An Roinn Iompair
Department of Transport

zevi Zero Emission Vehicles Ireland

ARUP

National Road Network EV Charging Plan (NRNEVCP), formerly named 'National En-Route EV Charging Network Plan'

Strategic Environmental Assessment (SEA) Environmental Report

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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 National Road Network Electric Vehicle (EV) Charging Plan 2024 – 2030[1] (referred to hereafter as 'NRNEVCP' and 'the Plan'), formerly named 'National En-Route EV Charging Network Plan', established by Zero Emission Vehicles Ireland (ZEVI), Department of Transport (DoT). 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 NRNEVCP. It draws attention to the most important issues outlined in the SEA Environmental Report and describes the key outcomes.

National Road Network EV Charging Plan 2024-2030

Ireland's National Road Network EV Charging Plan 2024-2030 is a national document that provides a national roadmap for the deployment of EV charging infrastructure across the Trans-European Transport Network (TEN-T) and primary and secondary national roads in Ireland.

The NRNEVCP provides details on the implementation and deployment requirements for establishing EV charging infrastructure across the country to meet the requirements of the Alternative Fuels Infrastructure Regulation (AFIR). In addition, the Plan aims to meet these requirements ahead of demand with the goal of achieving 2030 targets for the AFIR by 2025.

The Plan is the first part of a complete National Road Network EV Charging Plan for the Country. Given the timescales of this plan and the current fleet uptake, the key focus is the deployment of infrastructure for passenger vehicles, Light Goods Vehicles (LGVs) and Heavy-Duty Vehicles (HDVs).

The time horizon for the NRNEVCP covers the period from 2024 to 2030 to align with Climate Action Plan 2024 (CAP24) objectives for achieving electrification of 30% private car fleet by 2030 and end of sale of all new petrol and diesel vehicles by 2035.

The timeline for delivering HDV infrastructure will take up to four years while infrastructure planned for passenger cars / LDV on the motorway / dual carriageway network can take approximately three years and three months.

SEA Methodology

European Council Directive 2001/42/EC (the SEA Directive) provides guidance on the assessment of effects of certain plans and programmes. Article 1 identifies that 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 for this SEA is based on legislative requirements and guidance from the Environmental Protection Agency (EPA) to ensure compliance with the SEA Directive and associated national legislation.

[1] Note, a name change has occurred since the first issue of the SEA Environmental Report. This has been updated from 'National En-Route EV Charging Network Plan (NEEVCNP)' to 'National Road Network EV Charging Plan (NRNEVCP)'.

Current State of the Environment

The SEA considers the current environmental conditions, hereafter referred to as the baseline environment. This description of the baseline considers the local level nature of the Plan and is cognisant of the pressures and interrelationships between environmental topics within the Plan area. Likely significant environmental effects of a transboundary nature, between the Republic of Ireland and Northern Ireland were also considered in this report.

The baseline considers the following environmental aspects:

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

Population & Human Health

The population of Ireland has been on the rise since the 1960s as a result of declines in emigration, an increase in birth rate and declining death rates. Between 2016 and 2022, the population grew by an average of growth rate of 1.3%. Ireland's National Planning Framework projects that Ireland will be home to an additional one million people by 2040. These projected population increases will increase pressure on land-use and the requirement for development.

Health can be 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. Availability of spatial data on human health is limited. According to the Department of Health report 'Health in Ireland: Key Trends 2022', Ireland has the highest self-perceived health status in the EU, with 82.1% of people rating their health as good or very good.

Biodiversity

As outlined in (the draft) Ireland's 4th National Biodiversity Action Plan, global trends of biodiversity loss are reflected in Irish land and waterscapes. The main drivers for this loss in Ireland include intensive agricultural and forestry practises, overfishing, invasive species, changes in land-use (particularly for residential, agricultural, and commercial development) and the over-exploitation of resources such as peatland.

Despite ongoing conservation and restoration efforts, Ireland's biodiversity is in a state of crisis and urgent impactful action is imperative to prevent the continued erosion of its natural heritage.

Land & Soils

According to 2018 CORINE data, the main land cover type in Ireland is agricultural land, which accounts for approximately two-thirds (67%) of the national landmass.

