	
National Water Resources Plan (NWRP)	The NWRP is a plan on how to provide a safe, secure and reliable water supply to customers for the next 25 years, without causing adverse impact on the environment. The objective of the NWRP is to set out how we intend to maintain the supply and demand for drinking water over the short, medium and long term whilst minimising the impact on the environment.
National Marine Planning Framework (NMPF) (DHLGH, 2018)	The NMPF brings together all marine-based human activities for the first time, outlining the Irish Government's vision, objectives, and marine planning policies for each marine activity.
Uisce Éireann Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan (2014-2016)	This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term.
Third Cycle Draft River Basin Management Plan 2022-2027	The River Basin Management Plan sets out the measures planned to maintain and improve the status of waters.
Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme	The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive.
Biodiversity	
The 4th National Biodiversity Action Plan	The goal of the next National Biodiversity Action Plan (NBAP) is that biodiversity is effectively conserved and restored, and the causes and key drivers of the biodiversity crisis are recognised and addressed. There are six objectives in the NBAP: • Fostering a whole-of-government, whole-of-society approach • Meeting urgent conservation needs • Securing nature's contribution to people • Linking biodiversity and climate action • Enhancing the evidence basis for action; and • Strengthening partnerships for people and planet.
Draft Clare County Biodiversity Action Plan 2025-2031	The Draft Clare County Biodiversity Action Plan 2025-2031 provides a framework for biodiversity action over a six-year period with the aim of halting biodiversity loss in County Clare.

Plan, Programme, Policy, or Legislation	Plan, Programme, Policy, or Legislation Objectives
	The draft plan is the 4th Clare County Biodiversity Action Plan which will guide the implementation of priority biodiversity actions.
Threat Response Plans	New Threat Response Plans (TRP) are being prepared by the National Parks and Wildlife Services (NPWS) as part of Ireland's response to the judgement of the European Court of Justice in case C-183/05, and the requirement to establish a system of strict protection for species listed in Annex IV of the Habitats Directive. These three-year plans provide detailed information on range, distribution and habitat. They also focus on the particular threats facing each species and identify the measures required to address these threats, as well as identifying who is responsible for implementing them and providing a time frame for delivery. Forestry, agriculture and energy are the 3 relevant sectors for implementing the Threat Response Plans. The provisional publication date is Spring 2023 for the TRPs.
Species Action Plans (SAPs)	The Species Action Plans (SAPs) are intended to be used as a tool for identifying and prioritising measures to restore the populations of these species across their range within the EU. They provide information about the status, ecology, threats and current conservation measures for each species and list the key actions that are required to improve their conservation status in Europe. Each Plan is the result of an extensive process of consultation with individual experts in Europe. The plans are intended to assist Member States in the conservation of these species but they not legally binding documents, nor do they engage the Member States beyond their existing legal commitments under this Directive. Consultation has recently been completed for the Lesser Horseshoe Bat SAP.
All Ireland Pollinator Plan 2021-2025	The All-Ireland Pollinator Plan aims to tackle the issue of Irish pollinators being in decline and ensure the sustainability of our food production; to avoid additional economic impact on the agricultural sector; and to protect the health of the environment. The All-Ireland Pollinator Plan is a shared plan of action. By working together, it aims to collectively take steps to help restore pollinator populations to healthy levels. Over the next five years, this plan will work to bring about a landscape where pollinators can flourish.
Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats)	The convention has three main aims: • To conserve wild flora and fauna and their natural habitats; • To promote cooperation between states; and To give particular attention to endangered and vulnerable species including endangered and vulnerable migratory species
Convention on Biological Diversity (1992)	The convention was signed by 150 government leaders at the 1992 Rio Earth Summit and is dedicated to promoting sustainable development. The convention recognises that biological diversity is about more than plants, animals and micro-organisms and their ecosystems, it is about people and our need for food security, medicines, fresh air and water, shelter, and a clean and healthy environment in which to live.
The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) (1983)	The Bonn Convention aims to conserve terrestrial, marine and avian migratory species throughout their range. It is one of a small number of intergovernmental treaties concerned with the conservation of wildlife and wildlife habitats on a global scale. The convention was brought into force on 1 November 1983.
UNEP/ EUROBATS (Agreement on the Conservation of Populations of European Bats)	The Agreement on the Conservation of Populations of European Bats came into force in 1994. The Bat Agreement aims to protect all 51 European bat species through legislation, education, conservation measures and international co-operation with Agreement members and with those who have not yet joined. The Agreement provides a framework of co-operation for the conservation of bats across Europe, Northern Africa and the Middle East. In 1995, the First Session of the Meeting of Parties to the Agreement formed an Action Plan, which was to be translated into international action. An Advisory Committee was then established to carry forward this Plan between the Meetings of Parties.

Plan, Programme, Policy, or Legislation	Plan, Programme, Policy, or Legislation Objectives
	The EUROBATS Secretariat was established by the First Session of the Meeting of Parties in 1995. It started working in Bonn, Germany in 1996 and is co-located with the Secretariat of the Bonn Convention and other environment and development-related United Nations institutions at the UN Campus in Bonn. Its particular functions are to: • 'Exchange information and co-ordinate international research and monitoring initiatives; • Arrange the Meetings of the Parties and the Advisory and Standing Committee meetings; • Stimulate proposals for improving the effectiveness of the Agreement, and attract more countries to participate in and join the Agreement; Stimulate public awareness of the threats to European bat species and what can be done at all levels to prevent their numbers dwindling further'.
EU (2030) Biodiversity Strategy	A long-term plan for protecting nature and reversing the degradation of ecosystems across the European Union.
National Peatlands Strategy (2015-2025)	This Strategy aims to provide a long-term framework within which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution to the well-being of this and future generations.
UN (1992) The Convention on Biological Diversity	An overall objective is to develop national strategies for the conservation and sustainable use of biological diversity.
Proposal for EU Nature Restoration Law (2022)	The EC published a proposal for the EU Nature Restoration Law in June 2022. The Commission proposes to restore at least 20% of the EU's land and sea areas by 2030 and repair all ecosystems in need of restoration by 2050. This is the first European-wide law to set legally binding targets to restore nature. It aims to reverse the biodiversity and climate crises by placing the EU's degraded nature on a path to recovery. The proposal is the first major EU biodiversity law since the Habitats Directive in 1992 and follows the commitments made by the EC in the EU Biodiversity Strategy for 2030 which calls for the recovery of high-quality and resilient ecosystems in the EU.
EU Habitats Directive (1992)	This Directive aims to protect over a thousand species, including mammals, reptiles, amphibians, fish invertebrates, and plants, and 230 characteristic habitat types. The overall objective of the Habitats Directive is to ensure that these species and habitat types are maintained, or restored, to a favourable conservation status within the EU. In addition to halting the further decline or disappearance of these species and habitats, the Directive aims to allow them to recover and thrive over the long-term.
EU Birds Directive (1979)	This Directive aims to protect all naturally occurring wild bird species present in the EU along with their most important habitats. In addition to halting the decline or disappearance of bird species, the Directive aims to allow bird species to recover and thrive over the long-term. To achieve these aims, EU countries are required to take any necessary measures to maintain or restore bird populations.
Economy and Transport	
Integrated Implementation Plan 2019-2024	The Dublin Transport Authority Act 2008 required the National Transport Authority, following the approval of a transport strategy for the region by the Minister for Transport, Tourism and Sport, to prepare an Integrated Implementation Plan covering a six year period. The Transport Strategy for the Greater Dublin Area 2016-2035, was approved in February 2016. The preparation of this Integrated Implementation Plan was aligned with the Governments review of capital spending which commenced in 2016 and culminated with the publication of the National Development Plan 2018-2027 in February 2018. The Transport Strategy for the Greater Dublin Area 2016-2035, establishes an overall framework for transport investment over the next two decades and was subject to full SEA and Stage 2 AA. It is focused on improving public and sustainable transport.

Plan, Programme, Policy, or Legislation	Plan, Programme, Policy, or Legislation Objectives
European 2020 Strategy for Growth	Europe 2020 sets out a vision of Europe's social market economy for the 21st century and puts forward three mutually reinforcing priorities: • Smart growth: developing an economy based on knowledge and innovation. • Sustainable growth: promoting a more resource efficient, greener and more competitive economy. Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.
EU Taxonomy Regulation (2020)	The EU Taxonomy Regulation (Regulation (EU) 2020/852) was proposed as part of the European Commission's earlier Action Plan on 'Financing Sustainable Growth' of March 2018, launching an ambitious and comprehensive strategy for sustainable finance with the aim of redirecting capital flows to help generate sustainable and inclusive growth. The Taxonomy Regulation is an important enabler for scaling up sustainable investment and therefore, implementing the European Green Deal as part of the EU's response to the climate and environmental challenges. The Taxonomy Regulation provides uniform criteria for companies and investors on economic activities that can be considered environmentally sustainable, for example, making a substantial contribution to EU environmental objectives such as climate change mitigation, while doing no significant harm to other environmental objectives. This this regulation aims to increase transparency and consistency in the classification of such activities and limit the risk of greenwashing and fragmentation in relevant markets.
Waste	
Ireland's National Waste Policy 2020 – 2025	The Policy sets out new targets to tackle waste and move towards a circular economy. To maximise the collection of hazardous waste with a view to reducing the environmental and health impacts of any unregulated waste. To strive for increased self-sufficiency in the management of hazardous waste and to minimise hazardous waste export. To minimise the environmental, health, social and economic impacts of hazardous waste generation and management.
Archaeological, Architectural and Cultural Heritage	
The National Monuments Acts 1930 to 2014	The national legislative code for protection of monuments, historic wrecks and archaeological objects is the National Monuments Acts 1930 to 2014. The Act provides legal protection for all archaeological objects, wrecks 100 or more years old and for a range of categories of monuments and places. Archaeological objects (which in broad terms includes all moveable objects of archaeological importance) are comprehensively protected under the National Monuments Acts. In terms of protection of monuments and related sites, the most widely applicable protective mechanism is the Record of Monuments and Places (RMP), established under section 12 of the National Monuments (Amendment) Act 1994.
Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023	The recently signed Historic and Archaeological Heritage and Miscellaneous Provisions Act (2023) will replace the National Monuments Acts (1930–2014). The Bill will provide for the protection of historic and archaeological heritage. A new 'Register of Monuments' will be established, replacing several overlapping designation and registration systems currently in operation. Newly discovered archaeological sites will be afforded immediate legal protection, mirroring the existing system for archaeological objects and historic wrecks that are automatically protected without a need for formal designation or registration. This will be reinforced by a statutory reporting scheme for finds of monuments. Subject to certain exceptions, archaeological objects with no known owner will automatically become the property of the State. A new civil enforcement procedure can be used as an alternative to, or to supplement, criminal proceedings. The bill makes explicit provision for the protection of World Heritage sites, including, for the first time, a definition in Irish law for "World Heritage Property". The new legislation enables the State to ratify or accede to certain international conventions, notably the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage, the 1970 UNESCO Convention on the Means of Prohibiting and

Plan, Programme, Policy, or Legislation	Plan, Programme, Policy, or Legislation Objectives
	Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property and the 1995 UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects. The Act gives further effect to the 1992 Council of Europe European Convention on the Protection of the Archaeological Heritage (the "Valletta Convention"). Furthermore, the Act introduces a new integrated licensing system whereby one licence can authorise a range of activities and, for the first time, a statutory appeals process will be established to review licensing decisions.
1972 UNESCO World Heritage Convention	The 1972 UNESCO World Heritage Convention defines the kind of natural or cultural sites which can be considered for inscription on the World Heritage List. The Convention sets out the duties of States Parties in identifying potential sites and their role in protecting and preserving them. Each country pledged to conserve not only the World Heritage sites situated on its territory, but also to protect its national heritage in signing the Convention. Furthermore, States Parties are encouraged to integrate the protection of the cultural and natural heritage into regional planning programmes, set up staff and services at their sites, undertake scientific and technical conservation research and adopt measures which give this heritage a function in the day-to-day life of the community.
2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage	Ireland is not yet a party to the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage, however, Ireland supported its adoption and has through the recent Historic and Archaeological Heritage and Miscellaneous Provisions Act (2023) directly facilitated its ratification. As noted above the new Act will enable the State to ratify or accede to certain other international conventions as well, notably the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage, the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property and the 1995 UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects.
The Framework and Principles for the Protection of the Archaeological Heritage (Government of Ireland 1999)	This Framework was published in order to promote a high level of compliance with the aims and requirements of the Valletta Convention. It sets out national policy on the protection of the archaeological heritage in the course of development. While not specifically directed at the planning system, as operating under the Planning and Development Acts, it speaks to all development control codes. Core elements of the policies set out in the Framework and Principles document include emphasis on the non-renewable nature of the archaeological heritage and the need to always consider its preservation in-situ as the first option, and also the need to carry out appropriate levels and forms of archaeological assessment in advance of development.
The Climate Change Sectoral Adaptation Plan for Built and Archaeological Heritage	This Plan is one of nine sectoral plans published in 2019 under the National Adaptation Framework. It outlines five adaptation goals for built and archaeological heritage in Ireland and maps them onto an action plan of specific actions to be implemented.

A.3 Statutory consultee SEA Scoping responses

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
EPA	• Licence review considerations: – You should consider whether the proposals for the development of the Strategy area will require a review of the existing licences at the Moneypoint site.	Noted. This comment is for the consideration of the ESB, where development emanates from the draft GA Concept
	• Integration of SEA and the draft Strategy: – The integration of the SEA process into the Strategy should reflect the overall objective of the SEA Directive "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes". – All recommendations from the SEA, including mitigation measures, should be integrated into the Strategy. Fully integrating the findings and recommendations of the SEA into the Strategy will be key to strengthening the overall purpose of the Strategy while ensuring that any significant adverse effects of implementing the Strategy are suitably mitigated. – The SEA Environmental Report should include a section outlining how the recommendations and mitigation measures from the SEA, and any other environmental assessments, have been incorporated into the Strategy. We recommend that, the SEA Environmental Report includes summary tables outlining the key findings of the SEA and where relevant the SFRA and AA, and linking the significant environmental effects identified to the proposed mitigation measures and environmental monitoring programme.	This comment is welcomed. SEA has been undertaken in an iterative manner with regard to the draft GA Concept development, AA and SFRA reporting. The SEA process has been integrated into the draft GA Concept to reflect the overall objective of the SEA Directive. Recommendations and mitigation measures of SEA have been integrated into the draft GA Concept, in so far as possible. Key findings of the SEA and the linking of significant environmental effects identified to the proposed mitigation measures, monitoring measures and recommendations have been considered and included, as appropriate.
	• Consideration of Alternatives: – We suggest that the consideration of alternatives for the Strategy should be reviewed, and take into account the EPA's Developing and Assessing Alternatives in Strategic Environmental Assessment (EPA, 2015).	Alternatives for the draft GA Concept have since been reviewed, updated, and incorporated into this SEA ER (Section 7). The EPA's Developing and Assessing Alternatives in Strategic Environmental Assessment guidance was reviewed in doing so.
	• Assessment of the potential for likely significant effects: – While the SEA provides information on the area covered by the Strategy, the SEA could highlight the zone of influence of the Strategy, outside of the Strategy area as shown in Figure 1. This will help ensure that the potential for cumulative effects, associated with developments arising from implementing the Strategy, are considered.	Noted. Section 5 of this report (Current State of the Environment) takes all the surrounding and onsite environmental components into consideration. The assessments included in Section 8 of this report (assessment of significant effects) take all baseline information included in Section 5 of this report into account. Refer to the combined AA Screening and NIS for details of the Zone of Influence (ZoI) relevant to the draft GA Concept.
	• Monitoring, Implementation & Reporting: – Article 10 of the SEA Directive (2001/42/EC) requires that the significant environmental effects of implementing a plan are monitored in order, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action. The SEA environmental report must include a description of the measures envisaged concerning monitoring. The Strategy should include a commitment to implement this SEA-related environmental monitoring requirements and the associated reporting.	Section 9 of this SEA ER contains information on Monitoring and Reporting and includes a detailed monitoring table which states monitoring frequency, responsibilities, and provisions for reporting in relation to the draft GA Concept. Statement of commitment to monitoring is for the consideration of ESB. The EPA guidance document has been reviewed and taken into consideration in Section 9 of this report.

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	– We refer you to the EPA guidance on SEA Statements and Monitoring, (https://www.epa.ie/publications/monitoring--assessment/assessment/strategicenvironmental-assessment/guidance-on-sea-statements-and-monitoring.php), and would draw your attention to the useful high-level monitoring indicators proposed in Table 1 on page 31. – The SEA-related monitoring should address positive, negative and cumulative effects where they are likely to occur and should include provision for on-going review to facilitate an early response to any unforeseen environmental issues that may arise. The SEA Environmental Report should specify the monitoring frequency and responsibilities and include provisions for reporting on the monitoring.	Monitoring included in Section 9 of this SEA ER addresses positive, negative, neutral, uncertain, and cumulative effects, as appropriate.
	• Environmental Authorities: – The SEA Regulations require that the plan maker to consult with the designated environmental authorities. These include: – Environmental Protection Agency; – Minister for Housing, Local Government and Heritage; – Minister for Environment, Climate and Communications; – Minister for Agriculture, Food and the Marine. – An list of the designated SEA environmental authorities is maintained on www.gov.ie at: https://www.gov.ie/en/publication/3539d-strategic-environmental-assessmentsea/#environmental-authorities-contact-details	The relevant authorities have been consulted with as part of the SEA Scoping process, and the SEA ER will be put on public display alongside the draft GA Concept.
	• Q1. Are there any other relevant International, National or Regional Plans or Programmes that should be considered? – Section 3 – Relationship with other relevant plans, programmes and legislation – In Subsection 3.2.1 (European Union Policy) include reference to the EU Climate Law and the EU Nature Restoration Law. – In Subsection 3.2.2 (National Policy) include a reference to the recently published National Biodiversity Action Plan, – In Subsection 3.2.21 (page 12), it is worth noting that the Climate Action Plan 2024 is still currently ongoing and SEA is being undertaken. – Subsection 3.2.5.1 (Plans and Policies for the Shannon Region), consider also acknowledging the Limerick Shannon Metropolitan Area Transport Strategy, the Clare Local Authority Climate Action Plan and the current Grid 25 Implementation Strategy. We note the reference to the Shannon Integrated Framework Plan, being re-published recently. It would be useful to confirm the status of the SIPF. – On page 15, we note the proposals to consider a concept masterplan for development. Where this may involve the zoning and development of lands, you should take into account the SEA and Habitats and Birds directives requirements, as appropriate and relevant.	Section 3 has since been updated to make reference to the EU Climate Law, the EU Nature Restoration Law, National Biodiversity Action Plan, Limerick Shannon Metropolitan Area Transport Strategy, the Clare Local Authority Climate Action Plan and the current Grid 25 Implementation Strategy. Footnotes have been included as appropriate to detail the status of Plans. The SEA and AA processes have been undertaken as an iterative process, both of which have also informed and fed into the preparation of the draft GA Strategy throughout its development. Any development likely to occur as a result of the draft GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. Further for the consideration of the ESB. These comments are welcomed, Section 3.1 (Figure 1) of this report has been updated to reflect the suggested plans and frameworks.

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	We also note that proposals for provision of wastewater treatment must be considered. This should be carried out in consultation with Uisce Eireann and relevant authorisations should be in place??. – In 3.2.6 (Plans and policies for County Clare) , in Figure 2 (key policy, plans and programmes and interaction with the draft GA Strategy) the Maritime Planning Framework could also be included. In relation to some site-specific plans described, it would be useful to confirm the status of the management plan for the Lower River Shannon SAC. Additionally, where reference is made to 'threat response plans', this should include reference to the habitats or species they relate to.	
	• Q2. Are there any additional environmental sensitivities or changes in weightings that should be included in the sensitivity mapping? – In Section 5 Sensitivity Mapping, given the importance of the need to protect good and high-status waters, we suggest that a weighting of 10 be considered for these areas also. This should cover rivers, transitional / estuarine areas and lakes. – We also suggest you consider relative bird usage mapping information (prepared in conjunction with the implementation of the SIFP) that may be useful in preparing the sensitivity map and in developing, assessing and operating the Strategy. This should help minimise conflicts between operations, arising from the Strategy and important areas for birds within the Shannon estuary.	These comments are welcomed. The ESM included in Figure A16 of Appendix A.1 has since been updated to reflect these comments, as appropriate.
	• Q3. Are there any other significant environmental issues that should be considered? – In Section 4 – Environmental Baseline and Key Environmental Issues and Opportunities, it would be helpful in Figure 3, to also include information on the zone of influence of the Strategy. This would help identify additional environmental issues to be considered. – In Subsection 4.6.1, the legend and text of figure 8 (Habitat Map) should be made clearer. – The need to consider potential impacts on marine mammals and fisheries during construction and operation should also be considered. – The extent to which lighting considerations have been taken into account could also be clarified. This may be important when considering impacts on birds or bats for example. – In subsection 4.3.2 (key issues and opportunities), in bullet point 4, it would be helpful to describe the type of habitats that are assessed as being sensitive to atmospheric emissions. – In subsection 4.4 – Land and Soils, we note on page 26, that the previously approved FGD landfill 'B' will not be developed. Clarify whether this will not be developed over the lifetime of the Strategy or not developed at all.	Refer to the combined AA Screening and NIS for details of the Zone of Influence (ZoI) relevant to the draft GA Concept. Figure 3 (Section 5) - Habitat Map has been updated and enlarged in this SEA ER. Overall, Section 5 of this SEA ER has been updated to reflect these comments, as appropriate. Mitigation in Section 9 of this SEA ER has been incorporated to reflect the areas of construction and operation, lighting, invasive species. Refer to the mitigation measures outlined in the combined Screening for AA and NIS for further mitigation related to habitats and species. Any development that is likely to occur as a result of the draft GA Concept must be subject to appropriate environmental assessments, particularly where they may affect European Sites. SFRA was undertaken in parallel with the SEA and AA of the draft GA Concept. Refer to the SFRA Report for further information. At the time of writing this report the most recent AER published was the 2024 report.

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	– In subsection 4.4.2 (key issues and opportunities), with regards considering the use of imported soil material, the take into account the need to control the spread of invasive species, such as for instance Japanese knotweed. – In subsection 4.5.1.3 (coastal flood risk), there may be merit in considering a strategic flood risk assessment for the Strategy area, if not already being undertaken, to ensure that operations / developments are appropriately protected and sited over the lifetime of the Strategy. – In subsection 4.6.1.2 (Noise), where more up to date noise mapping information is available, this should be taken into account. Including a map showing the Strategy area and some key adjacent sources of noise such as Limerick City or Shannon Airport for example would be helpful.	
	• Q4. Are there any environmental issues that should be scoped out of the SEA at this stage? – The Scoping report appears to take account of the key environmental issues.	This comment is welcomed.
	• Q5. Do you have any comments regarding the draft SEA environmental objectives, targets, or indicators? – In Section 6 – Environmental Objectives, Indicators and Targets, Table 5 – SEA Objectives, Indicators and Targets , is noted. We provide some comments below on some of the elements included in this table. – Biodiversity, Flora and Fauna: we suggest that objective 2 could be amended to "Support the To achievement of the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation." In the associated indicator (indicator 4), consider amending "Level of biodiversity change lost as a result of the implementation of the draft GA Concept". – Water: The target 1 (waters within the Moneypoint area), could be improved by referencing the Strategy area. Indicator 4 could also be amended to "instances of flooding in the Strategy area". – Material Assets: Indicator 2 could be amended to refer to "Records of local service disruption events"	These comments are welcomed. Section 6 of this report has been updated to reflect these comments.
	• Section 1 – Introduction: – There is merit in clarifying whether the area covered by the Strategy, includes the cased facility lands or whether additional lands are proposed for development of the Strategy. – There is also merit in clarifying whether the development/re-development of lands associated with the Strategy will require a review of the existing EPA licence. + – In subsection 1.2.3 (SEA Guidance), we refer you to the suite of EPA guidance available on our website, to consider as appropriate in preparing the SEA and the Strategy. These resources are available at: https://www.epa.ie/our-services/monitoring-- assessment/assessment/strategic-environmental-assessment/.	Figure 2.4 of this SEA ER has been updated to display the extent of draft GA Strategy's site boundary. Both the onshore area and ESB's privately held foreshore are included within the site boundary. Furthermore, refer to the mitigation measures included in Section 9 of this SEA ER and refer the mitigation as outlined in the combined Screening for AA and NIS. Noted. This comment is for the consideration of the ESB, whether the proposals for the development of the Strategy area will require a review of the existing licences at the Moneypoint Generating Station site should be taken into consideration.

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	– Section 1.4.2 (SFRA Process) and 1.4.3 (SFRA Report) could also refer to and consider the Regional SFRA for the Southern Regional Spatial and Economic Strategy. Additionally, the Flood Risk Management Plan for the Lower Shannon (OPW), should also be considered, as appropriate.	All suggested resources are welcome, have been reviewed and incorporated into the SEA ER, as appropriate. Refer to the SFRA report for full flood risk details.
	• Section 2 – draft GA Strategy: – In Section 2.2 – Graft GA Overview, in relation to the third bullet point on page 8, it would be useful to describe where this alternative fuel facility may be located. The nature and extent of areas proposed for redevelopment should be highlighted, described and assessed in the SEA. – In Figure 1 – The Green Atlantic @ Moneypoint Concept Strategy Source (page 9), it would be useful to review the colour scheme used for the different zones and figure legend to help differentiate more clearly the different areas set out. – In subsection 2.4, we note the ESB current holding covering both onshore and foreshore areas. Clarify whether both the onshore and foreshore areas are covered by the Strategy. – Subsection 2.5 – we note the intention for the Strategy duration to be for between 10 and 15 years. We suggest 15 years would be an appropriate timeframe, with reviews of the Strategy occurring at 5-year intervals. – We note in subsection 2.6 – High level alternatives considered for the draft GA Strategy., that only two alternatives are currently proposed. We suggest that the consideration of alternatives take account of the EPA Guidance on developing and assessing alternatives in SEA (EPA, 2015). Additional elements to consider temporal elements such as phasing of development of the area, or location/zoning specific alternatives to consider aspects such as the extent of lands are proposed for different development options etc.	Section 2 of this SEA ER has been updated to reflect these comments, as appropriate. The nature and extent of areas proposed for redevelopment have been highlighted, described and assessed in the SEA, as appropriate. Refer to Section 8 of the SEA ER. Figure 1 of the SEA Scoping Report has been included in Figure 2.1 in Section 2 of this SEA ER, refer to the draft GA Concept for full details of these zones. Brief descriptions for each zone have been included in Table 8.2 (Section 8) of this SEA ER. Figure 2.4 of this SEA ER has been updated to display the extent of draft GA Concept's site boundary. Both the onshore area and ESB's privately held foreshore are included within the site boundary. Refer to mitigation measures included in Section 9 of this SEA ER and refer to mitigation as included in the combined Screening for AA and NIS. draft GA Concept timeframe and review period as detailed in this comment are for the consideration of ESB. EPA Guidance on developing and assessing alternatives in SEA (EPA, 2015) has been reviewed by both the ESB and Arup. Updated alternatives have been included as appropriate and assessed as part of this SEA ER (refer to Section 7 of this report).
	• Scope of the SEA: – The Strategy should clearly set out the scope, remit and implementation related elements of the Strategy. Where it is envisaged that measures proposed in the Strategy will be implemented via other plans, which themselves have been or will be subject to SEA, this should be explained in the Environmental Report and taken into account in the assessment. – Where specific measures will be implemented directly as part of the Strategy, further detail should be provided in the Environmental Report and Strategy on the relevant environmental assessments to be carried out at the project stage and relevant mitigation measures to be applied, as appropriate. There may be merit in exploring this issue further with the relevant environmental authorities during the Strategy preparation and SEA processes. – There may also be merit in including a matrix in the SEA environmental report to show the interrelationships between the various topics. This should be accompanied by relevant explanatory text.	For the consideration of ESB. Section 3 of this SEA ER describes the draft GA Concept's Relationship with Other Relevant Plans and Programmes in detail. Appendix A.2 of this SEA ER has also been included to support this Section, whereby, additional plans, programmes, policy and or legislation related to the draft GA Concept has been detailed. This comment is welcomed. All principles outlined in the draft GA Concept have been assessed in relation to potential environmental effects and potential cumulative effects (refer to Section 8 of this SEA ER). Details on the relevant environmental assessments to be carried out at the project stage and relevant mitigation measures to be applied for the draft GA Concept have been detailed as appropriate throughout this SEA ER.

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		Refer to Section 8.5 of the SEA ER for details of potential cumulative effects assessed. A matrix table has been included in this SEA ER, refer to 'Table 8.3 Intra-Plan Cumulative Effects' and relevant explanatory text included in this Section.
	• Data & Knowledge Gaps: – The Strategy should identify any significant data and knowledge gaps, including commitments to address these on a priority basis and where relevant, in association with other government departments/ organisations, during the implementation phase of the Strategy. This is with a view to strengthening the evidence base for future reviews and iterations of the Strategy. – The SIFP SEA/AA and subsequent follow up studies should be consulted in undertaking the SEA and AA.	For the consideration of ESB. The SIFP SEA and AA were reviewed during the SEA and AA processes.
	• Range of Effects: – The SEA Environmental Report should refer to the full range of effects and of the area likely to be affected. This assessment should consider the duration and frequency of effects as well as short, medium and long-term, cumulative and synergistic effects of the Strategy. The EPA's Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment (EPA, 2020).	This SEA ER has been updated on the back of these comments, as appropriate. The EPA's Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment (EPA, 2020) was reviewed and implemented as appropriate throughout this SEA ER. Refer to Section 8 of this report for the assessment of environmental effects, principle environmental effects and cumulative effects identified.
	• Monitoring, Implementation & Reporting: – The SEA-related monitoring should address positive, negative and cumulative effects where they are likely to occur and should include provision for on-going review to facilitate an early response to any unforeseen environmental issues that may arise. The SEA Environmental Report should specify the monitoring frequency and responsibilities and include provisions for reporting on the monitoring. – To avoid duplication in data collection, the same indicators should be used for the plan related and SEA-related environmental monitoring aspects where possible.	Refer to Section 9 of this SEA ER. This Section includes a detailed monitoring table which incorporates a 'Likely Significant Environmental Effects Identified' column, specifying the likely positive, neutral, negative and or uncertain environmental effects that have been identified throughout the assessment. This table also includes monitoring frequency and responsibilities and includes provisions for reporting on the monitoring, as appropriate.
	• SEA Statement: – Following the completion of the public consultation on the SEA environmental report and the Strategy, the final stages of the SEA process will be to integrate the environmental considerations of the SEA environmental report into the Strategy, as appropriate. In accordance with article 16 of the SEA Regulations, the ESB is required to publish a SEA Statement alongside the adopted Strategy, summarising: – How environmental considerations have been integrated into the Strategy; – How the environmental report and consultation comments on it have been taken into account;	An SEA Statement will be prepared following the finalisation of the draft GA Concept. The SEA Statement will summarise how environmental considerations have been integrated into the Strategy, how the draft SEA ER and consultation comments on it have been taken into account and the reasons for choosing the Plan as adopted, in the light of the other reasonable alternatives dealt with, and the measures decided concerning monitoring. The EPA has published Guidance on SEA Statements and Monitoring (EPA, 2020), will be reviewed and considered in the preparation of the SEA statement.

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	– The reasons for choosing the Strategy as adopted, in the light of the other reasonable alternatives dealt with (in the Environmental Report and the associated consultation); – The measures decided concerning monitoring. • The EPA has published Guidance on SEA Statements and Monitoring (EPA, 2020), which should be considered in the preparation of the SEA statement.	
	• Available Guidance & Resources: – The EPA has published guidance notes that may be of assistance in preparing the SEA environmental report. You can access these SEA process guidance and topic and sector specific guidance documents along with other resources listed below at: – EPA SEA GIS Search and Reporting Webtool: Our SEA GIS Search and Reporting Webtool has been updated recently and is now publicly available at https://gis.epa.ie/EPAMaps/SEA. It allows public authorities to produce an indicative report on key aspects of the environment in a specific geographic area. It is intended to assist public authorities in SEA screening and scoping exercises. – Catchments.ie: Our https://www.catchments.ie/maps/ website provides a single point of access to water quality and catchment data from the National WFD monitoring programme. – EPA Appropriate Assessment: GeoTool Our AA GeoTool application has been developed in partnership with the NPWS. It allows users to a select a location, specify a search area and gather available information on European Sites.	This comment is welcomed. All Guidance and Resources detailed have been reviewed and incorporated into the SEA and AA processes, as appropriate.
GSI	• With reference to your email received on the 11 March 2024, concerning the Draft Green Atlantic - Moneypoint Concept – SEA Scoping Report, Geological Survey Ireland would encourage use of and reference to our datasets. This data can add to the content and robustness of the SEA process. With this in mind, please find attached a list of our publicly available datasets that may be useful to the environmental assessment and planning process. We recommend that you review this list and refer to any datasets you consider relevant to your assessment. The remainder of this letter and following sections provide more detail on some of these datasets.	This comment is welcomed. The use of GSI datasets and referencing of the same has been incorporated into this SEA ER, as appropriate.
	• Geoheritage: A national inventory of geoheritage sites known as County Geological Sites (CGSs) is managed by the Geoheritage Programme of Geological Survey Ireland. CGSs, as adopted under the National Heritage Plan, include sites that are of national importance which have been selected as the very best examples for NHA (Natural Heritage Areas) designation. NHA designation will be completed in partnership with the National Parks and Wildlife Service (NPWS). CGSs are now routinely included in County Development Plans and in the GIS of planning departments, to ensure the recognition and appropriate protection of geological heritage within the planning system. CGSs can be viewed	Noted. This comment is welcomed, and this report has been reviewed. The use of GSI datasets and referencing of the same has been incorporated into this SEA ER, as appropriate.

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	online under the Geological Heritage tab on the online Map Viewer. The audit for Co. Clare was completed in 2005. The full report details can be found here. Our records show that there are no CGSs in the vicinity of the Moneypoint study area	
	• Groundwater: Geological Survey Ireland's Groundwater and Geothermal Unit, provides advice, data and maps relating to groundwater distribution, quality and use, which is especially relevant for safe and secure drinking water supplies and healthy ecosystems. Proposed developments need to consider any potential impact on specific groundwater abstractions and on groundwater resources in general. We recommend using the groundwater maps on our Map viewer which should include: wells; drinking water source protection areas; the national map suite - aquifer, groundwater vulnerability, groundwater recharge and subsoil permeability maps. For areas underlain by limestone, please refer to the karst specific data layers (karst features, tracer test database; turlough water levels (gwlevel.ie). Background information is also provided in the Groundwater Body Descriptions. Please read all disclaimers carefully when using Geological Survey Ireland data. The Groundwater Data Viewer indicates an aquifer classed as a 'Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones' underlies the Moneypoint study area boundary. GWClimate is a groundwater monitoring and modelling project that aims to investigate the impact of climate change on groundwater in Ireland. This is a follow on from a previous project (GWFlood) and the data may be useful in relation to Flood Risk Assessment (FRA) and management plans. Maps and data are available on the Map viewer.	Noted. This comment is welcomed, and these data sources have been reviewed and the use of GSI datasets and referencing of the same have been incorporated into this SEA ER and SFRA, as appropriate.
	• Geotechnical Database: Resources Geological Survey Ireland continues to populate and develop our national geotechnical database and viewer with site investigation data submitted voluntarily by industry. The current database holding is over 7500 reports with 134,000 boreholes; 31,000 of which are digitised which can be accessed through downloads from our Geotechnical Map Viewer. We would encourage the use of this database as part of any baseline geological assessment of the proposed development as it can provide invaluable baseline data for the region or vicinity of proposed development areas. This information may be beneficial and cost saving for any site-specific investigations that may be designed as part of the project.	Noted. This comment is welcomed, and this database has been reviewed. The use of GSI datasets and referencing of the same has been incorporated into this SEA ER, as appropriate.
	• Geohazards: Geohazards can cause widespread damage to landscapes, wildlife, human property and human life. In Ireland, landslides, flooding and coastal erosion are the most prevalent of these hazards. We recommend that geohazards be taken into consideration, especially when developing areas where these risks are prevalent, and we encourage the use of our data when doing so. Geological Survey Ireland has information available on landslides	Noted. This comment is welcomed, and this information has been reviewed. The use of GSI datasets and referencing of the same has been incorporated into this SEA ER and the associated SFRA, as appropriate.

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	in Ireland via the National Landslide Database and Landslide Susceptibility Map both of which are available for viewing on our dedicated Map Viewer. Associated guidance documentation relating to the National Landslide Susceptibility Map is also available. Geological Survey Ireland also engaged in a national project on Groundwater Flooding. The data from this project may be useful in relation to Flood Risk Assessment (FRA) and management plans, and is described in more detail under 'Groundwater' above.	
	• Natural Resources (Minerals/Aggregates): Geological Survey Ireland provides data, maps, interpretations and advice on matters related to minerals, their use and their development in our Minerals section of the website. The Active Quarries, Mineral Localities and the Aggregate Potential maps are available on our Map Viewer. We would recommend use of the Aggregate Potential Mapping viewer to identify areas of High to Very High source aggregate potential within the area. In keeping with a sustainable approach we would recommend use of our data and mapping viewers to identify and ensure that natural resources used in the proposed development are sustainably sourced from properly recognised and licenced facilities, and that consideration of future resource sterilization is considered.	Noted. This comment is welcomed, and these data sources have been reviewed. The use of GSI datasets and referencing of the same has been incorporated into this SEA ER, as appropriate.
	• Marine and Coastal Unit: Our marine environment is hugely important to our bio-economy, transport, tourism and recreational sectors. It is also an important indicator of the health of our planet. Geological Survey Ireland's Marine and Coastal Unit in partnership with the Marine Institute, jointly manages INFOMAR, Ireland's national marine mapping programme; providing key baseline data for Ireland's marine sector. The programme delivers a wide range of benefits to multi-sectoral end-users across the national blue economy with an emphasis on enabling our stakeholders. Demonstrated applications for the use of INFOMAR's suite of mapping products include Shipping & Navigation, Fisheries Management, Aquaculture, Off-shore Renewable Energies, Marine Leisure & Tourism and Coastal Behaviour. INFOMAR data such as bathymetry, backscatter, sediment classification, shipwrecks and survey metadata can be downloaded free of charge in a variety of formats at the INFOMAR Marine Data Download Portal: https://experience.arcgis.com/experience/9213db3d963d4f3cab3a220323d7cd4e/page/Page-1/?views=Download-VectorDataset INFOMAR also produces a wide variety of seabed mapping products that enable public and stakeholders to visualize Ireland's seafloor environment https://www.infomar.ie/maps/downloadable-maps/maps. Story maps have also been developed providing a different perspective of some of the bays and harbours of the Irish coastline. We would therefore recommend use of our Marine and Coastal Unit datasets available on our website and Map Viewer. The Marine and Coastal Unit also participate in coastal change projects and are	Noted. This comment is welcomed and INFOMAR data has been reviewed. The use of GSI datasets and referencing of the same has been incorporated into this SEA ER, as appropriate.