According to data from Eurostat, Ireland is different to other EU Member States as it has higher proportions of land dedicated to agriculture, which is 18.8% higher than the average across the EU.

Water

Nearly half of the surface waters in Ireland are failing to meet the legally binding water quality objectives set by the EU Water Framework Directive because of pollution and other human disturbance.

Two of the main issues driving this deterioration are the excessive levels of nutrients and sediment entering water courses. Land management practices, where agriculture is seen to be the main pressure, amongst forestry and peat extraction, all contribute to this problem.

Air Quality, Noise & Climate

For the purposes of air quality monitoring in Ireland, the country has been divided into four zones as defined in the Air Quality Standards Regulations, 2022 (S.I. No. 739 of 2022):

- **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.

The Irish Ambient Air Quality Standards Regulations (2022) are informed by the EU Air quality standards which set the annual limits for each parameter, which must not be exceeded. Air quality in Ireland is considered to be generally good.

The World Health Organisation (WHO) has identified long-term noise exposure as an important public health issue and the second most significant environmental cause of ill health in western Europe. Noise is monitored in the Republic of Ireland and Northern Ireland under the Environmental Noise Directive (END) (2002/49/EC), which requires the mapping of noise and preparation of noise action plans.

According to Met Eireann, average annual temperature is about 9°C. Average rainfall varies between about 800 and 2,800mm. Rainfall accumulation tends to be highest in winter and lowest in early summer. In line with the global picture, Ireland's average temperature has increased by about 0.7°C over the last 100 years, and the rate of increase has been higher in the last couple of decades, as reported by the EPA.

Archaeology, Architectural & Cultural Heritage

Ireland is particularly rich in archaeological sites and monuments which form a central component of Irish Heritage. Ireland’s monuments are listed under the statutory Record of Monuments and Places (RMP) as compiled by the Archaeological Survey of Ireland, part of the Department of Housing, Local Government and Heritage. The National Inventory of Architectural Heritage (NIAH) is responsible for identifying, recording and evaluating the post-1700 architectural heritage of Ireland as an aid in the conservation of the built heritage.

Landscape & Visual

Ireland’s National Landscape Strategy is the country’s way of meeting its obligations and delivering on the objectives set by the European Landscape Convention 20/10/2000, which promotes the protection, management and planning of European landscapes and organises European co-operation on landscape issues. It defines “landscape” as an area perceived by people, whose character is the result of the action and interaction of natural and/ or human factors.

The Landscape Character Guidelines for Ireland (Mosart, 2016) classify Ireland’s landscape into four distinct character types, which vary considerably in regard to both landform and landcover. The four landscape character types include:

- Rolling moorland;
- Rolling fertile farmland;
- Drumlins; and

- Mountain and farmland complex.

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.

For the purposes of this report, the term 'material assets' is taken to mean all infrastructure and local services including transportation, water supply, wastewater treatment and discharge, waste management services and energy supply.

Consideration of Reasonable Alternatives

Different modelling methodologies and scenario analyses have been used to inform the NRNEVCP. As a result of the modelling and analysis, three alternative deployment proposals have been identified based on different levels of EV charging infrastructure deployment for the En-Route Road Infrastructure Network:

- **Alternative 1: Alternative Fuels Infrastructure Regulation,** which outlines the EV charging infrastructure requirements that are required in Ireland to comply with the Alternative Fuels Infrastructure Regulation (AFIR) on the Trans-European Transport Network (TEN-T);
- **Alternative 2: Medium EV Charging Capacity Scenario,** which calls for some of the AFIR 2030 TEN-T targets to be delivered in 2025, including 100kW of charging every 30kms on the remaining primary and secondary national roads; and
- **Alternative 3: High EV Charging Capacity Scenario,** which calls for a higher level of high power en-route charging based on 2030 modelling which show that AFIR 2030 targets are not adequate to meet demand.

These Alternatives consider both the primary and secondary road network and will focus only on passenger vehicles and Light Goods Vehicles (LGVs). The second and third scenarios are informed by the modelling for 2030 studies conducted as part of the Plan on the TEN-T road network and the requirements of the AFIR fleet-based target for 2025. Both alternatives call for a significantly accelerated deployment of en-route EV charging infrastructure across the National Road Network.