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	undertaking mapping in areas such as coastal vulnerability and coastal erosion. Further information on these projects can be found here.	
	• Other Comments- Should development go ahead, all other factors considered, Geological Survey Ireland would much appreciate a copy of reports detailing any site investigations carried out. The data would be added to Geological Survey Ireland's national database of site investigation boreholes, implemented to provide a better service to the civil engineering sector. Data can be sent to the Geological Mapping Unit, at mailto:GeologicalMappingInfo@gsi.ie, 01-678 2795.	For the consideration of the ESB.
DAERA	• Natural Environment Division Comments: NIEA Natural Environment Division works to ensure that Northern Ireland's special natural environment, including its flora and fauna and landscapes, is conserved, enhanced and managed for the benefit of this and future generations, thereby contributing to sustainable development.	This comment is welcomed.
	• NED notes the significant distance between the location of the site in which the strategy covers at Moneypoint Co. Clare and Northern Ireland. NED also notes comments made with Section 4.10 that "No Direct transboundary environmental effects are anticipated as a result of the implementation of the draft GA Concept" and that there is the potential for indirect positive transboundary effects. NED is content on this basis. NED, however, would also like the SEA Environmental Report to contain a clear statement indicating the opinion about whether or not the implementation of the of the strategy is likely to have a significant effect on Northern Ireland, in combination with any identified measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment.	Noted. This comment is welcomed. The assessment of significant effects outlined in Section 8.2 – Section 8.4 of this SEA ER also takes regard for transboundary effects of the draft GA Concept on Northern Ireland. Refer to Section 5.10 of this ER for details of likely transboundary issues, in regard to all environmental components. Refer to Section 9 for Mitigation and Monitoring measures set in place for any significant effects envisaged from the draft GA Concept.
	• NED notes within Section 1.3.4 that an AA (Appropriate Assessment) screening is to be carried out. NED would welcome the opportunity to review the completed AA screening and should it be required the Stage 2 AA when completed.	The draft GA Concept, draft SEA ER, draft combined Screening for AA and NIS and draft SFRA Report will go on public display as part of the public and statutory consultation period, at which time these stakeholders are welcomed to make submissions/observations on the draft GA Concept and the associated environmental and flooding reports.
	• Please note following the decision of the United Kingdom to leave the European Union, the collective term of "Natura 2000" sites the network of European protected sites are now known as "National Site Network" sites within the United Kingdom, and is including Northern Ireland.	Noted.

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	• It may be worth including in your considerations the following: – The Wildlife (NI) Order 1985 (as amended) – Wildlife and Natural Environment Act (NI) 2011 – The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) – The Environment (NI) Order 2002 – The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017 – The Strategic Planning Policy Statement (SPPS) for Northern Ireland – Planning Policy Statements (PPS – in particular PPS2 and PPS18). It should be noted that the PPS's will be superseded by Local Development Plans when they are adopted. – Biodiversity Strategy for NI to 2020 https://www.daerani.gov.uk/publications/biodiversity-strategy-northern-ireland-2020-0 – Draft Environment Strategy https://www.daera-ni.gov.uk/consultations/esni-publicdiscussion-document – The Draft NI peatland policy: https://www.daera-ni.gov.uk/consultations/nipeatland-strategy-consultation. – The Draft Green Growth Strategy Consultation on the draft Green Growth Strategy for Northern Ireland | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk) – Northern Ireland Energy Strategy 2050 Northern Ireland Energy Strategy 2050 | Department for the Economy (economy-ni.gov.uk) DAERA have a map browser for NI protected sites and known priority habitat: www.daera-ni.gov.uk/services/natural-environment-map-viewer A number of useful information sources that highlight the current state of the environment in Northern Ireland at a regional level and which could be referenced are: Northern Ireland State of the Environment Reports: https://www.daerani.gov.uk/publications/state-environment-report-2013 Northern Ireland Environmental Statistics Reports: https://www.daerani.gov.uk/articles/northern-ireland-environmental-statistics-repor	Noted. All Legislation, Plans, Programmes, Strategies, and resources detailed in this submission have been reviewed and considered, as appropriate within the SEA and AA processes.
	• Other relevant web-links are; Designated Scientific Sites: www.daera-ni.gov.uk/landing-pages/protected-areas Regional Landscape Character Map viewer:	Noted. All resources detailed in this submission have been reviewed and considered, as appropriate within the SEA and AA processes.

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	https://www.daerani.gov.uk/services/regional-landscape-character-areas-map-viewer DAERA have a map browser for NI protected sites and known priority habitat: www.daera-ni.gov.uk/services/natural-environment-map-viewer Our natural environment datasets are available at the link below: www.daera-ni.gov.uk/articles/download-digital-datasets Appropriate Assessments should refer to the status of habitats and species in the relevant reports available on the JNCC website as follows: UK Article 17 report for the Habitats Directive https://jncc.gov.uk/our-work/article-17-habitats-directivereport-2019/ and the UK Article 12 report for the Birds Directive https://jncc.gov.uk/our-work/european-reporting/#birds-directive-reporting	
	• Air Quality: Regarding sections on Air & Biodiversity, Ireland is now included in the Air Pollution Information System (APIS) which provides information on the impacts of air pollutants, such as NOx, ammonia emissions and the associated N deposition on sensitive habitats and species. The map feature within APIS enables detailed information to be provided on the Critical Levels/Loads for each qualifying feature and background levels of these pollutants: APIS app | Air Pollution Information System	Noted. This data source has been reviewed and considered, as appropriate within the SEA and AA processes.
DHLGH	• Under Water Archaeology: The consultation documents have been reviewed by the Department and the following is its' initial observations; the Department will comment on further consultations as the project progresses. It is noted that the proposed development area incorporates/is proximal to waterbodies that are exceptionally rich in underwater cultural heritage. Underwater cultural heritage, including submerged wrecks over 100 years and archaeological objects, are protected by Section 3 of the National Monuments (Amendment) Act 1987. The development area also includes a large number of recorded monuments that are afforded protection by the National Monuments Acts 1930-2014. In light of the potential effects on underwater cultural heritage, as outlined above, the Department recommends that a programme of pre-development underwater archaeological impact assessment should be scoped into the design process as soon as is practicable. The underwater archaeological impact assessment should be carried out at the earliest possible stage to facilitate the embedding of any recommended further mitigation within the detailed design for the project, as necessary, in order to ensure the preservation in-situ of any identified/potential underwater cultural heritage and to develop an informed archaeological strategy to be implemented in agreement with the Department.	Noted. This comment is welcomed and has been incorporated into the Section 9.1 of this SEA ER, as appropriate. For the consideration of the ESB.
	• Archaeology: The Department welcomes the opportunity to comment on the Draft Green Atlantic @ Moneypoint Concept—SEA Scoping Report. The Department advises that you have regard to the following in preparing the SEA for this project.	Noted. These comments are welcomed. All International, National or Regional Plans, Policies or Programmes listed have been reviewed and incorporated into Appendix A.2 of this SEA ER.

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	Relevant International, National or Regional Plans, Policies or Programmes: The National Monuments Acts 1930 to 2014 The specific national legislative code for protection of monuments, historic wrecks and archaeological objects is the National Monuments Acts 1930 to 2014. In summary, this provides legal protection for all archaeological objects, wrecks 100 or more years old and for a range of categories of monuments and places. Archaeological objects (which in broad terms includes all moveable objects of archaeological importance) are comprehensively protected under the National Monuments Acts. In terms of protection of monuments and related sites, the most widely applicable protective mechanism is the Record of Monuments and Places (RMP), established under section 12 of the National Monuments (Amendment) Act 1994. There are over 130,000 entries in the RMP, which takes the form of lists and maps for each county in the State. Copies of these lists and maps, as prepared in the 1990s, were circulated to all planning authorities and are now available in PDF format at www.archaeology.ie. The RMP includes the archaeological monuments which had been identified at the time it was issued. Of course, many more archaeological monuments have been identified since and, while these have not as yet been included in the RMP, an online database of known archaeological monuments, the Sites and Monuments Record (SMR)—including current RMP entries and ones which will be included in a revised RMP—is available as the Historic Environment Viewer. The RMP requires notice to be given to the Minister for Housing, Local Government and Heritage of proposed work at or in relation to monuments and places included in it (generally referred to as "recorded monuments"). Similar protection is provided by the Register of Historic Monuments (established under section 5 of the National Monuments (Amendment) Act (1987) to historic monuments and archaeological areas included in it. The strongest legal protection under the National Monuments Acts in respect of monuments is afforded to National Monuments of which the Minister for Housing, Local Government and Heritage or a local authority is owner or guardian or in respect of which a Preservation Order under the National Monuments Acts is in force. The consent of the Minister is required for interference with such national monuments or ground disturbance around or in proximity to them. A national monument is any monument the preservation of which is a matter of national importance by reason of the archaeological, architectural, historical, traditional or artistic interest attaching to it. Under the National Monuments Acts the Minister and local authorities must maintain national monuments of which they are owners or guardians (the OPW has day to day responsibility in relation to national monuments owned by or in guardianship of the Minister for Housing, Local Government and Heritage) and, subject to such restrictions as are reasonably necessary, seek to provide public access to such national monuments.	

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	All wrecks over 100 years old (whether previously known or just discovered) and all archaeological objects situated underwater, are protected under section 3 of the National Monuments (Amendment) Act 1987. Wrecks of any date and the potential location of wrecks or archaeological objects may also be protected under Section 3 of the 1987 (Amendment) Act by the making of an underwater heritage order, if considered to be of sufficient historical, archaeological or artistic importance to merit such protection.	
	• Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023: The recently signed Historic and Archaeological Heritage and Miscellaneous Provisions Act (2023) will replace the National Monuments Acts (1930–2014). The Bill will provide for the protection of historic and archaeological heritage. A new 'Register of Monuments' will be established, replacing several overlapping designation and registration systems currently in operation. Newly discovered archaeological sites will be afforded immediate legal protection, mirroring the existing system for archaeological objects and historic wrecks that are automatically protected without a need for formal designation or registration. This will be reinforced by a statutory reporting scheme for finds of monuments. Subject to certain exceptions, archaeological objects with no known owner will automatically become the property of the State. A new civil enforcement procedure can be used as an alternative to, or to supplement, criminal proceedings. The bill makes explicit provision for the protection of World Heritage sites, including, for the first time, a definition in Irish law for "World Heritage Property". The new legislation enables the State to ratify or accede to certain international conventions, notably the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage, the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property and the 1995 UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects. The Act gives further effect to the 1992 Council of Europe European Convention on the Protection of the Archaeological Heritage (the "Valletta Convention"). The Act introduces a new integrated licensing system whereby one licence can authorise a range of activities and, for the first time, a statutory appeals process will be established to review licensing decisions. Note while this new legislation has been signed into law, most of the provisions of the Act have not yet been commenced. However, it is expected that substantive implementation will occur within the lifetime of this Updated National Energy & Climate Plan 2021-2030.	Noted. These comments are welcomed. All International, National or Regional Plans, Policies or Programmes listed have been reviewed and incorporated into Appendix A.2 of this SEA ER.

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	• International Conventions: Ireland is a party to the 1972 UNESCO World Heritage Convention. Although not as yet a party to the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage, Ireland supported its adoption and has through the recent Historic and Archaeological Heritage and Miscellaneous Provisions Act (2023) directly facilitated its ratification. As already noted above the new Act will enable the State to ratify or accede to certain other international conventions as well, notably the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage, the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property and the 1995 UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects.	Noted. These comments are welcomed. All International, National or Regional Plans, Policies or Programmes listed have been reviewed and incorporated into Appendix A.2 of this SEA ER.
	• National policy on protection of the archaeological heritage: The Framework and Principles for the Protection of the Archaeological Heritage (Government of Ireland 1999) was published so as to promote a high level of compliance with the aims and requirements of the Valletta Convention. It sets out national policy on the protection of the archaeological heritage in the course of development. While not specifically directed at the planning system, as operating under the Planning and Development Acts, it speaks to all development control codes. Core elements of the policies set out in the Framework and Principles document include emphasis on the non-renewable nature of the archaeological heritage and the need to always consider its preservation in-situ as the first option, and also the need to carry out appropriate levels and forms of archaeological assessment in advance of development.	Noted. These comments are welcomed. All International, National or Regional Plans, Policies or Programmes listed have been reviewed and incorporated into Appendix A.2 of this SEA ER.
	• The Climate Change Sectoral Adaptation Plan for Built and Archaeological Heritage is one of nine sectoral plans published in 2019 under the National Adaptation Framework. It outlines five adaptation goals for built and archaeological heritage in Ireland and maps them onto an action plan of specific actions to be implemented.	Noted. These comments are welcomed. All International, National or Regional Plans, Policies or Programmes listed have been reviewed and incorporated into Appendix A.2 of this SEA ER.
	• Environmental Baseline—Data/information sources: This Department would draw attention to the following data sources about the archaeological and cultural heritage environment relevant to the Concept and its associated environmental assessments. NMS website The NMS's website (www.archaeology.ie) is a key source of data, information and publications, including GIS datasets, including amongst other things: – Historic Environment Viewer (HEV) – SMR dataset and NIAH dataset (both datasets can be downloaded or accessed by third party GIS software) – Wreck Viewer - records of over 18,000 known and potential wreck sites in Irish waters – RMP – digitised maps and gazetteers for each County – List of National Monuments in Ownership or Guardianship of the Minister – List of Preservation Orders currently in force.	Noted. These data sources have been reviewed and considered, as appropriate within the SEA ER and associated Maps.

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	• World Heritage in Ireland: The World Heritage in Ireland website (www.worldheritageireland.ie) provides general information about UNESCO and World Heritage as well as specific information on the World Heritage in Ireland. It provides a current list and supporting documentation and reports for all currently inscribed World Heritage sites within Ireland as well as the most recent list of Tentative sites (i.e. sites proposed for future inscription).	Noted. These comments are welcomed. This data source has been reviewed and considered, as appropriate within the SEA ER and associated Maps.
	• Environmental Baseline and Key Environmental Issues and Opportunities Archaeological, Architectural and Cultural Heritage: Baseline: This Department would draw particular attention to the omission of underwater archaeology from the draft SEA. Given the location of the development under consideration, this is a significant omission. Known underwater archaeological sites enjoy equivalent legal protection to known terrestrial sites. All wrecks over 100 years old (whether previously known or just discovered) and all archaeological objects situated underwater, are protected under section 3 of the National Monuments (Amendment) Act 1987. Wrecks of any date and the potential location of wrecks or archaeological objects may also be protected under Section 3 of the 1987 (Amendment) Act by the making of an underwater heritage order, if considered to be of sufficient historical, archaeological or artistic importance to merit such protection.	Underwater archaeological impacts have been taken into consideration as part of this SEA ER, refer to Section 8 and Section 9 of this SEA ER. Refer to mitigation measures of this SEA ER and refer to mitigation as included in the combined Screening for AA and NIS.
	• Archaeological, Architectural and Cultural Heritage: Key Issues and Opportunities This Department advises that the key issues should be expanded as follows: The construction of new developments increases the potential to negatively impact on known or previously unknown archaeological sites and features both terrestrial and underwater. This includes impacts to the setting and amenity of archaeological sites and features as well as direct impacts;	Noted. Potential impacts on known or previously unknown underwater and terrestrial archaeological have been taken into consideration, as appropriate as part of this SEA ER. Refer to Section 8 and Section 9 of this SEA ER.
	• Scoping Question # 2: Are there any additional environmental sensitivities or changes in weightings that should be included in the sensitivity mapping? This Department considers that the weighting of 1 suggested for archaeological monuments is not appropriate. These are sensitive receptors we advise a minimum weighting of 5 for Recorded Monuments and known Wreck Sites with a higher weighting of 10 for National Monuments and World Heritage Sites.	This comment is welcomed. The ESM in Appendix A.1 has since been updated, as appropriate to reflect these comments.
	• Scoping Question No. 5: Do you have any comments regarding the draft SEA environmental objectives, targets or indicators? This Department advises that the following alternate wording be adopted in this table for the entry on Archaeological, Architectural and Cultural Heritage:	This comment is welcomed. Table 6.1 has since been updated to reflect these comments.

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	• Targets – Protect sites places, features, buildings, and landscapes or seascapes of cultural, archaeological, or architectural heritage and their context from significant adverse effects resulting from the implementation of the draft GA Concept. – Any projects progressed under the draft GA Concept will adhere to the Code of Practice between the Department of the Environment, Heritage and Local Government and ESB Networks (2009) or any future revisions to that Code of Practice. • Indicators – Avoidance of significant adverse effects, both direct and indirect, to sites and features of archaeological/architectural/cultural heritage (both terrestrial and underwater) as a result of the implementation of the draft GA Concept.	
	• Nature Conservation: The Department welcomes the opportunity to provide observations in relation to the Draft Green Atlantic @ Moneypoint Concept. Arup has been commissioned by the ESB to carry out Strategic Environmental Assessment (SEA), Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) of the draft GA Concept. The Department has reviewed the SEA scoping document and a series of 'Scoping Questions'. The following observations including comments on scoping questions are made by the Department in its role as a prescribed body under SEA legislation and as the authority with overarching responsibility for nature conservation and the nature directives (i.e. the Birds and Habitats Directives). – Scoping question 1: Are there any other relevant International, National or Regional Plans or Programmes that should be considered? – EirGrid's Grid 25 Programme, – The Clare Wind Energy Strategy, – Wind/renewable energy strategies for surrounding counties, – Existing projects and infrastructure (constructed and permitted) should also be taken into account.	Noted. Additional International, National or Regional Plans or Programmes have been included within Section 3 and Appendix A.2 of this SEA ER, as appropriate. Noted. The available planning history for the Moneypoint Generating Station site has been included in Section 1.1. of this SEA ER.
	• Scoping question 2: Are there any additional environmental sensitivities or changes in weightings that should be included in the sensitivity mapping? – The Department recommends semi-natural habitats including scrub and wet grassland should not be weighted 0. A minimum of 1 is recommended.	This comment is welcomed. The ESM in Appendix A.1 has since been updated, as appropriate to reflect these comments.
	• Scoping question 4 - Are there any environmental issues that should be scoped out of the SEA at this stage? • The Department has no comment at this time.	Noted.

Consultee/ Stakeholder	SEA Scoping Response	SEA Actions
	• Scoping question 5- Do you have any comments regarding the draft SEA environmental objectives, targets, or indicators? • Regarding the two indicators "Level of biodiversity gain achieved as a result of the implementation of the draft GA Concept" and "Level of biodiversity lost as a result of the implementation of the draft GA Concept" – how will this be measured?	Refer to the monitoring table in Section 9.2 of this SEA ER where details of monitoring sources and frequency/ responsibility has been assigned to each indicator listed in Section 6 'Objectives, Targets and Indicators'.
	• General comments: • There will be overlaps and linkages between biodiversity in SEA, and sites, habitats and species of relevance to the Appropriate Assessment and Articles 6(3) and 6(4) of the Habitats Directive. SEA should address all such issues in general, as well as the implications for any other relevant provisions of the Habitats and Birds Directives, including in respects of Article 6(1), 6(2) and 10 of the Habitats Directive, and associated national legislation.	The SEA and AA processes have been undertaken as an iterative process, both of which have also informed and fed into the preparation of the draft GA Concept throughout its development. Similarly, all mitigation provided in both the SEA and AA were undertaken in an iterative manner and fed into the preparation of the draft GA Concept throughout its development.
	• The biodiversity, flora and fauna section of the Environmental Report should be prepared in conjunction with the NIS, if required, to ensure integration of biodiversity issues and concerns. The EPA's Integrated Biodiversity Impact Assessment best practice guidance is of relevance in this regard. The EPA's SEA of Local Authority Land-Use Plans – EPA Recommendations and Resources, 2020 Version 1.6. is also a useful reference.	The SEA and AA processes have been undertaken as an iterative process, both of which have also informed and fed into the preparation of the draft GA Concept throughout its development. Similarly, all mitigation provided in both the SEA and AA were undertaken in an iterative manner and fed into the preparation of the draft GA Concept throughout its development. Both the EPA's Integrated Biodiversity Impact Assessment best practice guidance and the EPA's SEA of Local Authority Land-Use Plans – EPA Recommendations and Resources have been reviewed and considered, as appropriate throughout this SEA ER.