The objective of the Plan is to deliver infrastructure that will at minimum deliver Alternative 1 (AFIR requirements). However, the Plan will target the delivery of Alternative 2 to be ahead of the demand for EV charging infrastructure, with Alternative 3 level of charging being considered in areas of higher demand.

Each Alternative is likely to result in a positive environmental effect overall, on Population & Human Health and Air Quality, Noise & Climate through the improvement of charging infrastructure and consequent uptake of zero emissions vehicles. However, implementation would require an increased demand in Material Assets for the development of the infrastructure and use of electricity for charging vehicles. In addition, to accommodate the deployment of EV charging infrastructure across the TEN-T network there is potential for negative impacts on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; Landscape & Visual; and as a result of construction.

Alternative 1 is likely to result in both positive and negative potential impacts on Material Assets. Positive impacts may result from the improvement of charging infrastructure across Ireland, however, as this Alternative sets out to achieve AFIR targets solely, the provision of infrastructure may not meet demand. Alternatives 2 and 3 provides a higher level of charging infrastructure resulting in a positive impact on Material Assets.

Objectives, Targets, and Indicators

The SEA is designed to assess the potential environmental impact of the NRNEVCP and its associated proposals against the established baseline. The proposals outlined in the NRNEVCP are assessed against a range of established environmental objectives and targets.

Indicators proposed in the Environmental Report are utilised over the lifetime of the NRNEVCP to quantify the level of impact that the objectives and proposals may have on the environment. The Objectives, Indicators and Targets relating to the NRNEVCP are set out in the SEA Environmental Report.

Assessment of Likely Significant Effects

The proposals in the NRNEVCP were assessed with respect to the existing environmental baseline and the environmental objectives and targets.

As the proposals included in the NRNEVCP relate to the roadmap for implementation and roll out of EV charging infrastructure across the TEN-T and national road network in Ireland, the environmental assessment outcomes are generally unknown or neutral as a result of the limited information of deployment sites at this time. Matrices were prepared to identify potential impacts across the Plan area.

The NRNEVCP contains a range of proposals relating to the implementation of EV charging infrastructure in Ireland. The deployment of this infrastructure across the TEN-T network has largely been assessed as likely to result in overall positive effects on the environment, particularly on Population & Human Health and Air Quality, Noise & Climate environmental factors, with potential negative effects on Biodiversity; Land & Soils; Water; Archaeology, Architectural and Cultural Heritage; and Landscape & Visual. However, the deployment and uptake of EV charging infrastructure is likely to have an increased demand on electricity and consequently a negative, neutral or unknown impact on Material Assets is predicted.

The Plan recommends user-friendly and reliable charging infrastructure and encourages a shift towards the use of zero emissions vehicles. This will benefit Air Quality, Noise & Climate and Material Assets by providing sufficient and improved charging infrastructure ahead of peak demands, leading to further uptake of EVs across Ireland. Overall, the deployment of charging infrastructure will reduce GHG emissions and have a positive impact on the climate. The Plan will also contribute towards meeting the CAP24 targets of 30% EVs in private vehicles by 2030 and reducing 51% transport emissions by 2030.

A detailed assessment of each of the proposals of the NRNEVCP is set out in the SEA Environmental Report. The assessment of significant effects in the Environmental Report also takes account of potential transboundary effects of the NRNEVCP on Northern Ireland, particularly where there is potential for any significant effects, such as transboundary impacts on climate and shared resources.

To implement the proposals of the NRNEVCP , a cumulative assessment was carried out to assess the potential projects / schemes which may arise from the implementation of the Plan.

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.
- Potential Inter-Plan cumulative effects which arise when the effects of the implementation of one plan occur in combination with those of other plans, programmes, developments, etc.

Mitigation Measures

This Environmental Report has highlighted some potential negative environmental impacts that may arise from the implementation of the NRNEVCP. 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 the NRNEVCP.

It is envisaged that all upgrading and new developments within the Plan area will be environmentally assessed at project level, as required, and specific mitigation proposed, where appropriate.

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.

A monitoring programme has been developed as part of this SEA (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 would be attributable to implementation of the NRNEVCP, therefore enabling positive and negative impacts to be measured.