A.4 Mitigation Measures as set out in the accompanying combined Screening for AA and NIS

Overview

The purpose of mitigation in the AA process is to outline the strategies and measures to avoid, reduce or offset potential adverse effects on the integrity of European sites, their QIs and SCIs. Mitigation measures are designed to ensure, wherever possible, that the draft GA Concept will not adversely affect the integrity of the Lower Shannon SAC and the River Shannon and River Fergus Estuaries SPA or further more distantly situated European sites. The approach taken in this AA is to first identify the in-built mitigation measures outlined within the GA Concept and secondly, where adverse effects still exist, recommend mitigation measures to avoid any remaining adverse effects both alone and in-combination. Section 7.2 below outlines the in-design mitigation measures whilst Section 7.3 provides the additional recommended mitigation measures.

In Design Mitigation within the GA Concept

A number of the overarching policies of the GA Concept emphasise the protection of the natural environment. This includes OP1 which states:

"The Green Atlantic @ Moneypoint Concept will be implemented having due regard for the sensitivity of the local environment, including the adjoining coastline, which includes the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA."

OP2 states:

"As required under prevailing legislation, development proposals will be required to comply with the requirements of the Environmental Impact Assessment and Habitats Directives"

OP3 states:

"Mitigation measures identified by project specific environmental assessment and approved as part of the statutory consenting process, will be implemented to mitigate against impacts arising on the local environment."

OP10 states:

"Where appropriate, development proposals will be subject of design level modelling to determine any potential hydrological change that may arise and impact on the hydrology of sites within the zone of influence of the site, including European Sites designated for their international nature conservation importance. Such models will inform mitigation strategies and ensure that site infrastructure is appropriately designed."

Throughout the GA Concept, the importance of the Lower Shannon SAC and the River Shannon and River Fergus Estuaries SPA and the below mitigation measures have been identified.

Land Use Zone	Mitigation identified within the GA Concept – Principles	Reference location within GA Concept
Marine Energy Zone (MEZ)	All development proposals will have regard to the prevailing land use zoning of the site, and the visual and ecological sensitivity of the adjoining coastline, noting the proximity to a European site. As such, any development in this area will be required to demonstrate that it does not negatively impact on the conservation objectives of the adjoining Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA.	MEZ2 Page 19
Coastal Infrastructure Zone (CIZ)	Any development in this area will be required to demonstrate that it does not negatively impact on the conservation objectives of the adjoining Lower River Shannon SAC (site code 0002165) and River Shannon and River Fergus Estuaries SPA, or that circumstances prevail whereupon consent can be granted having regard to broader considerations.	CIZ2 Page 20

Land Use Zone	Mitigation identified within the GA Concept – Principles	Reference location within GA Concept
Industrial Energy Zone (IEZ)	All development proposals will be developed having regard to the prevailing land use zoning of the site, and the visual and ecological sensitivity of the adjoining coastline. Any development in this area will be required to demonstrate that it does not negatively impact on the conservation objectives of the adjoining Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA.	IEZ6 Page 22
Ash Management Zone (AMZ)	Any new development within this zone will be subject of robust environmental assessment to confirm that it does not impact on the on-going management of the capped ASA. Specifically, a detailed Hydrogeological Risk Assessment will be prepared and a construction methodology submitted to the EPA for approval, in advance of works being permitted or commenced.	AMZ4 Page 23

Recommended Mitigation for the GA Concepy

Overview

Mitigation measures are recommended in the following subsections. The mitigation measures are presented per the relevant QIs and SCIs that have been identified as at risk of adverse effects within this report.

It is noted that, given the nature of the GA Concept which is a relatively high-level plan document, identification of project specific mitigation measures is not always possible given the lack of detail on the extent and nature of development which is likely to arise as a result of the adoption of the GA Concept's objectives and principles.

Mitigation measures required in respect of any project level development will be identified and implemented to ensure that the impacts at the project level are fully addressed wherever possible. Where mitigation is not possible, for example in the case of habitat loss effects arising from development of the Coastal Infrastructure Zone, there may be a requirement for the project to be considered in respect of Article 6(4) of the Habitats Directive. This is discussed further below.

Mitigation measures set out below should be viewed in context as overarching principles of mitigation which will be applied to individual projects arising from the GA Concept objectives and principles to mitigate impacts upon European sites.

Lower River Shannon SAC

Estuaries, Reefs, Perennial Vegetation of Stony Banks

The following mitigation is recommended for any future specific project proposals that may arise as a result of the GA Concept in regards to the QI marine habitats of the Lower Shannon SAC:

Estuaries

- Any development associated with the Coastal Infrastructure or Marine Energy Zones will ensure that the NPWS detailed COs for the Lower Shannon SAC are not undermined. Any exceptions to this will be addressed through Article 6(4) procedures, as discussed below.
- Any project level development associated with the Coastal Infrastructure Zone and Marine Energy Zone shall be subject to a Screening for AA (and full AA where appropriate) and be carried out by a suitably qualified ecologist;
- Any future project proposals shall seek to avoid and minimise any impacts upon this habitat through careful selection of areas for development, type of infrastructure used and scale of project;
- Suitable mitigation measures shall be required at project level stage to avoid or reduce any potential adverse effects on the COs of the habitat once the details of the type of development and the level of construction works and impacts are known; and

- Future project proposals shall seek to avoid development during sensitive seasons.

Reefs

- Any development associated with the Coastal Infrastructure or Marine Energy Zones will ensure that the NPWS detailed COs for the Lower Shannon SAC are not undermined. Any exceptions to this will be addressed through Article 6(4) procedures, as discussed below.
- Any project level development associated with the Coastal Infrastructure Zone and Marine Energy Zone shall be subject to a Screening for AA (and full AA where appropriate) and be carried out by a suitably qualified ecologist;
- Any future project proposals shall seek to avoid any impacts upon this habitat through careful selection of areas for development, type of infrastructure used and scale of project;
- Suitable mitigation measures shall be required at project level stage to avoid or reduce potential adverse effects on the COs of the habitat once the details of the type of development and the level of construction works and impacts are known; and
- Future project proposals shall seek to avoid development during sensitive seasons.

Perennial Vegetation of Stony Banks

- Any development associated with Coastal Infrastructure Zone and Marine Energy Zone will ensure that the NPWS detailed COs for the Lower Shannon SAC are not undermined. Any exceptions to this will be addressed through Article 6(4) procedures, as discussed below.
- Any project level development associated with the Coastal Infrastructure Zone and Marine Energy Zone shall be subject to a Screening for AA and be carried out by a suitably qualified ecologist;
- Suitable mitigation measures shall be required at project level stage to avoid or reduce potential adverse effects on the COs of the habitat once the details of the type of development and the level of construction works and impacts are known; and
- Any future project proposals shall seek to avoid any impacts upon this habitat through careful selection of areas for development, type of infrastructure used and scale of project.

Otter

- Any future project proposals associated with the GA Concept area will ensure that the NPWS detailed COs for the Lower Shannon SAC are not undermined.
- Any project level development arising from the GA Concept shall be subject to a Screening for AA (and full AA where appropriate), informed by appropriately timed surveys for the species and be carried out by a suitably qualified ecologist;
- Any future project proposals shall aim to avoid construction in sensitive areas such as feeding and breeding areas, minimise the use of high noise emission activities such as impact piling and blasting;
- Any future project proposals shall aim to enforce speed limits for vehicles used in construction and establish a code of conduct to avoid disturbance to otters both during construction activities and in transit to construction area if entering areas of high abundance;
- Where piling methods are proposed as part of a project proposal, a noise and vibration assessment shall be carried out prior to any future works insofar as to avoid any potential impacts on the QI;
- Suitable mitigation measures shall be required at project level stage to avoid or reduce potential adverse effects on the COs of the species once the details of the type of development and the level of construction works and impacts are known; and
- Any future project proposals shall aim to avoid construction during sensitive periods for otter, employ soft starting procedures for any piling activities and/or passive acoustics deterrents.

Common Bottlenose Dolphin

- Any future project proposals associated with the GA Concept will ensure that the NPWS detailed COs for the Lower Shannon SAC are not undermined. Any exceptions to this will be addressed through Article 6(4) procedures, as discussed below.
- Any project level development arising from the GA Concept shall be subject to a Screening for AA (and full AA where appropriate) and be carried out by a suitably qualified ecologist;
- Any future project proposals that may interact with the marine environment shall adhere to the NPWS 2014 Guidance to Manage the risk to Marine Mammals from Man-Made Sound Sources in Irish Waters and subsequent future iterations of the guidance;
- Any future project proposals shall aim to minimise the use of any high noise emitting activities and/or machinery within the ZoI of the foreshore area so as to avoid indirect impacts to the species;
- Where piling methods are proposed as part of a project proposal, a noise and vibration assessment shall be carried out prior to any future works insofar as to avoid any potential impacts on the QI;
- Suitable mitigation measures shall be required at project level stage to avoid or reduce potential adverse effects on the COs of the species once the details of the type of development and the level of construction works and impacts are known; and
- Any future project proposals arising from the GA Concept which has the potential to interact with common bottlenose dolphin shall consult with NPWS, IWDG and any other relevant organisations.

Fish species

Sea Lamprey and River Lamprey

- Any future project proposals associated with the GA Concept will ensure that the NPWS detailed COs for the Lower Shannon SAC are not undermined. Any exceptions to this will be addressed through Article 6(4) procedures, as discussed below.
- Any project level development arising from the GA Concept shall be subject to a Screening for AA (and full AA where appropriate) and be carried out by a suitably qualified ecologist;
- Any future project proposals arising from the GA Concept which has the potential to interact with sea or river lamprey and their associated habitat shall consult with NPWS, Inland Fisheries Ireland and any other relevant organisations;
- Where piling methods are proposed as part of a project proposal, a noise and vibration assessment shall be carried out prior to any future works insofar as to avoid any potential impacts on the QI;
- Suitable mitigation measures shall be required at project level stage to avoid or reduce potential adverse effects on the COs of the species once the details of the type of development and the level of construction works and impacts are known; and
- Any future project proposals affecting the estuarine environment shall aim to avoid construction at sensitive times for the species.

Atlantic Salmon

- Any future project proposals associated with the GA Concept will ensure that the NPWS detailed COs for the Lower Shannon SAC are not undermined. Any exceptions to this will be addressed through Article 6(4) procedures, as discussed below.
- Any project level development arising from the GA Concept shall be subject to a Screening for AA (and full AA where appropriate) and be carried out by a suitably qualified ecologist;
- Where piling methods are proposed as part of a project proposal, a noise and vibration assessment shall be carried out prior to any future works insofar as to avoid any potential impacts on the QI;

- Any future project proposals arising from the GA Concept which has the potential to interact with Atlantic Salmon and its associated habitat shall consult with NPWS, Inland Fisheries Ireland and any other relevant organisations;
- Suitable mitigation measures shall be required at project level stage to avoid or reduce potential adverse effects on the COs of the species once the details of the type of development and the level of construction works and impacts are known; and
- Any future project proposals affecting the estuarine environment shall aim to avoid construction at sensitive times for the species.

River Shannon and River Fergus Estuaries SPA

SCIs

- Any future project proposals associated with the GA Concept area must ensure that the NPWS detailed COs for the River Shannon and River Fergus Estuaries SPA are not undermined. Any exceptions to this will be addressed through Article 6(4) procedures, as discussed below.
- Any project level development arising from the GA Concept shall be subject to a Screening for AA (and full AA where appropriate), informed by an appropriate suite of bird surveys and carried out by a suitably qualified ecologist;
- For the application of any future project level proposals, dedicated site counts throughout summer and winter months will be required for any application to establish the use, if any, of birds within the draft GA Concept area;
- Where piling methods are proposed as part of a project proposal, a noise and vibration assessment shall be carried out prior to any future works insofar as to avoid any potential impacts on the QI;
- Future project proposals shall give regard to avoidance of siting structures within sensitive areas for SCIs, avoid installation/construction works during sensitive seasons (i.e. breeding), identify then avoid construction in resting and foraging areas, avoid large-scale continuous illuminations, minimise the use of high noise emission activities (e.g. piling or blasting), integrate noise suppression techniques when appropriate and use sound insulation on plant equipment and device design; and
- Any future project proposals arising from the GA Concept which has the potential to interact with the SCIs of the SPA and associated habitat shall consult with NPWS, Birdwatch Ireland and any other relevant organisations.

Operational Phase Management of Heavy Fuel Oil

Mitigation measures governing the use, including transport and delivery of HFO, at the site have been set out within the Natura Impact Statement which accompanied the consented scheme submissions (An Bord Pleanála case 319080). While such measures are considered as comprising a part of that application they also apply to the ongoing use of HFO at the Moneypoint site, with associated potential effects arising from large-scale spillage of HFO on a range of European sites, as discussed above.

The following measures are being and will continue to be implemented at the site for control of HFO.

Measures to Prevent an Oil Spill in Transit

Measures will be implemented during the transport of HFO to Moneypoint including that the vessels shipping the HFO will comply with the International Safety Guide for Oil Tankers and Terminals (ISGOTT 6) produced by Oil Companies International Marine Forum (OCIMF) and the International Chamber of Shipping (ICS). Furthermore, recommendations of the International Maritime Organization will be implemented, as necessary.

Measures to Address an Oil Spill within the Shannon Estuary

Moneypoint Generating Station is part of the Shannon Estuary Anti-Pollution Team (SEA-PT). SEA-PT has developed an Oil Spill Contingency Plan that covers the Shannon estuary from Limerick City to the mouth of the Shannon Estuary, at a notional line from Loop Head (County Clare) to Kerry Head (County Kerry).

The objectives of the plan are:

- To prevent further pollution/damage caused by the spill.
- To contain and clean up a marine spill.
- Cause no further damage to the marine environment or create unacceptable risk to those responding to or impacted by the incident.
- More specifically, the plan will:
- Mobilise appropriate personnel, equipment and other resources.
- Make all necessary notification to relevant authorities and agencies.
- Instigate appropriate containment, recovery and clean-up operations to control and mitigate the effects of the spill and contribute to the restoration of the environment.
- Initiate, as appropriate, wildlife rescue and remediation operations.
- Gather evidence throughout the operation for possible legal action.
- Maintain accurate records so that the cost of the response operation may be accurately assessed. The plan contains measures to be implemented in the event of an oil spill, including:
- Discovery and notification of the appropriate personnel.
- Identification of a Tier 1, 2 or 3 incident:
  - Tier 1: a Tier 1 incident is one in which a small spill can be dealt with by personnel in the immediate vicinity and that has no external impact. Each installation / works area in the area of the plan has enough equipment to respond to a Tier 1 incident. In the event of a Tier 1 being activated, the spiller or installation personnel will respond in accordance with their local procedures and the Duty Harbour Master will monitor the response.
  - Tier 2: a Tier 2 incident is one that will require the combined resources of the organisations represented on the SEA-PT team. It will also require the involvement of regulatory bodies, local authorities, advisors and advisory bodies. In general, all spills in the Shannon Estuary, other than minor ones, will require a Tier 2 response. A Tier 2 response will require the activation of Shannon Foynes Port Company (SFPC) Incident Management Team and the SEA-PT. This will instigate notifications to the Coast Guard and Local Authorities and Tier 2 response specialists.
  - Tier 3: a Tier 3 incident is a major oil pollution event with potential for environmental, social and economic impacts that are beyond the capability of local resources. It will require local, national and probably international resources. A Tier 3 response is initiated by contacting the Coast Guard. A response at this level will be coordinated under the National Contingency Plan and within the Management of Major Emergencies Framework.
- Incident notification and response process is detailed.
- Tier escalation matrix is provided.
- An Incident Response and an Incident Action Plan are in place.
- ESB has a supply of oil booms available, and this is also a requirement for the IE licence.

Measures for unloading of HFO

The following measures are in place and will continue to be implemented during HFO unloading:

- Oil unloading arm and valves on the jetty are manned at all times.
- The full length of the HFO fuel line is inspected periodically (currently frequency, every 2 hours)
- Pressure and temperature is constantly checked and recorded
- Radio contact is maintained with the ship, the control room and persons involved in the procedure
- The oil sump located underneath the jetty is emptied prior to arrival of the oil ship
- Security is maintained on the jetty while unloading
- Firefighting equipment is positioned in place prior to arrival of the oil ship
- Oil spill containment equipment is located on the jetty
- Oil dry is positioned on the jetty (currently 2 tonne minimum)
- Jetty oil unloading arm area and the HFO. Tank head spaces are designated as Atmospheres Explosible (ATEX) Areas
- Hot work and smoking is prevented while unloading is taking place
- The pipework and valves are maintained as per oil tank and pipework technical standards.

Subject to the application of these mitigation measures it is envisaged that the risks associated with a large-scale oil spill at the site as a result of the ongoing use of HFO, would be fully mitigated.

Underwater Noise and Vibration

As set out above, in respect of the Lower River Shannon SAC and the associated QI populations of common bottlenose dolphin, projects arising from the GA Concept should be subject to their own project -specific AA, which should include an assessment of the potential underwater noise and vibrational effects arising upon marine mammals.

- Furthermore, projects arising from the t GA Concept objectives and principles shall adhere to the NPWS 2014 Guidance to Manage the risk to Marine Mammals from Man-Made Sound Sources in Irish Waters and subsequent future iterations of the guidance.
- Subject to the implementation of these mitigation measures it is envisaged that any likely significant underwater noise or vibrational effects upon marine mammal QI populations, including those of all SACs within the respective management units and those designated on account of seal populations within the known foraging ranges for the respective species will be fully mitigated.

Recommended Mitigation to Address In-Combination Effects

In-combination effects shall be addressed by the mitigation proposed above in the above sections. Projects and plans discussed within the in-combination assessment (Section 4.7 of AA) were assessed as incorporating their own measures, sufficient to fully mitigate any likely significant effects arising as a result of their construction or operation.

A.5 Weightings applied to Environmental Sensitivity Mapping (as previously included in SEA Scoping Report)

Dataset Name	Source	Acquisition Date	Weighting (Points)
SACs	NPWS	20/04/2022	10
SPAs	NPWS	20/04/2022	10
NHAs	NPWS	23/10/2019	10
pNHAs	NPWS	23/10/2019	5
National Monuments	Archaeological Survey of Ireland	25/10/2019	10
Protected Structures	CCC	19/12/2023	5
WFD River Water Status Bad	EPA	10/05/2022	10
WFD River Water Status Poor	EPA	10/05/2022	10
WFD River Water Status Moderate	EPA	10/05/2022	5
WFD River Water Status Good	EPA	10/05/2022	10
WFD River Water Status High	EPA	10/05/2022	10
WFD River Water Status Unassigned	EPA	10/05/2022	5
WFD Transitional Water Status Bad	EPA	10/05/2022	10
WFD Transitional Water Status Poor	EPA	10/05/2022	10
WFD Transitional Water Status Moderate	EPA	10/05/2022	5
WFD Transitional Water Status Good	EPA	10/05/2022	10
WFD Transitional Water Status High	EPA	10/05/2022	10
WFD Transitional Water Status Unassigned	EPA	10/05/2022	5
WFD Groundwater Water Status Bad	EPA	10/05/2022	10
WFD Groundwater Water Status Poor	EPA	10/05/2022	10
WFD Groundwater Water Status Moderate	EPA	10/05/2022	5
WFD Groundwater Water Status Good	EPA	10/05/2022	10
WFD Groundwater Water Status High	EPA	10/05/2022	10
WFD Groundwater Water Status Unassigned	EPA	10/05/2022	5
GSI Groundwater Vulnerability Rock	GSI	24/10/2019	10
GSI Groundwater Vulnerability Extreme	GSI	24/10/2019	10
GSI Groundwater Vulnerability High	GSI	24/10/2019	5
GSI Groundwater Vulnerability Moderate	GSI	24/10/2019	0
GSI Groundwater Vulnerability Low	GSI	24/10/2019	0
GSI Geological Heritage Areas	GSI	24/10/2019	5
GSI Inner Source Protection Areas	GSI	24/10/2019	10
GSI Outer Source Protection Areas	GSI	24/10/2019	5
Population Density (top 40% of small areas pop dens)	CSO	24/10/2019	5

Dataset Name	Source	Acquisition Date	Weighting (Points)
OPW Fluvial Flood Depth Annual Exceedance Probability 10%	OPW	26/11/2020	10
OPW Fluvial Flood Depth Annual Exceedance Probability 5%	OPW	26/11/2020	5
OPW Fluvial Flood Depth Annual Exceedance Probability 1%	OPW	26/11/2020	1
Margaritifera Sensitive Areas	EPA	14/02/2022	10
Salmonoid Waters	EPA	14/02/2022	5
EPA National Land Cover	Tailte Éireann/EPA	29/01/2024	See below
Amenity Grassland			0
Bare Soil and Disturbed Ground			0
Broadleaved Forest and Woodland			5
Buildings			0
Coniferous Forest			5
Hedgerows			5
Improved Grassland			0
Mixed Forest			5
Other Artificial Surfaces			0
Scrub			1
Transitional Forest			5
Treelines			5
Ways			0
Wet Grassland			1
Indicative Protected Trees	ESB	29/11/2023	10
Indicative Established Woodland	ESB	29/11/2023	10
Indicative 150m Buffer of Turbine	ESB	29/11/2023	10
Indicative As Built Turbines	ESB	29/11/2023	10
Indicative FGD Landfill Area	ESB	29/11/2023	10
Indicative HV Underground Cables	ESB	29/11/2023	5

A.6 Cultural Heritage Assessment

ESB LANDS AT MONEYPOINT, Co. CLARE

CULTURAL HERITAGE SCOPING/APPRAISAL REPORT

Martin Byrne, MA, Dip. EIA Mgmt, MIAI

Report Commissioned by
ESB – Engineering & Major Projects
One Dublin Airport Central
Dublin Airport
Cloghran
Co. Dublin

APRIL 2023

BYRNE MULLINS & ASSOCIATES
ARCHAEOLOGICAL & HISTORICAL HERITAGE CONSULTANTS

7 CNOC NA GREINE SQUARE,
KILCULLEN,
Co. KILDARE.
PHONE 045 480688 FAX 045 442505
e-mail:byrnemullins@eircom.net

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CULTURAL HERITAGE SCOPING/APPRAISAL REPORT

Martin Byrne, MA, Dip. EIA Mgmt, MIAI
BYRNE MULLINS & ASSOCIATES
ARCHAEOLOGICAL & HISTORICAL HERITAGE CONSULTANTS

1. INTRODUCTION

ESB is examining the potential of lands within existing generating stations for the purposes of accommodating new development. As part of this process, ESB Engineering and Major Projects (EMP) has beeen tasked with assessing the suitability of candidate sites for development and identify planning and environmental risks. In that regard, Byrne Mullins & Associated were commissioned by ESB EMP to prepare a Cultural Heritage Scoping/Appraisal Report with respect to lands owned by ESB in the area of Moneypoint, Co. Clare

Cultural Heritage has been defined by UNESCO as "the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations" (Tangible Cultural Heritage, UNESCO http://www.unesco.org/new/en/cairo/culture/tangible-cultural-heritage). Cultural Heritage is assumed to include all humanly created features on the landscape, including portable artefacts, which might reflect the prehistoric, historic, architectural, engineering and/or social history of the area. Where appropriate, it also includes for non-physical aspects of heritage, such as history, linguistics, folklore, etc.

The Heritage Act (1995) contains a list of various aspects of heritage, including archaeological monuments and objects, architectural heritage, fauna, flora, geology, heritage gardens and parks, heritage objects, inland waterways, landscapes, monuments, seascapes, wildlife habitats, and wrecks.

The Cultural Heritage of the area of the proposed project was examined through an Archaeological, Architectural, and Historical study. The Archaeological and Architectural studies involved a documentary/cartographic search and focussed field inspection of the area, while the Historical study involved a documentary search.

The report discusses the receiving environment from a Cultural Heritage perspective. It provides information with respect to previously identified baseline data and provides a general scoping/appraisal and potential required mitigation requirements with respect to identified sites and areas of Cultural Heritage interest and/or potential.

2. METHODOLOGY

2.1 Definition of Study Area

The subject ESB landholding (blue-line boundary) and an area of 300m surrounding such lands were determined to be the Study Area for Cultural Heritage. The extent of the Cultural Heritage Study Area was chosen to reflect an appropriate context for the lands, beyond which it was considered that potential developments within the landholding would have no direct/indirect impacts.

2.2 Paper Survey

As part of a documentary/cartographic search, the following principal sources were examined from which a list of sites and areas of Archaeological Heritage interest/potential was compiled:

- Record of Monuments and Places – Co. Clare (RMP)
- Archive Files of the Archaeological Survey of Ireland (ASI)
- Sites and Monuments Record (SMR); National Monuments Register, Register of Historic Monuments (RHM), Historic Environment Viewer (HEV), National Monuments Service Wreck Viewer & Lists of Monuments subject to Preservation Orders (PO) – www.archaeology.ie
- Topographical Files of the National Museum of Ireland
- Annual Archaeological Excavations Bulletin – www.excavations.ie
- National Inventory of Architectural Heritage (NIAH) – Survey of the Architectural Heritage of County Clare (Building & Garden Surveys) – www.buildingsofireland.ie
- Aerial Photographic & Cartographic Archive of the Ordnance Survey of Ireland – www.osi.ie
- Placenames Commission – www.logainm.ie
- Heritage Council Database – www.heritagemaps.ie
- Documentary and cartographic sources (see Appendix 1)
- National Folklore Collection (The School's Collection) – www.duchas.ie
- Clare County Development Plan 2017-2023 (CCDP)
- Draft Clare County Development Plan 2023-2029 (DCCDP)
- Industrial Heritage Review of County Clare – 2008 (IHRCC)
- Clare Coastal Architectural Heritage Survey – 2007/8 (CCHAS)
- Clare Traditional Boat and Currach Project – 2008 (CTBCP)

2.3 Field Inspection

Following completion of the preceding paper survey, an inspection of the subject lands was undertaken in early February 2023. This entailed a focussed surface reconnaissance of undeveloped areas within the overall landholding; it also entailed visual inspections of adjacent lands, where possible.

An attempt was also made to identify previously unrecorded sites of cultural heritage potential within, and in the immediate environs of, the proposed development area.

Sites/features of cultural heritage potential identified on the basis of the paper survey were inspected in an attempt to confirm their locations on the ground and to determine, if possible, their likely extent.

3. SITE LOCATION AND DESCRIPTION

The subject ESB landholding, comprises approximately 180 Ha, is located on the northern banks of the River Shannon. in the mouth of the Shannon Estuary and approximately 0.7km west of Killimer and 4km southeast of Kilrush; the landholding is bisected by the Killimer – Kilrush road, from which access is provided, and the western extent is bounded by a local road leading north – Figure 1. The overall site extent includes part of the estuary, from which some lands have been reclaimed.

The site is largely brownfield and includes Moneypoint Generating Station, Moneypoint Windfarm, significant electrical networks infrastructure and other industrial structural arrangements, typical of a large-scale electricity generation facility – Plate 1. Much of the existing land profile, particularly to the south of the N67, is artificial and created by site development works associated with the construction of the power station and associated coal yard, the excavated rock from which was utilised in the creation of the reclaimed lands in the estuary.

Most of the boundaries are formed by corridors of tree-planning; there is an area of deciduous forestry in the northernmost area and on either side of the N67 road; aside from the forestry, the lands to the north of the N67 lands contain ash repositories, much of which now comprise remodelled/ restored grasslands.

Figure 1 Site Location

Plate 1 Aerial View of ESB Landholding and Immediate Environs

4. GENERAL HISTORICAL BACKGROUND

The subject lands form part of the townlands of Ballymacrinan, Carrowdotia North and Carrowdotia South, in the civil parish of Killimer and barony of Clonderalaw. The name Ballymacrinan derives from the Irish *Baile Mhic Dhroighneáin* – the 'homestead of the McDrinans' while the name Carrowdotia derives from *An Ceathrü Dhóite* – burnt quarter[land] (Placenames Database – www.logainm.ie); a 'quarterland' is a subdivision of a townland, while the word 'burnt' is used to describe the practice of burning the surface of the land, which was a common agricultural practice throughout Ireland and elsewhere.

The present county of Clare formed part of the kingdom of Thomond which, at its peak, extended eastwards as far as Birr in Co. Offaly, and Ballaghnore, a few miles northeast of Roscrea, Co. Tipperary. It spread southwards from the Slieve Aughty Mountains, part of which are now in Co. Galway, across Keeper Hill, in Co. Tipperary, through the Slieve Felim Mountains, in Co. Limerick, as far south as Ardpatrick, near Kilmallock, and included all of County Limerick to the east of the River Maigue from Bruree northwards.

According to tradition, the Slieve Aughty Mountains and the country extending from the Shannon to Galway Bay originally belonged to the province of Connacht but were annexed to Munster by *Lughaidh Mean*, the father of 'Conal of the Swift Horses' and great-grandson of *Cormac Cas*, after he defeated the men of Connacht in battle.

Legend has it that in AD150 'Con of the Hundred Battles' and 'Mogha Nuadhat of the Silver Hand' partitioned Ireland, with Con ruling the northern half of the country (Leathcuin – Con's half) and Mogha ruling the south (Leathmogha – Mogha's half). The agreement lasted until 167 when Mogha was overthrown and killed at the battle of Moylena, following which Con became the supreme ruler. Oillil Olum, the son of Mogha, became king of Munster and married Con's daughter. They had eight sons, seven of which were killed in the battle of Magh Macruimhne in 195. When Oilill was dying in 234 he divided his kingdom between his surviving son, Cormac Cas, and his grandson Fiacha, the son of Eoghan. Fiacha was given the southern part of Munster where his descendants became known as Eoghacht. Tuath Mhumhan – north Munster or Thomond – was the name bestowed on the territory given to Cormac Cas, the descendants of who ruled in what is now Co. Clare and north Tipperary.

The ancient territories of Thomond were *Corcomruadh Oirthearach, Corcomruath Iartharach, Uí Bracáin, Corcobhaiscinn Iararach, Corcobhaiscinn Oirthearach, Tríocha Céd na nOileán (Uí Cormaic), Cineal Fearmaic, Uí Caisin, Uí Ainmhire, Omullod* or *Uí mBloid, Uí Donghaile, Tuath Echtghe,* and *Tríocha Céd na nOileán*.

During the middle ages the territory of Thomond comprised all of the present county of Clare, including the parishes of Inishcaltra and Clonrush, the entirety of Ely O'Carroll, the baronies of Ikerrin, Upper Ormond, Lower Ormond, Owney, Arra and the western half of Clanwilliam in Co. Tipperary and the baronies of Owenbeg, Coonagh, Clanwilliam and the eastern halves of Coshlea and Small County in Co. Limerick. By Elizabethan times, the territory of Thomond was limited to the size of the present county of Clare, without the parishes of Inishcaltra and Clonrush (returned to the county only in 1898), and was considered part of the province of Connaught (Figure 2) until the earl of Thomond requested that it be returned to Munster.

Prior to the Anglo-Norman invasions, the lands of Thomond were ruled by the O'Brien clan, whose main place of inauguration was at Tulla and who had a stronghold at Clonrode. Despite valiant efforts by the Anglo-Norman armies in the early-mid thirteenth century, they initially failed to capture a strong base in Clare. However, in 1248 King Henry III made grants of land to the Norman knight, Robert de Muscegros at an annual rent of £30. De Muscegros built two castles, one at Clarecastle and one at Bunratty, two strategic locations blocking the entrance to the River Fergus and Bunratty, with the former also controlling access to the O'Brien stronghold of Clonroad. The castle at Clare Castle was subsequently destroyed by Brian Rua O'Brien and this resulted in De Muscegros surrendering his lands to the king, who in 1276 granted Bunratty castle and its lands to Thomas de Clare, When Turlough O'Brien ousted Brian Rua as king of Thomond, Brian Rua asked de Clare for assistance and they entered an agreement that the Normans would only colonise land east of the Quin River. Another de Clare, Richard, plundered the area

and in 1318 was defeated at the Battle of Dysart O'Dea. Following the battle, the de Clares were expelled and the English did not re-emerge in the county for over two centuries.

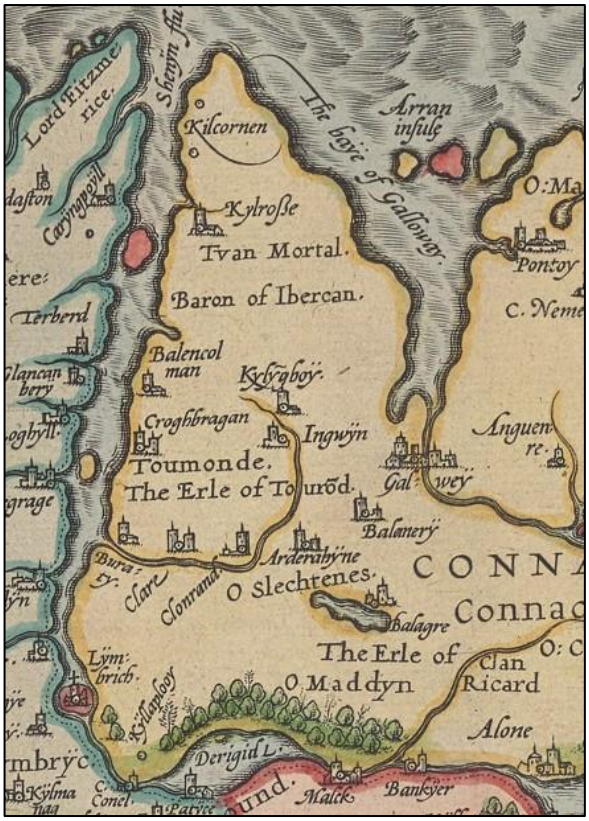

Figure 2 Extract from Map of Ireland by Ortellius (1572) indicating that Clare formed part of Connacht (Note: depiction of Kilrush (Kylrosse))

In later years the O'Briens gained prominence as the Earls of Inchiquin, Barons of Clare and Marquises of Thomond. However, in 1534 assertion of royal dominance was recommenced in Clare. The castle at Clare appears to have been reconstructed and established as an O'Brien stronghold by this time as Conchobair O'Brien, then king of Thomond, wrote to Emperor Charles V, appealing for assistance in opposing the English intruders, concluding his letter with the words 'written at our castle of Clare, July 21, 1534'. In 1559 at Spancill Hill, O'Brien and his Desmond allies were defeated in battle; O'Brien was forced to surrender his lands and flee to the continent. In the aftermath of the battle, Tadgh O'Brien was appointed High Sheriff of Clare, the first occasion in which the term County Clare was used referring to the area, although Clare did not officially become a county until 1576. By 1577, Conchobair O'Brien was back in favour with London; he was succeeded in 1581 by Donagh, fourth Earl of Thomond, whose principal residence was at Bunratty.

In 1600, the territory of Thomond was plundered by *Aodh Ó Domhnaill* as punishment for Donagh O'Brien's support of the English during the Nine Years War in Ulster. Ó Domhnaill stormed Ennis from the west and burned and looted the town. O'Brien installed his troops at Clare Castle, which proved impregnable against the Ulster forces. Soon afterwards, O'Brien commenced the modernisation of his estates in County Clare and invited English and Dutch settlers to the area.

On 23 October 1641, a major rebellion (Confederate War) broke out in Ireland and by May 1642 the Irish Catholic Confederation controlled and governed most of the country. However, in August 1649, the landing of Oliver Cromwell and his forces transformed the military and political situation in Ireland; in July 1651 a relief force, under the command of Lord Deputy Henry Ireton, was dispatched to augment the Cromwellian forces in County Clare, and by August most of the county had been overrun, with strong points such as Clare Castle and Carrigaholt remaining in Irish control. Having emerged victorious in Ireland, the English Commonwealth, under Oliver Cromwell, immediately undertook an ambitious project

of social engineering, underpinned by a massive transfer in landownership from Irish Catholics to English Protestants. For this to happen, the land had to be accurately surveyed and mapped, a task overseen by the surgeon-general of the English army, William Petty. The Civil Survey was undertaken from 1656-58 and is popularly known as the 'Down Survey'. An extract from the Civil Survey map for the subject region is illustrated in Figure 3. At this time the townlands of Carrowdotia North and South were known as 'Carrindalta' and comprised 424 plantation acres of land, of which only 222 were deemed to be 'profitable'; a census of 1659 records a population of 21 English, under the charge of Patrick Harold; Ballymacrinan was then known as 'Ballicranan' and comprised 625 plantation acres, of which only 224 were described as 'profitable'; much of the lands in the area, including the subject townlands, were owned by Barnabus O'Brien, earl of Thomond, in 1641 and 1670 (*Down Survey Project* (www.downsurvey.tcd.ie). 1n 1678, George Stammers, a former Cromwellian army officer, was appointed governor of the Earl of Thomond's estates in county Clare, as the earl was, by then, resident in England, and had very little interest in his Irish estates.

Very little is known of the subject area during the eighteenth century; in 1712, the lands in the area, known as the Kilrush Estate, were leased by the earl of Thomond to Boyle Vandeleur in trust to his brother, Reverend John Vandeleur, Rector of Kilrush since the late 1680s. a maritime survey map of 1776 by Murdoch Mackenzie (Figure 4) indicates three houses and a tower house (Doonnagurroge Castle) in the parish of Kileymo (Killimer) and Money Point is named; the Kilrush-Killimer road is indicated by Taylor & Skinner in 1777 (Figure 5) and the subject lands of Carrowdotia and Ballymacrinan are named in Henry Perham's map of 1787, as is 'Carhudoty' House, although it is incorrectly indicated on the northern side the main road (Figure 6).