1. Introduction

Zero Emissions Vehicles Ireland (hereafter referred to as 'ZEVI') is an Office within the Department of Transport dedicated to overseeing Ireland's transition to zero emission vehicles and more sustainable transportation. ZEVI has prepared a National Road Network EV Charging Plan (NRNEVCP) for Ireland which provides a roadmap for the deployment of EV charging infrastructure across Ireland with respect to Passenger Vehicles, LDV (Light Duty Vehicles) and Heavy Goods Vehicles (HGVs).

Arup has been appointed by ZEVI for the Strategic Environmental Assessment (SEA) of the NRNEVCP. All necessary stages of Appropriate Assessment (AA) will also be undertaken on the Plan. This process will be carried out in parallel with the SEA process and feeds into the alternatives considered as part of the SEA, as required for ZEVI.

Since the first issue of this SEA Environmental Report, a name change has occurred. The plan is now referred to as the 'National Road Network EV Charging Plan 2024-2030'.

1.1 Background

Electric vehicles (EVs) have emerged as a key component of reducing carbon emissions in the transport sector. However, the widespread adoption of EVs requires a comprehensive charging infrastructure network to allow for accessible, reliable and convenient use for all drivers. Moreover, deployment of en-route charging infrastructure requires careful consideration of charging locations, electricity grid capacity service operation business models and funding required to support the deployment, particularly in remote areas.

The European Commission (EC) has drafted the Alternative Fuels Infrastructure Regulation (AFIR) which sets out the technical and operational requirements for EV charging infrastructure. These include mandatory deployment targets along the Trans-European Transport Network (TEN-T), the need for interoperability between different charging networks, accessibility for all users, and information provision for users on the availability and location of charging infrastructure.

At a national level, Ireland's Climate Action Plan 2024 (CAP24) aims at accelerating the transition to Electric Vehicles and vehicle technology improvements as part of the transport decarbonisation pathway. This includes targets of an expected 30% private car fleet switching to EVs by 2030. In order to enable this transition, both the CAP24 and the Department of Transport's Electric Vehicle Charging Infrastructure Strategy 2022-2025 set out ambitious targets for the deployment of EV charging infrastructure. These include a particular focus on the development of a comprehensive high-power charging network along our national roads.

The National Road Network EV Charging Plan 2024 – 2030 (referred to hereafter as 'NRNEVCP' and 'the Plan'), provides a pathway for delivery of EV en-route charging infrastructure in Ireland, in line with both national and European ambitions for cleaner transportation. This pathway will be accompanied by a set of potential commitments on investment, regulation, and policy instruments over the coming years, removing barriers to the adoption of passenger cars, LDVs and HGVs. The aim of this Plan is to set out a path to deliver these ambitions, coupled with a series of the potential commitments on investment, regulation, and policy instruments over the coming years. This will be the first part of a complete National Road Network EV Charging Plan for the country.

Arup was commissioned by ZEVI to carry out a Strategic Environmental Assessment (SEA) screening for the NRNEVCP ("SEA Screening Report"). The screening exercised concluded that an SEA is required and this report acts as the SEA Environmental Report.

This SEA Environmental Report (ER) presents the findings of the environmental assessment of the likely significant effects on the environment as a result of implementing the NRNEVCP. A Scoping Report was prepared 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 purpose of this SEA ER – which should be read in conjunction with the NRNEVCP – is to provide a clear understanding of the likely environmental consequences of decisions arising from the NRNEVCP.

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 (SEA) Directive), requires that an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment, in the following ten sectors:

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

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 2001).

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).

The SEA Directive has also been given effect through other Republic of Ireland legislation. An example being, the Planning and Development Act [PDA] 2000, as amended, which includes a specific requirement to carry out and facilitate SEA alongside the preparation of the Regional Spatial and Economic Strategies; and the Water Services Act 2007, as amended, requires that: "*The purpose for which this Act is enacted includes giving effect to so much of the following as relates to water services*" - listing specifically Directive 2001/42/EC. (EPA, Good Practice Guidance on Screening, 2021).