Figure 3 Extract from Civil/Down Survey map of 1656-8
(Source: www.downsurvey.tcd.ie**)**

Figure 4 Extract from McKenzie map of 1776

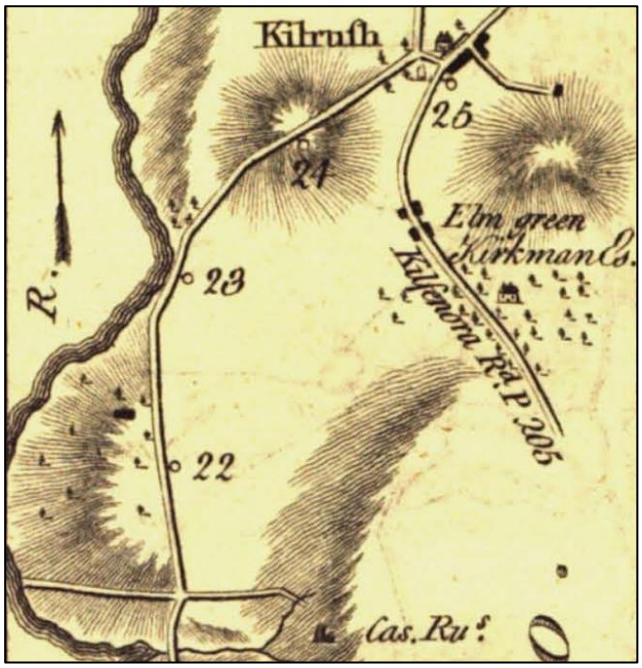

Figure 5 Extract from Taylor & Skinner – 1777 (Sheet 204)

Figure 6 Extract from Pelham map of 1787

Lewis (1837, 146) describes the parish of Killymur or Killimer as containing 3023 inhabitants; it comprised 4621 statute acres, as applotted under the tithe act, and he describes the lands as generally good and principally under tillage, with a small quantity of bog and that sea-weed was used for manure; he notes that “flags of superior quality are quarried at Money-Point” and that ‘Caradole’ House of R. D. Daxon was one of the principal residences.

The Ordnance Survey map of 1840 (Figure 7) illustrates the agricultural nature of the landholding and immediate environs at that time. The townland boundaries are marked in red and the map indicates that the centre-line of the Killimer-Kilrush road acted as a part of a boundary between Carrowdotia South and Carrowdotia North, with the boundary between the latter and Ballymacrinan formed by field boundary divisions; the edge of the estuary to the west and south is also marked as a civil parish boundary of Killimer. The local road along the north-western site boundary had been established by this time.

The subject lands to the north of the existing N67 road incorporate a large number of fields of varying sizes, with a number of residential plots dotted along the road frontages and the central-western area is indicated as being 'liable to floods'; a trackway is indicated outside the eastern boundary of these lands providing access to residential plots further to the east. A circular enclosure is indicated in the townland of Ballymacrinan, to the east of the local road, within the subject landholding, with further circular enclosures located outside the boundaries to the east and west, as discussed below in Section 5.3.

The lands to the south of the N67 road incorporate agricultural fields which are much larger than those to the north, and include an area of forestry; a stream which flows westwards through the central area, is bounded, in places, by stands of trees. The lands include Carrowdotia House in the north-eastern area; this includes the residence, some outbuildings gardens and an access driveway leading south from the main road; the field to the immediate west also incorporates some tree planting. A number of small residential plots are indicated fronting the road to the west, along the beachfront to the south and along a trackway to the southeast, all within the extent of the subject landholding. A 'flag slate' quarry is in existence outside the south-eastern site boundary and a number of residential plots are indicated further to the east. These lands to the immediate east also include a number of circular enclosures, as discussed below in Section 5.3.

The village of Killimer, to the east, is indicated as linear in form along the main road, incorporating a number of residential structures and a Roman Catholic Church

Griffith's Valuation (*Primary Valuation of Ireland 1848-64*) of 1856 notes that the entire extent of the subject landholding formed part of the estates of Col. C.M. Vandeleur, with a number of small plots, largely residential but some agricultural, leased to a number of individuals.

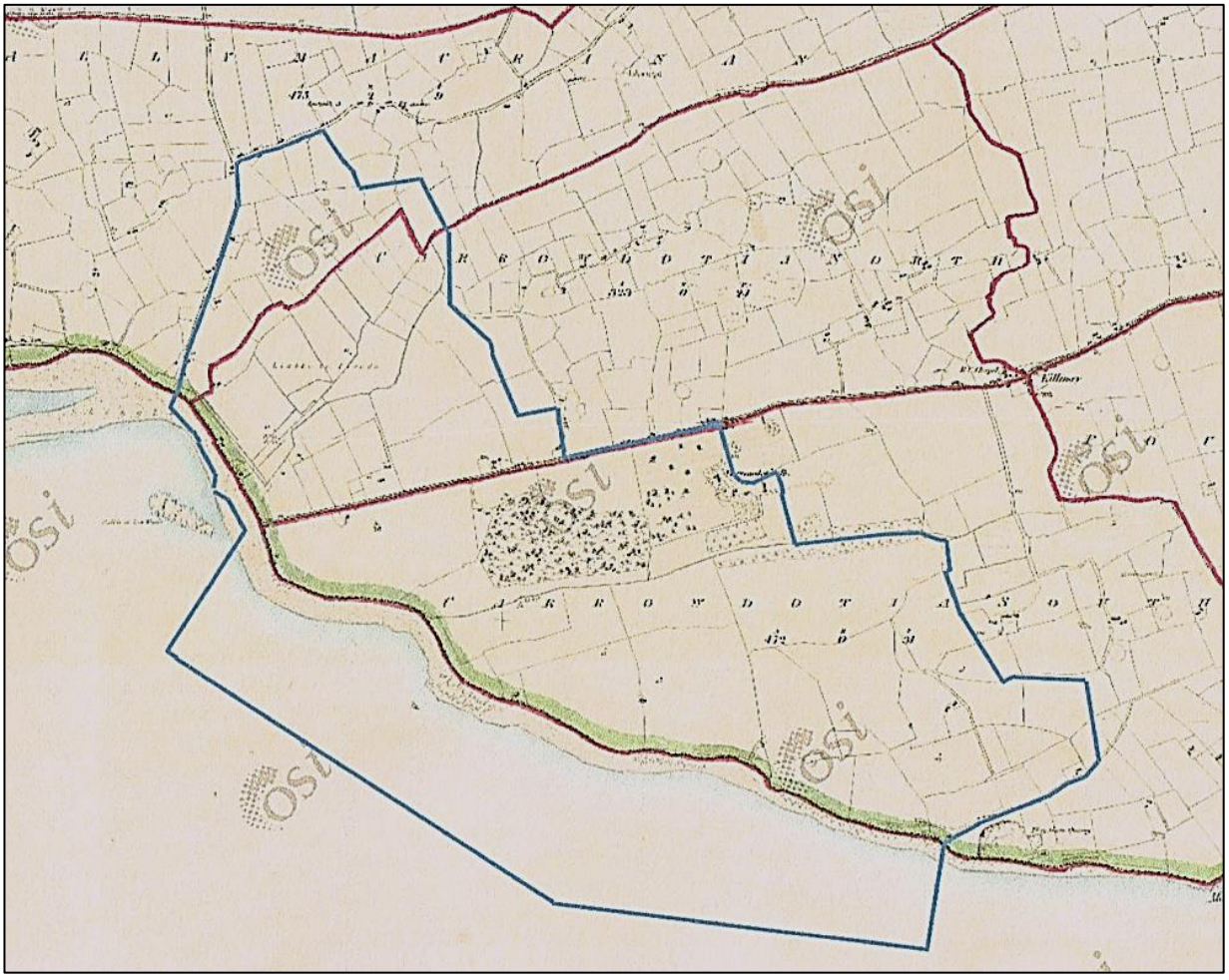

Figure 7 Extract from Ordnance Survey Map of 1840

The 1923 Ordnance Survey map (Figure 8) indicates some changes to the site and environs.

In the area to the north of the N67 road, a number of the former fields had been further subdivided; furthermore, a number of streams are illustrated and an area 'covered by spring tides' is indicated to the west. Many of the previously indicated residential plots along the northern side of the main road have disappeared and two residential farm plots are shown fronting the eastern side of the road along the western boundary. All of the previously indicated circular enclosures are shown within, and in the immediate environs of, this area of the overall site (Section 5.3 below).

Many of the previously indicated fields on the lands to the south of the road have been enlarged; much of the previous planting in the environs of Carrowdotia House is not shown, except in the immediate area of the residence, where some changes to the layout had been made. In addition, Salmon Weirs are indicated along the estuarine beach to the south and west and a slipway indicated near the western tip of Carrowdotia South (see Section 6.4 below); furthermore the residential plots along the main road, and to the southeast and south, previously indicated within the subject landholding, are not shown. The circular enclosures in the lands to the east are still indicated (Section 5.3 below).

The church at Killimer is named as St. Imy's and a school has been constructed in the adjacent lands to the east.

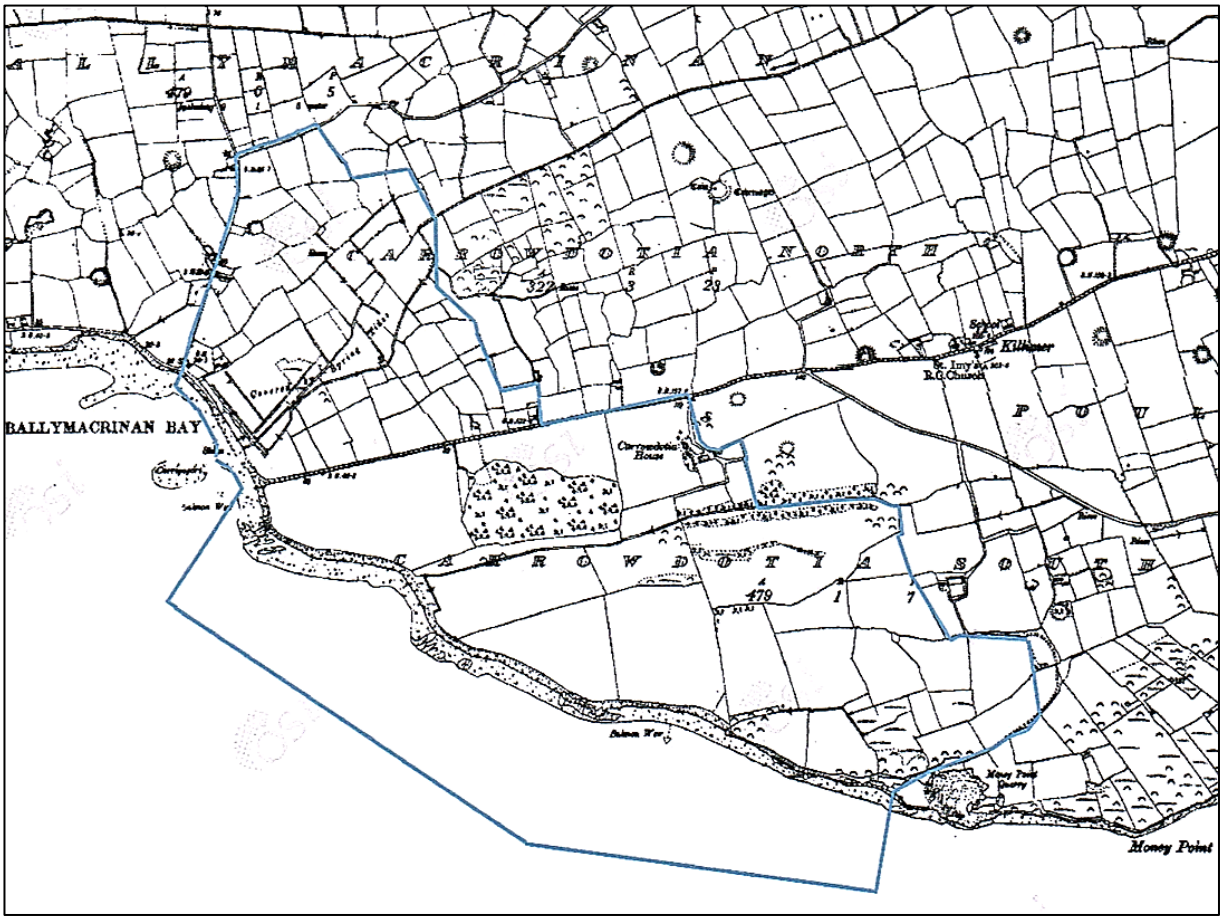

Figure 8 Extract from Ordnance Survey Map of 1923

The subject lands remained in agricultural use until they were purchased by ESB, following which Moneypoint Power Station and associated ancillary facilities, were constructed from 1979 to 1985; this included a remodelling of the site to the south of the N67 road, including the excavation of rock from an hill/ridge which was then used to reclaim and level the site along the estuary, where coal-handling facilities and a deep-water jetty were constructed. Extensive area of tree planting was undertaken along the road and site boundaries, including a forested area to the north; in addition, an extensive ash

repository was developed to the north of the N67, much if which has new been sealed and grassed – Plate 1. In more recent years, a number of wind turbines have been installed in the southern site area.

5. ARCHAEOLOGICAL HERITAGE

5.1 Definitions

Archaeology is the study of past societies through their material remains and the landscapes they lived in. "The archaeological heritage consists of such material remains (whether in the form of sites and monuments or artefacts in the sense of moveable objects) and environmental evidence" (DoAHG 1999, p9).

Archaeological heritage comprises all material remains of past societies, with the potential to enhance our understanding of such societies. It includes the remains of features such as settlements, burials, ships and boats and portable objects of all kinds, from the everyday to the very special. It also includes evidence of the environment in which those societies lived. The terms "site" or "monument" are used generally to refer to fixed structures or areas of activity, as opposed to particular moveable objects. Historic wrecks are also part of the archaeological heritage (DHLGH, 2021, 3).

5.2 Statutory Protections and Relevant National Policies

The statutory and administrative framework of development control in zone of archaeological potential or in proximity to recorded monuments has two main elements:

(a) Archaeological preservation and licensing under the National Monuments Acts and
(b) Development plans and planning applications under the Planning Acts.

5.2.1 National Monuments Acts 1930-2014

Section 12 (1) of the National Monuments (Amendment) Act, 1994 provides that the Minister for the Environment, Heritage and Local Government shall establish and maintain a record of monuments and places where the Minister believes there are monuments, such record to be comprised of a list of monuments and relevant places and a map or maps showing each monument and relevant place in respect to each county of the State. This is referred to as the 'Record of Monuments and Places' (RMP), and monuments entered into it are referred to as 'Recorded Monuments'.

Section 12(3) of the National Monuments (Amendment) Act 1994 provides for the protection of monuments and places in the record, stating that

"When the owner or occupier (not being the Minister) of a monument or place which has been recorded under subsection (1) of this section or any person proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such monument or place, he shall give notice in writing of his proposal to carry out the work to the Minister and shall not, except in the case of urgent necessity and with the consent of the Minister, commence work for a period of two months after having given the notice".

5.2.2 Historic and Archaeological Heritage Bill 2023

This Bill is currently before Seanad Éireann (Fourth Stage) to repeal the National Monuments Acts 1930 to 2014 and replace those Acts with provisions for the protection of historic heritage, provisions for the protection of archaeological heritage, provisions for the regulation of certain activities in the interests of such protection and provisions enabling the State to ratify or accede to certain international conventions which relate to such protection or regulation; to give effect to the EIA Directive and the Habitats Directive in relation to the carrying out of works at, on, in, under, to, or within the immediate surroundings of monuments; to give further effect to the Valletta Convention; to consequentially repeal or amend certain other enactments; and to provide for related matters.

The Bill contains a range of proposals that seek to streamline and simplify existing systems and processes, including the automatic legal protection for finds of archaeological sites, a system of civil enforcement to be used as an alternative to, or to supplement criminal proceedings, and an appeal process for license applications.

In terms of monument protections, the key proposed change will be the creation of a single Register of Monuments to replace the statutory Record of Monuments and Places (RMP) and the non-statutory Sites and Monuments Record (SMR); two levels of protection are proposed, Special and General, and automatic protection will be afforded newly discovered monuments.

It is expected that the bill, and potential amendments, will proceed through all the required legislature stages during 2023, following which summaries of the various aspects will be published.

5.2.3 Clare County Development Plan 2017-2023

The following relevant Archaeological Heritage Objectives are set out in Section 15.4 of the Plan:

CDP15.8 Sites, Features and Objects of Archaeological Interest

A. To safeguard sites, features and objects of archaeological interest generally;
B. To secure the preservation (i.e. preservation in situ or in exceptional cases preservation by record) of all archaeological monuments included in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act, 1994, and of sites, features and objects of archaeological and historical interest generally (in securing such preservation, the Council will have regard to the advice and recommendations of the Department of the Arts, Heritage, Regional, Rural and Gaeltacht Affairs);
C. To permit development only where the Planning Authority is satisfied that the proposals will not interfere with:
   - items of archaeological or historical importance;
   - the areas in the vicinity of archaeological sites;
   - the appreciation or the study of such items.
D. To have regard to the government publication 'Framework and Principles for the Protection of the Archaeological Heritage 1999' in relation to protecting sites, features and objects of archaeological interest; e To advocate for greater financial assistance for the maintenance and improvement of features of archaeological interests in County Clare.

CDP15.9 Newly Discovered Archaeological Sites

To protect and preserve archaeological sites discovered since the publication of the Record of Monuments and Places.

CDP15.10 Zone of Archaeological Potential

To protect the Zones of Archaeological Potential located within both urban and rural areas as identified in the Record of Monuments and Places

CDP15.11 Archaeology & Infrastructure Schemes

To have regard to archaeological concerns when considering proposed service schemes (including electricity, sewerage, telecommunications and water supply) and proposed roadworks (both realignments and new roads) located in close proximity to Recorded Monuments and Places and Zones of Archaeological Potential.

CDP15.13 Underwater Archaeology

A. To protect and preserve the archaeological value of underwater archaeological sites in rivers, lakes, intertidal and sub-tidal environments;
B. To support the further exploration of the underwater archaeology of County Clare, including the San Marcos project, and any subsequent projects that may arise during the lifetime of this Plan.

5.2.4 Draft Clare County Development Plan 2023-2029

The following Archaeological Heritage Objectives are set out in Section 16.4 of the Draft Plan:

CDP16.8 Sites, Features and Objects of Archaeological Interest

A. To safeguard sites, features and objects of archaeological interest generally;
B. To secure the preservation (i.e. preservation in situ or in exceptional cases preservation by record) of all archaeological monuments included in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act, 1994, and of sites, features and objects of archaeological and historical interest generally;

C. In securing such preservation, to have regard to the advice and recommendations of the Department of the Culture, Heritage and the Gaeltacht;
D. To have regard to the government publication Framework and Principles for the Protection of the Archaeological Heritage 1999 in relation to protecting sites, features and objects of archaeological interest;
E. To advocate for greater financial assistance for the maintenance and improvement of features of archaeological interests in County Clare

CDP16.9 Newly Discovered Archaeological Sites
To protect and preserve archaeological sites discovered since the publication of the Record of Monuments and Places.

CDP16.10 Zones of Archaeological Potential
To protect the Zones of Archaeological Potential located within both urban and rural areas as identified in the Record of Monuments and Places.

CDP16.11 Archaeology & Infrastructure Schemes
To ensure that decisions relating to development (including infrastructure associated with broadband, telecommunications, renewable energy, major road/ rail infrastructure and other services) which may have implications for Recorded Archaeological Monuments /Sites, Zones of Archaeological Potential or undiscovered archaeology, are informed by an appropriate level of archaeological investigation undertaken by qualified persons.

CDP16.13 Underwater Archaeology
A. To protect and preserve the archaeological value of underwater archaeological sites in rivers, lakes, intertidal and sub tidal environments;
B. To support the further exploration of the underwater archaeology of County Clare, including the San Marcos project, and any subsequent projects that may arise during the lifetime of this Plan.

Note: The Record of Monuments and Places (RMP) for County Clare was published in 1997. Consequently, all monuments discovered since the publication are not RMP Sites and not subject to protections under the National Monuments Acts, unless specifically the subject of a Preservation order; however, they are subject to protection under Objective CDP15.9 of the Clare County Development Plan 2017-2023, and will continue to be protected under Objective CDP16.9 of the Draft Clare County Development Plan 2023-2029, as set out above in Sections 5.2.3 and 5.2.4.

5.3 Archaeological Inventory

The Archaeological Survey of Ireland (ASI) inventory database is known as the Sites and Monuments Record (SMR). The SMR contains details of all monuments and places (sites) where it is believed there is a monument known to the ASI pre-dating AD 1700 and also includes a selection of monuments from the post-AD 1700 period. The RMP (Section 10.3.2.1(a) above) is a subset of the SMR; monuments included in the RMP are legally protected and are generally referred to as “Recorded Monuments”. The addition of a monument to the ASI SMR database does not, of itself, confer legal protection. The reclassification of a monument does not affect its legal status in any way.

5.3.1 Terrestrial Archaeology

There is one previously recorded archaeological monument (Site CH-1; SMR No: CL067-035) located within the subject ESB lands and a further nine previously recorded archaeological monuments (Sites CH-2 – CH-10) within the wider Cultural Heritage Study Area (as defined in Section 2.1 above). All the monuments are listed in the Record of Monuments and Places (RMP) and subject to protection under Section 12(3) of the National Monuments (Amendment) Act (see Section 5.2.1 above). In addition, the RMP Zone for Site CH-5 (SMR No: CL067-041) partially extends across the overall eastern site boundary, just south of the N67 road – Figure 9

These monuments are listed below in Table 1 and their locations are indicated in Figures 9 and 10. The classifications of the monuments/sites are described in Appendix 2 and they are individually described in Appendix 3.

The following abbreviations/codes are used in relation to Table 3:
Site No.: Individual site number assigned to site with respect to the defined study area.
SMR No: Individual number assigned to site in the Sites and Monuments Record of the Archaeological Survey of Ireland
RMP Classification: Monument Classification as listed in the RMP (see Appendix 2)
SMR Classification: Monument Classification as listed in the SMR (see Appendix 2)
RMP: Listed in the Record of Monuments and Places
CCDP: Protected by Objectives of the Clare Council Development Plan

Site No.	SMR No(s)	ITM	Townland	RMP Classification	SMR Classification	Protection
CH-1	CL067-035	502632 652758	Ballymacrinan	Enclosure	Earthwork	RMP; CCDP
CH-2	CL067-034	502413 652946	Ballymacrinan	Enclosure	Ringfort - rath	RMP; CCDP
CH-3	CL067-033	502224 652639	Ballymacrinan	Enclosure	Ringfort - rath	RMP; CCDP
CH-4	CL067-040	503664 652375	Carrowdotia North	Enclosure	Ringfort - rath	RMP; CCDP
CH-5	CL067-041	503793 652241	Carrowdotia South	Enclosure	Ringfort - rath	RMP; CCDP
CH-6	CL067-042	503881 652293	Carrowdotia South	Enclosure	Ringfort - rath	RMP; CCDP
CH-7	CL067-043	504007 652166	Carrowdotia South	Enclosure	Ringfort - rath	RMP; CCDP
CH-8	CL067-045	504201 652384	Carrowdotia North	Enclosure	Ringfort - rath	RMP; CCDP
CH-9	CL067-050	504713 651740	Carrowdotia South	Enclosure	Ringfort - rath	RMP; CCDP
CH-10	CL067-051	504822 651840	Carrowdotia South	Enclosure	Ringfort - rath	RMP; CCDP

Table 1 Archaeological Inventory (Terrestrial)

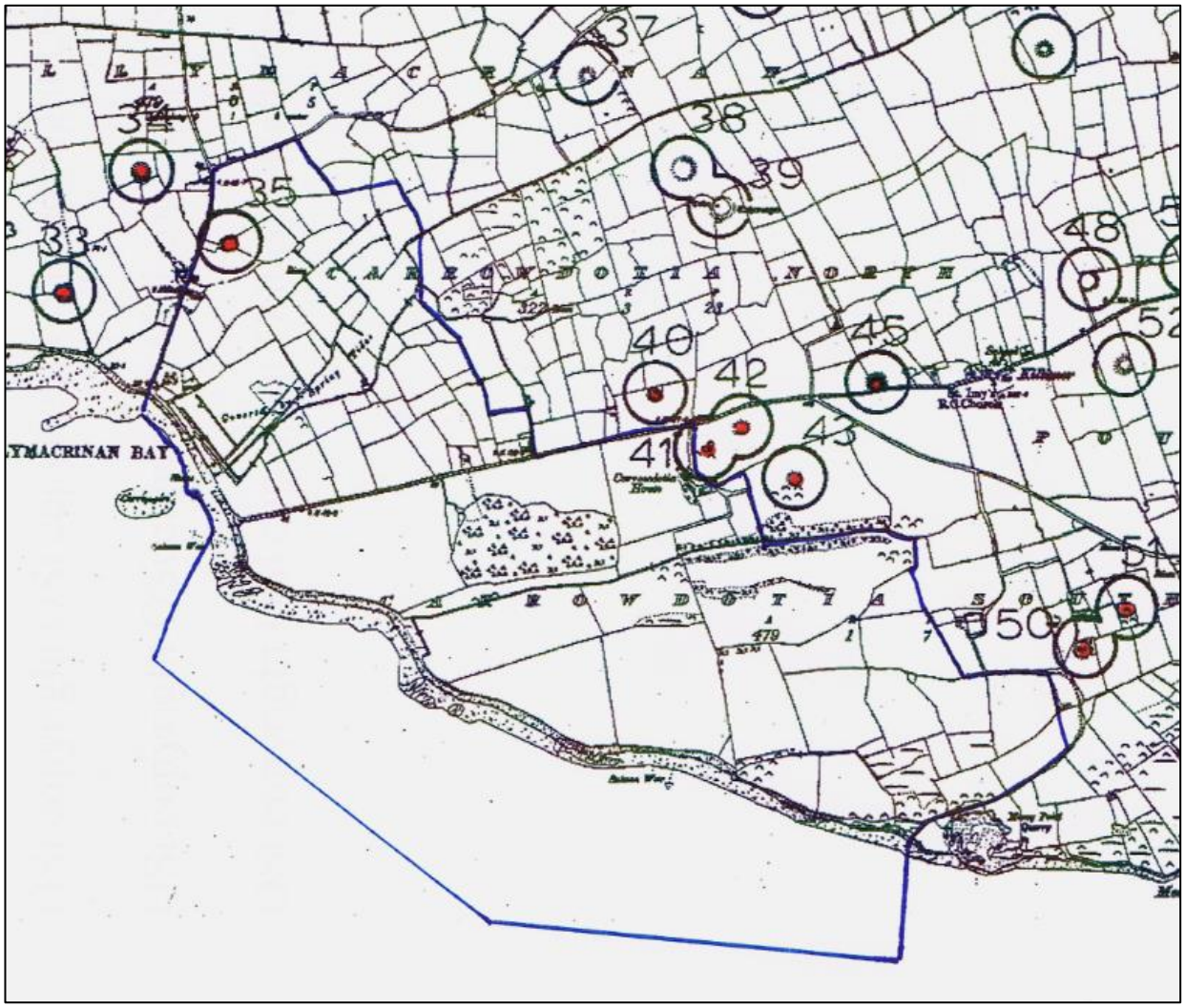

Figure 9 Extract from RMP Map – Clare Sheet 67
Note: Red Dots indicate Monuments included in Subject Study (Table 1)

No additional sites or features of archaeological potential were noted by an inspection of historic maps, aerial photographs or satellite imagery; likewise, no surface traces of archaeological interest/potential were noted by the field inspection/surface reconnaissance survey within the subject lands.

5.3.2 Underwater Archaeology

Watercourses have always attracted human activity for a variety of reasons, as a source of water and food, as transport routes, as a source of energy and for their spiritual, religious or ritual associations. They also act as depositories for archaeological artefacts.

There are a number of existing and former watercourses within the overall study area, almost all of which are minor streams or drains; there are no previously identified archaeological features associated with watercourses within the subject landholding or wider defined study area.

In addition, there are no previously recorded wrecks indicated in the National Monuments Service Wreck Viewer (www.archaeology.ie) located within, or in the environs of, that area of the site incorporating a section of the estuary.

5.4 Archaeological Artefacts

There are no 'stray/uncontexted' artefacts listed in the Topographical Registers of the National Museum of Ireland, as having been discovered from the subject landholding or wider defined study area.

5.5 Results from previous documented relevant archaeological investigations

A search undertaken of the annual Archaeological Excavations Bulletin (www.excavations.ie) determined that no previous licensed archaeological investigations have been undertaken within the terrestrial boundaries of the overall site or wider study area.

There is one previously recorded underwater survey within the study area, as follows:

- **River Shannon: Carrowdotia South, Co. Clare and Kilpaddoge/Coolnanonnagh, Co. Kerry; Licence Nos: 09D061; 09R155; Excavations.ie Ref: 2009:084**

  An underwater and intertidal assessment was undertaken by Rex Bangerter, The Archaeological Diving Company Ltd, of two cable landfall locations associated with the Tarbert to Moneypoint 220kV submarine cable project. The assessment included the systematic visual inspection of both intertidal and subtidal elements at each landfall, extending across a minimum of 400m east–west by 150m area at each location. In addition, the assessment included a metal-detection survey of a sample seabed area at the Tarbert landfall. No archaeologically significant materials were encountered as part of the assessment at either landfall site.

6. ARCHITECTURAL HERITAGE

6.1 Introduction

Architectural heritage has several definitions and meanings for people. A useful rule of thumb (which is actually the legal situation) is set out in the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999 which provides the following definition:

a) Structures and buildings together with their settings and attendant grounds, fixtures and fittings,

b) Groups of such structures and buildings, and

c) Sites, which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

A rich architectural heritage has survived to the present day in County Clare. While there are impressive demesne features and large houses in the County, many of the County's architectural heritage has come from vernacular traditions with local craftsmen sometimes borrowing from the traditions of classical architecture to construct buildings that met local needs. This rich architectural heritage contributes enormously to the overall built environment and, indeed, helps to give it definition in terms of place and character for those that live and work in the county as well as those who visit here.

6.2 Record of Protected Structures (Clare County Development Plan 2017-2023 & Draft Clare County Development Plan 2023-2029)

Section 51 of the Planning and Development Act, 2000 (as amended) requires the Development Plan to include a record of structures. These structures form part of the architectural heritage of the County and are to be protected.

Clare County Council has drawn up this list, referred to as the Record of Protected Structures (RPS), in which each structure is given a reference number and is a constituent part of the existing and draft County Development Plans.

There are no structures listed in the Record of Protected Structures (RPS) of the Clare County Development Plan 2017-2023 or Draft County Development Plan 2023-2029 as being located within the extent of the subject lands or wider defined study area.

6.3 National Inventory of Architectural Heritage (NIAH)

The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the Department of Culture, Heritage and the Gaeltacht. It was established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. Its purpose is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. It is intended that the NIAH will provide the basis for the recommendations of the Minister for Culture, Heritage and the Gaeltacht to the planning authorities. The NIAH includes structures and garden features.

There are no structures or garden features listed by the non-statutory NIAH as being located within the subject lands or wider defined study area.

6.4 Miscellaneous Clare County Council Surveys

A number of non-statutory survey projects have been commissioned within the county through funding from the Clare County Heritage Forum and The Heritage Council and are listed above in Section 2.2.

A review of the Surveys indicates that one feature is listed by the Clare Coastal Architectural Survey (CCAS), as listed below in Table 2. The location of the feature is indicated in Figure 9 and it is described in Appendix 4.

Site No.	CCAS No	ITM	Townland	Classification	Protection
CH-11	CS110	502597 651886	Carrowdotia South	Slipway	None

Table 2 Architectural Heritage Inventory

Figure 10 Locations of Previously Recorded Cultural Heritage Sites located within Subject Lands and Defined Study Area

7. APPRAISAL DISCUSSION

7.1 Archaeological Heritage

A total of ten previously identified monuments are located within the defined Cultural Heritage Study Area of this report. All are included in the Record of Monuments and Places (RMP) and subject to Statutory Protections under Section 12(3) of the National Monuments (Amendment) Act 1994 (Section 5.2.1 above).

Under the existing legislation, the RMP Zones established for these monuments, as illustrated above in Figure 9, are generally considered to be 'Archaeological Buffer Zones'; it is generally not permissible to erect new structures within such zones, although the routing of buried services is generally permissible, once no direct impact to the monument occurs; in addition, depending on the extant nature of the monument, the buffer area can be enlarged in order to ensure that the visual setting of the monument is protected. Likewise, the buffer area can be enlarged in order to ensure that existing access will not be severed or that the monument will not be isolated from associated groups or features.

In terms of the Historic and Archaeological Heritage Bill 2023, the SMR Zones of Notification currently indicated on the National Monuments Service Historic Environment Viewer (HEV) – www.archaeology.ie – will serve as protection areas/potential buffer zones. The SMR Zones of the monuments identified with respect to this report are indicated above in Figure 10; the zones are further illustrated in Appendix 3 with respect to the descriptions of the individual monuments.

In general, depending on the nature of the monument and development proposals, buffer areas can be reduced, subject to archaeological advice and assessment and in consultation with the National Monuments Service.

There is one previously identified archaeological monument located within the existing ESB landholding (Site CH-1; Earthwork; Ballymacrinan Td.). The monument is located in an area of forestry/tree planting and heavy undergrowth in the north-western area of the landholding and not readily visible, either on the ground or by aerial photography/satellite imagery. However, the extent of the monument (Figure 11) is indicated on the Geohive Mapviewer system of Ordnance Survey Ireland (OSI) following the use of LiDAR Survey and its extant nature was confirmed by the field reconnaissance survey undertaken in February 2023; the monument is described below in Appendix 3.

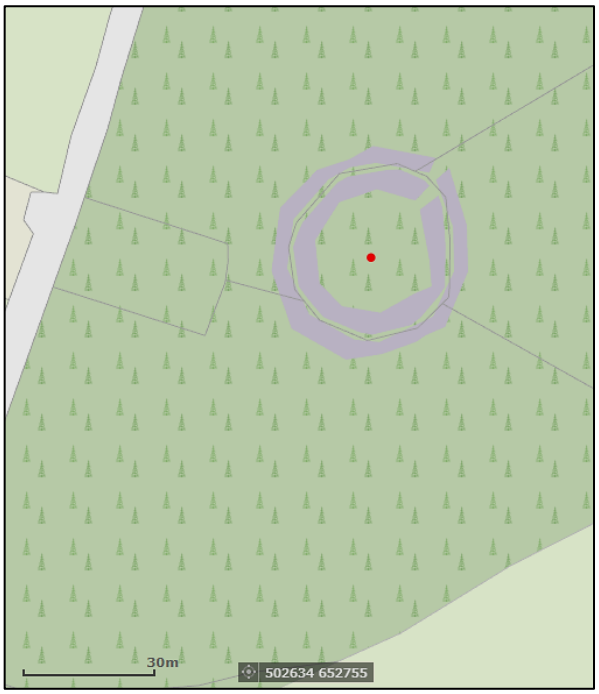

Figure 11 OSI Depiction of Site CH-1

In addition, a number of previously identified monuments are located immediately outside the boundaries to the overall landholding; these include a group of four Ringforts (raths) – Sites CH-4 – CH-7 – outside the central eastern boundary, as well as a group of two Ringforts (raths) – Sites CH-9 and CH-10 – outside the south-eastern extent. Furthermore, as illustrated in Figures 9 and 10, the associated RMP and SMR Notification Zones associated with CH-5 extends across the central-eastern boundary of the overall landholding. Sites CH-2, CH-3 and CH-8 are considered isolated/stand-alone monuments.

Any proposed developments within the landholding, in particular in the north-western area where Site CH-1 is located, will need to consider the existing Archaeological Heritage, both within and outside the overall boundaries of the landholding.

In particular, any proposed development in the general north-western area will need to ensure that Site CH-1 remains *in-situ* and is not physically impacted by any potential developments or associated works, e.g. tree felling, routing of underground services, etc. Likewise, the visual setting of the monument will need to be considered, particularly if the existing trees upon/within the monument, and in the immediate environs, are cleared, as this will result in improved/enhanced visibility. Any tree felling in the area of the monument will require a tree-felling licence and will include archaeological conditions from the Forestry Service. Any proposals within this general area, specifically, will require an Archaeological Impact Assessment, including a programme of intrusive testing, particularly following clearance of trees.

Likewise, any potential development proposals adjacent the central-eastern area of the landholding, to the south of the N67, close to Sites CH-4 – CH-9, will most likely also require a programme of intrusive archaeological testing, depending on the scale of any possible development.

The visual setting of the monuments outside the boundaries of the landholding, particularly the groups located to the central-eastern (Sites CH-4 – CH-7) and south-eastern areas (Sites CH-9 & CH-10), will need to be considered if any developments are proposed in these areas

7.2 Architectural Heritage

There are no structures listed in the Record of Protected Structures (RPS) of the Clare County Development Plan 2017-2023 or Draft County Development Plan 2023-2029 as being located within the extent of the subject lands or wider defined study area; likewise, there are no structures or garden

features listed by the non-statutory NIAH as being located within the subject lands or wider defined study area.

The non-statutory Clare Coastal Architectural Survey has identified a slipway (Site CH-11; Figure 10) of historical interest; this appears to have been reconstructed, possibly when the existing facility was constructed.

It is noted that historical records refer to a house (Carrowdotia House) as having being constructed by the late 1780s in the central-eastern area of the site and immediately inside the adjacent landholding boundary; it is marked on all the Ordnance Survey historic maps (Figures 7 & 8 above) and a group of disused buildings (house (?) and outbuildings) are indicated on present mapping and the original driveway from the N67 road incorporates iron gates hanging on stone piers (Plate 2). The site was not accessed during the field reconnaissance survey. While the buildings are not subject to any protections, it is likely that any potential development proposals in this area will require an Architectural Heritage Assessment.

Plate 2 Gated Entrance to Carrowdotia House

7.3 Summary

In general, apart from the remains of Carrowdotia House, there are no assets of historical interest located within the subject lands; in that regard, it is noted that the remains of Carrowdotia House and associated outbuildings are not subject to any protections and it is not listed in the non-statutory NIAH. In addition, the section of the townland boundary between Ballymacrinan and Carrowdotia North in the north-western area of the landholding has largely been removed.

There is one previously identified archaeological monument located within the existing ESB landholding (Site CH-1; Earthwork; Ballymacrinan Td.). The monument is located in an area of forestry/tree planting and heavy undergrowth in the north-western area of the landholding and not readily visible, either on the ground or by aerial photography/satellite imagery. However, the extent of the monument (Figure 11) is indicated on the Geohive Mapviewer system of Ordnance Survey Ireland (OSI) following the use of LiDAR Survey and its extant nature was confirmed by the field reconnaissance survey undertaken in February 2023.

In addition, a number of previously identified monuments are located immediately outside the boundaries to the overall landholding; these include a group of four Ringforts (raths) – Sites CH-4 – CH-7 – outside the central eastern boundary, as well as a group of two Ringforts (raths) – Sites CH-9 and CH-10 –

outside the south-eastern extent. Furthermore, as illustrated in Figures 9 and 10, the associated RMP and SMR Notification Zones associated with CH-5 extends across the central-eastern boundary of the overall landholding. Sites CH-2, CH-3 and CH-8 are considered isolated/stand-alone monuments.

Any proposed developments within the landholding, in particular in the north-western area where Site CH-1 is located, will need to consider the existing Archaeological Heritage, both within and outside the overall boundaries of the landholding. In particular, any proposed development will need to ensure that Site CH-1 remains in-situ and is not physically impacted by any potential developments or associated works, e.g. tree felling, routing of underground services, etc. Likewise, the visual setting of the monument will need to be considered, particularly if the existing trees upon/within the monument, and in the immediate environs, are cleared, as this will result in improved/enhanced visibility.