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. This stage has been completed;
- Scoping: Consultation with the defined statutory bodies on the scope and level of detail to be considered in the assessment. This stage has been completed;

- Environmental Assessment: An assessment of the likely significant impacts on the environment as a result of the Plan or Programme. This is the current stage of the SEA process to which this report relates;
- Preparation of an Environmental Report (this report);
- Consultation on the Plan or Programme and associated Environmental Report;
- Evaluation of the submissions and observations made on the Plan or Programme and Environmental Report; and
- Issuance of an SEA Statement identifying how environmental considerations and consultation have been integrated into the Final Plan or Programme.

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 Environmental Impact Assessment (EIA) and Planning and Development legislation, certain projects taking place within the plan area arising during implementation of the Plan may require EIA.

1.2.3 SEA Guidance

The SEA methodology for the NRNEVCP is based on legislative requirements and Department of Environment, Heritage and Local Government (DoEHLG) / Environmental Protection Agency (EPA) guidance - as listed below. The EPA's SEA Pack (Version 28/01/2022) was also used as a source of information during the scoping process along with published EPA SEA Scoping Guidance, including:

- Circular Letter PL 9/2013: Article 8 (Decision Making) of EU Directives 2001/42/EC on Strategic Environmental Assessment (SEA) as amended;
- Circular Letter PSSP 6/2011: Further Transposition of EU Directive 2001/42/EC on Strategic Environmental Assessment (SEA);
- Developing and Assessing Alternatives in Strategic Environmental Assessment - Good Practice Guidance;
- Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland (EPA, 2013);
- Directive 2001/42/EC on the assessment of Certain Plans and Programmes on the Environment;
- Draft Environmental Outcomes Report: a new approach to environmental assessment (Department for Levelling Up, Housing, and Communities, 2023);
- EPA guidance on Integrated Biodiversity Impact Assessment - Streamlining AA, SEA and EIA Processes Best Practice Guidance;
- Good practice guidance on Cumulative Effects Assessment in SEA;
- Good Practice Guidance on SEA Screening (EPA, 2021);
- Guidance on Implementation of Directive 2001/42/EC;
- Guidance on Strategic Environmental Assessment Statements and Monitoring;
- Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment- Guidelines for Regional Authorities and Planning Authorities (Department of the Environment, Community and Local Government, 2004);
- Integrating Climatic Factors into Strategic Environmental Assessment in Ireland - A Guidance Note (EPA, 2019);
- Integrating Climatic Factors into the Strategic Environmental Assessment Process in Ireland;

- Ireland's Environment - An Integrated Assessment 2020;
- SEA Process Checklist;
- SEA Resource Manual for Local and Regional Planning Authorities (EPA, 2015);
- Second Review of SEA Effectiveness in Ireland;
- Strategic Environmental Assessment – Consultation Bodies' Services and Standards for Responsible Authorities (Northern Ireland Environmental Agency, 2009);
- Strategic Environmental Assessment – Guidelines for Regional Assemblies and Planning Authorities;
- Strategic environmental assessment and climate change: guidance for practitioners (Environment Agency, 2011); and
- Synthesis Report on Developing a Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland (EPA, 2013).

2. National Road Network EV Charging Plan 2024-2030

2.1 Introduction

Ireland's National Road Network EV Charging Plan (NRNEVCP) 2024-2030 is a national document that provides a national roadmap for the deployment of EV charging infrastructure across the TEN-T and primary and secondary national roads in Ireland.

The NRNEVCP provides details on the implementation and deployment requirements for establishing EV charging infrastructure across the country to meet the requirements of the AFIR. In addition, the Plan aims to meet these requirements ahead of demand with the goal of achieving 2030 targets for the AFIR by 2025.

2.2 Background to the National Road Network EV Charging Plan

In order to complement national efforts to support the wider deployment of EVs, the European Commission has drafted a legal instrument, the AFIR, which sets out technical and operational requirements for EV charging infrastructure. These include mandatory deployment targets along the TEN-T network, the need for interoperability between different charging networks, accessibility for all users, and information provision for users on the availability and location of charging infrastructure.

The NRNEVCP is the first part of a complete National En-Route EV Charging Network Plan for Ireland, with the aim of achieving EV charging infrastructure requirements to accommodate the requirements of the AFIR ahead of user demand. It is noted that, under the AFIR, there are three categories of public EV charging infrastructure: neighbourhood, destination, and en-route. The scope of the NRNEVCP is limited to en-route, including passenger vehicles, Light Goods Vehicle (LGVs) and Heavy-Duty Vehicles (HDVs).