The visual setting of the monuments outside the boundaries of the landholding, particularly the groups located to the central-eastern (Sites CH-4 – CH-7) and south-eastern areas (Sites CH-9 & CH-10), will need to be considered if any developments are proposed in these areas.

In terms of any development proposals in the generally undeveloped areas of the overall site, i.e. north western and central-eastern areas, the following measures should be implemented;

- An archaeologist should be appointed as part of the overall design process to advise on any archaeological requirements and considerations.
- Site CH-1 should be preserved *in-situ*.
- The appointed archaeologist should consult with the National Monuments Service at an early stage of the development process with regard to any requirements that the Service might have, including agreement with respect to an Archaeological Buffer Zone with respect to Site CH-1 and any possible programme of pre-development intrusive archaeological investigations/testing; such requirements can be incorporated into the development designs and subsequent mitigation strategies to be included in a development specific Archaeological Impact Assessment (either stand-alone or wider Cultural Heritage report). Likewise, the archaeologist should consult with the Forestry Service with respect to any proposed tree felling works, in order to that an appropriate mitigation strategy can be agreed and implemented.

There are no previously identified/protected architectural heritage assets/resources located within the overall landholding, apart from a slipway (Site CH-11) listed by the non-statutory Clare Coastal Architectural Survey. While no architectural heritage considerations are required with respect to any possible development proposals, it is noted that the remains of Carrowdotia House and associated farmyard, access driveway and entrance gates are located within the central-eastern area of the landholding; while not subject to any statutory protections or non-statutory listing, any potential development proposals in this area of the site will need to consider such architectural remains.

APPENDIX 1: Consulted Documentary Sources

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APPENDIX 2

Classification Details of Archaeological Monuments/Features

The following list is based in the Class List Definitions of the Archaeological Survey of Ireland

Earthwork	An anomalous earthen structure usually raised and occurring in a variety of shapes and sizes, that on field inspection was found to possess no diagnostic features which would allow classification within another monument category. These may date to any period from prehistory onwards.
Enclosure	An area defined by an enclosing element (e.g. bank, wall, fosse, scarp), or indicated as such cartographically, and occurring in a variety of shapes and sizes, possessing no diagnostic features which would allow classification within another monument category. These may date to any period from prehistory onwards. Enclosures with a diameter greater than 70m are classed as Large Enclosures.
Ringfort - rath	A roughly circular or oval area surrounded by an earthen bank with an external fosse. Some examples have two (bivallate) or three (trivallate) banks and fosses, but these are less common and have been equated with higher status sites belonging to upper grades of society. They functioned as residences and/or farmsteads and broadly date from 500 to 1000 AD.
Slipway	A structure inclined towards the water on which a boat or ship may be built or lowered into the water. These date from the medieval period (5th-16th centuries AD) onwards.

APPENDIX 3

Descriptions of Monuments listed in Archaeological Inventory (Table 1)

These are based on the SMR Files of the Archaeological Survey of Ireland

SITE CH-1

SMR No:
CL067-035
TOWNLAND:
Ballymacrinan
SMR CLASSIFICATION:
Earthwork
PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the O.S. historic maps (e.g. Figures 12 & 13 below)

The site of the monument was visited by the ASI in July 2002, who reported that the possible enclosure site was located in the grounds of Moneypoint ESB station on much disturbed land; land clearance had altered the terrain considerably; extensive excavation appears to have caused the removal of this possible enclosure; not a trace can be seen and its site is completely levelled.

However, the Geohive Mapviewer system of Ordnance Survey Ireland (OSI) indicates an enclosure coincident with that indicated on OS historic mapping; it is slightly subcircular in plan with internal dimensions of approximately 36.9m (E-W) x 38.3m (N-S); field boundaries are indicated extending from the northeast, east-southeast; and westwards from the south-western arc - Figure 11 above.

The site of the monument was visited as part of the field reconnaissance survey; this indicated that the area of the monument is partially planted with trees and incorporates dense undergrowth, which hindered overall sight of the monument; however, it was possible to confirm that sections of the external boundary element are extent and that the interior is largely overgrown and inaccessible.

In general, the central eastern enclosing element comprises a dry-stone wall, which is approximately 0.6m high externally (Plate 3) although the height is variable; it is approximately 1.1m in width (Plate 4). The north-western arc appears to be composed of soil-and-stone; it is variable in height (0.5-0.8m where visible) and approximately 1.2m in width (Plate 5). The enclosing element could not be accessed along the northern, southern or south-eastern arc due to the density of the undergrowth. The linear features extending from the northwest, east-southeast and southwest appear to be stone walls and are only indicated on the 1923 edition of the O.S. map (Figure 13).

The SMR Zone of Notification for the monument is illustrated below in Figure 14 and is 120m in diameter.

Plate 3 Site CH-1: Section of Eastern Enclosing Element (external view)

Plate 4 Site CH-1: Section of Eastern Enclosing Element – looking south

Plate 5 Site CH-1: Section of north-western enclosing element (external view)

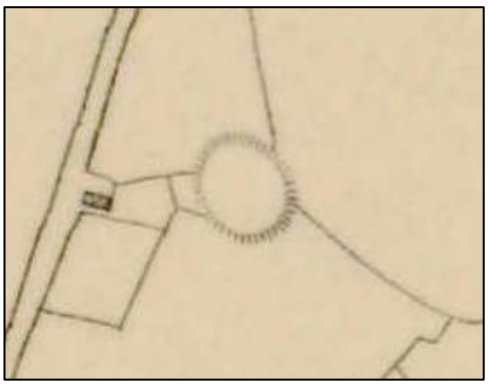

Figure 12 Depiction of Site CH-1 - 1840

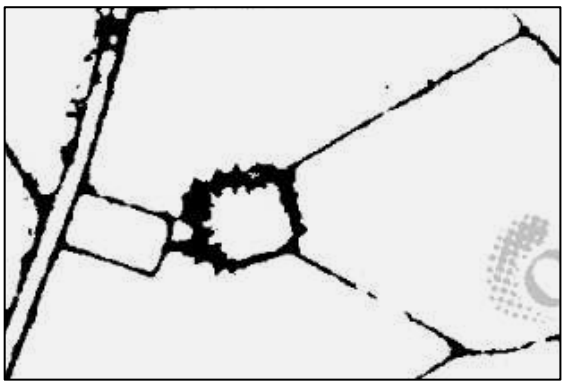

Figure 13 Depiction of Site CH-1 - 1923

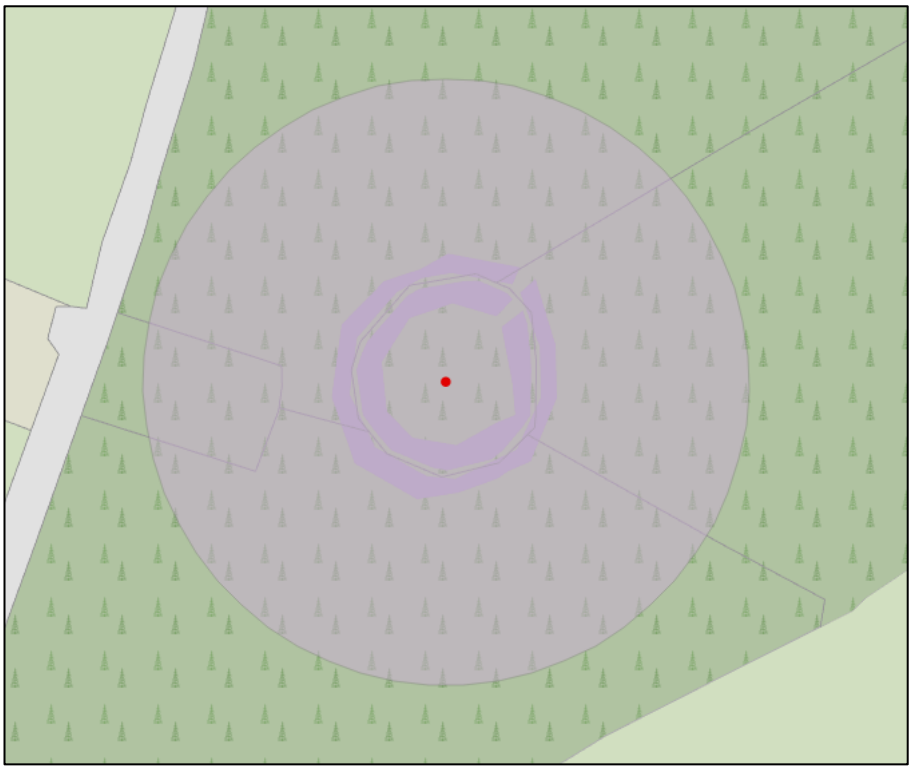

Figure 14 Site CH-1: SMR Zone of Notification

SITE CH-2

SMR No:
CL067-034
TOWNLAND:
Ballymacrinan
SMR CLASSIFICATION:
Ringfort - rath
PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the OS historic maps.

The site of the monument was visited by the ASI in July 2002; the subsequent field report describes the monument as follows:
On slightly raised ground in a large field of fertile pastures. Higher ground to the E and SE. but good views elsewhere. Shannon estuary visible to the S and SW.

Nearly circular univallate rath whose bank of earth is level with the site interior. A scarp edge from 0.15m to 0.3m high is evident throughout except along the E and ESE. A very shallow outer fosse. 5m wide at the base is also evident, except form the SW to the NW and for 6m in the ESE where a causeway type feature crosses it.

The N-S and E-W diameter across the top measures 46m. Site interior, like the remainder of the field was cut for silage. There is a slight slope to the W in W half, but otherwise it is generally level.

The monument is a low visibility site and is not readily visible from the public road to the east – Plate 6

Plate 6 General area view of CH-2 from public road to the east

SITE CH-3

SMR No:
CL067-033
TOWNLAND:
Ballymacrinan
SMR CLASSIFICATION:
Ringfort - rath
PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the OS historic maps.

The site of the monument was visited by the ASI in July 2002; the subsequent field report describes the monument as follows:

Heavily overgrown univallate rath whose bank is composed of earth, earth and stone or dauby gravel. Access to the bank was difficult due to briars, blackthorn and wild woodbine, supplemented with hogweed, meadowsweet and ragwort, on the bank and in the interior. The overall width of the bank varies from 5.5m in WNW to 10m in east. Internal height of the bank varied 1m (N) to 1.6m (WSW), though the maximum readings are more common between N and E.

External height of the bank varied 0.9m (N) to 1.8m (WNW, NNE and NE) to 2.3m; there was a general uniformity in the dimensions and condition of the bank along much of that viewed from W to E. The bank was roughly 2.2m high externally in the SW, with an outer fosse here 2.2m wide at the base and 0.12m deep eternally. The rough stone facing on the outer slope of the bank along the W is of uncertain antiquity.

The fosse is only clearly evident from SSW to W. a band of thistles 2m to 3m wide grow outside the bank from W to NE. tentative traces of fosse run SE to SSW.

The interior was too overgrown to get diameters or see any possibly features. It appeared to slope down slightly to the S or SE.

The present nature of the monument from the public road to the south is illustrated in Plate 7

Plate 7 Site CH-3 from public road to the south

SITE CH-4

SMR No:
CL067-040
TOWNLAND:
Carrowdotia North
SMR CLASSIFICATION:
Ringfort - rath
PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the OS historic maps.

The site of the monument was visited by the ASI in July 2002; the subsequent field report describes the monument as follows:

Located on the gentle western slopes of an steeper east-west aligned ridge in agricultural lands; generally good, unrestricted views all around, except to east where restricted by higher ground. There are electrical supply masts/pylons close to the monument.

The monument consists of an almost circular univallate rath with internal dimensions of 30m (NE-SW) x 30m (NW-SE) the bank of which contains considerable amounts of stone in places; some original outer stone facing, up to 1,1m high, is evident along the north-eastern arc, with a spread of collapsed external facing from northeast to northwest. Overall, the bank varies from 4.3m to 5.4m in width and has an average external height of 06m internally; it reaches a height of 1.6m externally in west-southwest and along the south; the external edge is worn or cut away by cattle from east-southeast to southeast. Internally, numerous trees grow on or close to the bank, the roots of which are thickly veined across the internal faces. One gap/breach, 2.4m wide, to the southwest appears to be modern in origin. There are no evident traces of an original entrance or outer fosse; the interior is densely overgrown and the surface appears to be relatively level.

The present nature of the monument from the public road to the south is illustrated in Plate 8.

Plate 8 Site CH-4 from public road to south

SITE CH-5

SMR No:
CL067-041
TOWNLAND:
Carrowdotia South
SMR CLASSIFICATION:
Ringfort - rath
PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the OS historic maps.

The site of the monument was visited by the ASI in July 2002; the subsequent field report describes the monument as follows:

On slightly raised ground in a garden bisected by a farmyard trackway (concrete). Limited aspect today with only small part of Shannon estuary visible to SSW. House and sheds to SE and S. Field delimited by evergreens to N, E and W.

Poorly preserved univallate rath of earth whose outer limits have merged with the outer ground level, to such an extent that only along S (at 0.3m) could an external height for the bank be ascertained. An internal height to the bank reaching 0.3m at most can be found from NNE to SSW. Along S where internal and external height readings are available, an overall bank width of 6m was read.

A concrete trackway has caused a breach 6m wide through the W pat of the rath; to the W of this the site extent is represented by a scarp edge 0.3m high at most internally. Further to the W of this scarp a slight natural ridge is at a higher level than the rest of the field. No trace of an original entrance or outer fosse. Site interior slopes gently to N with no masking vegetation.

SITE CH-6

SMR No:
KCL067-042
TOWNLAND:
Carrowdotia South
SMR CLASSIFICATION:
Ringfort - rath
PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the OS historic maps.

The site of the monument was visited by the ASI in July 2002; the subsequent field report describes the monument as follows:

On slightly elevated ground in gently undulating pasture. Fair aspect here apart from higher ground to E and built up area to W. Part of the Shannon estuary visible to S.

Roughly circular bivallate rath enclosed by earthen banks. Inner enclosing bank is reduced to a scarp throughout. This scarp is only 1m high along SE but varies from 1.6m to 2.4m high externally elsewhere. The original entrance is a 2m wide gap in ESE. Fosse is evident except from NW to NE and at the entrance. It takes the form of a 0.8m high terrace along W; this terrace is 3.2m wide. Where evident, the fosse varies from 2.2m to 2.6m wide at the base, while never more than 0.3m deep externally. Fosse is rather tentative along NE and SW quadrants.

Outer bank is evident from ESE to SSW varying 3m to 6m in overall width and never more than 0.3m high. Site interior is highest near the centre and sloping most noticeably to the edge between NE and S. it is grass covered, clean and clear apart from two hollow dug- areas near the edge along W and SW.

The present nature of the monument from the public road to the south is illustrated in Plate 9.

Plate 9 Site CH-6 – from public road to the north

SITE CH-7

SMR No:
CL067-043
TOWNLAND:
Carrowdotia South
SMR CLASSIFICATION:
Ringfort - rath
PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the OS historic maps.

The site of the monument was visited by the ASI in July 2002; the subsequent field report describes the monument as follows:

Situated on slightly raised ground on the southern shoulder of a ridge which falls sharply away to the south and in pastureland; best views over the south and south-southwest and west-northwest.

Very poorly preserved roughly circular univallate rath, the enclosing earthen bank of which appears to have been lowered as part of former land reclamation works. The resultant earthen spread is widest at north (approx.. 10m in width), where the height is up to 0.35m; in most other arc-sectors the bank is either very low internally (e.g. along east) or reduced to a scarp; the outer height of the bank merges with the naturally sloping external ground surface in most other areas. A 3.6m wide gap in the east-northeast is probably the original entrance. The interior is relatively level and grass-covered. No evidence for an external fosse or other associated features is noted.

SITE CH-8

SMR No:
CL067-045
TOWNLAND:
Carrowdotia North
SMR CLASSIFICATION:
Ringfort - rath
PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the OS historic maps.

The site of the monument was visited by the ASI in July 2002; the subsequent field report describes the monument as follows:

Located on the highest area of an east-west aligned ridge in fertile agricultural lands and with commanding views to the north and south.

The monument comprises a generally well preserved circular rath, with internal dimensions of 35m (N-S) x 37m (E-W).The enclosing bank is comprised of earth and stone/gravel; at the time of the ASI Survey the bank and much of the interior area was very overgrown. The bank varies from 4m – 5m in width; the internal height varies from 0.4m in the southern arc to 1m along the east and the average external height is 1.2m. Cartographic evidence suggests that part of the original southern extent was removed or levelled to accommodate the construction of a road. The interior slopes gently down to south. No clear traces of an entrance were noted and no surface evidence for a fosse was noted. There is a small stone shed positioned at the north-eastern exterior.

The present nature of the monument, looking east from the adjacent public road to the south, is illustrated in Plate 10.

Plate 10 Site CH-8 – looking east from public road

SITE CH-9

SMR No:
CL067-050
TOWNLAND:
Carrowdotia South
SMR CLASSIFICATION:
Ringfort - rath
PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the OS historic maps.

The site of the monument was visited by the ASI in July 2002; the subsequent field report describes the monument as follows:

Positioned on the southern and western slopes of a ridge with visibility restricted by higher ground on all but the southern sides.

The monument comprises an almost circular rath with internal dimensions of 35m (NW-SE). It is enclosed a densely overgrown earthen bank of 3.2 – 5m width and height of 0.5m (internal) – 1m (external). A gap to the north-northeast, measuring 1.2m wide, may be the position of the original entrance. A damp area outside the

north-northeast to southeast external sector, with some differential growth patterns, may be indicative of a possible 3m wide fosse. Later field division boundaries enclose the rath just outside northwest to southeast. The interior is generally flat with tree planting and dense undergrowth.

SITE CH-10

SMR No:
CL067-051

TOWNLAND:
Carrowdotia South

SMR CLASSIFICATION:
Ringfort - rath

PROTECTION:
RMP; CCDP

This monument is indicated on all editions of the OS historic maps.

The site of the monument was visited by the ASI in July 2002; the subsequent field report describes the monument as follows:

Positioned on the southern shoulder of an east-west aligned ridge and just below the top; restricted views to the south and north, with commanding views elsewhere.

The monument comprises a subcircular or oval-shaped rath with internal dimensions of 26m (ESE-WNW) x 30m N-S. The bank is earthen and its absence for a length of 8m to the east may be indicative of the position of the original entrance that was subsequently widened; it is up t0 7m wide and stands to maximum heights of 0.4m (internal) – 0.6m (external); it is relatively well preserved from west to east-northeast and from east to southeast, and marked by a variable vegetation growth along southeast to south; it is poorly preserved from south-southwest to west, where either the top and inner or outer faces have been cut away. The interior slopes sharply to south and no internal features or external fosse are evident.

APPENDIX 4

Descriptions of Architectural Heritage Features (Table 2)

Information sourced from the Clare Coastal Architectural Survey (CCAS)

SITE No: CH-11

CCAS Reg No:
CS110
TOWNLAND:
Carrowdotia South
CLASSIFICATION:
Slipway
RATING:
Local

This site was inspected by the CCAS in September 2007. The associated survey sheet notes the following:
Boat slipway originally constructed circa 1852, comprising rubble stone slipway (Plate 11) into sea; marked on 1923 O.S. map. Subsequently a concrete pier with concrete mooring posts was constructed; no longer is use.

Plate 11 Site CH-11 – from north

Plate 12 Site CH-11: Mooring Post

Plate 13 Site CH-11 – from west