The NRNEVCP focuses on the deployment of EV infrastructure, using modelled analyses. It aims to deliver on the AFIR targets as a minimum, with further emphasis on EV charging infrastructure demands arising from the modelled scenarios. The Plan provides a roadmap for the implementation of at minimum the AFIR requirements, followed by the modelled medium and high EV charging capacity demands.

2.3 Scope of the National Road Network EV Charging Plan

The NRNEVCP is the first part of a complete National En-Route EV Charging Network Plan for Ireland, with the aim of achieving EV charging infrastructure requirements to accommodate the requirements of the AFIR ahead of user demand. It is noted that, under the AFIR, there are three categories of public EV charging infrastructure: neighbourhood, destination, and en-route. The scope of the NRNEVCP is limited to en-route, including passenger vehicles, Light Goods Vehicle (LGVs) and Heavy-Duty Vehicles (HDVs).

The NRNEVCP focuses on the deployment of EV infrastructure, using modelled analyses. It aims to deliver on the AFIR targets as a minimum, with further emphasis on EV charging infrastructure demands arising from the modelled scenarios. The Plan provides a roadmap for the implementation of at minimum the AFIR requirements, followed by the modelled medium and high EV charging capacity demands.

2.4 Aims of the National Road Network EV Charging Plan

The NRNEVCP provides a roadmap for the deployment of en-route charging infrastructure across the Republic of Ireland, working towards achieving both national and European ambitions for cleaner transportation. The aim of this Plan is to set out a path to deliver these ambitions.

The Plan is the first part of a complete National En-Route EV Charging Network Plan for the country. Given the timescales of this Plan and the current fleet uptake, the key focus is the deployment of infrastructure for passenger vehicles, LGVs and HDVs.

It is expected that the private sector will take the lead in driving the deployment of EV charging infrastructure along our national road network.

2.5 Composition of the National Road Network EV Charging Plan

The NRNEVCP accounts for a wide range of factors in the deployment of EV charging infrastructure, including user needs, EV penetration projections, the current and future demand for EV charging, the geographic distribution of charging points, and the availability of electricity supply and grid infrastructure. This involves the use of different models and simulations to forecast the demand for EV charging and to evaluate the potential impact of different deployment strategies.

As part of the Plan, modelling and analyses were carried out to forecast the anticipated future uptake of EVs across Ireland. The following six specific areas were considered in the Plan:

- User needs analysis;
- Demand analysis and modelling (passenger vehicles and LGVs);
- Demand analysis and modelling (HDVs and buses);
- Studies to assess the grid connection requirements;
- Prioritising the phasing of zones for sites; and
- Assessing the level of investment required and appropriate private vs public mix.

For the purposes of developing this Plan, ZEVI's modelling has assessed the charging requirements needs based on the Climate Action Plan targets of:

- 175,000 passenger EVs 20,000 LGVs by 2025; and
- 845,000 passenger EV and 95,000 LGVs by 2030

Modelling suggested that, depending on location, the EV charging that would be required on the TEN-T Network by 2030 would be significantly higher than that required under AFIR.

For example, it is estimated that up to 104 charging points will be required on the TEN-T road Network to meet AFIR requirements and the expected demand for passenger cars / LDVs by 2025.

However, modelling reflecting driver needs indicated that up to 1,118 charge-points will be required on the national road network by 2025.

To assess the delivery of enroute high power charging infrastructure, the NRNEVCP has established three alternative scenarios for the deployment of EV charging infrastructure to meet the demands of AFIR and the modelled scenario. The Plan also sets out a focused timeline and plans to ensure that this infrastructure is delivered in line with public spending codes and governance standards of Transport Infrastructure Ireland (TII) and Department of Transport. The overall sequence of events to deliver this infrastructure are outlined in Figure 2.1. This will be refined based on public consultation.

The timeline for delivering HDV Infrastructure will take up to four years while infrastructure planned for passenger cars / LDV on the motorway / dual carriageway network can take approximately three years and three months.

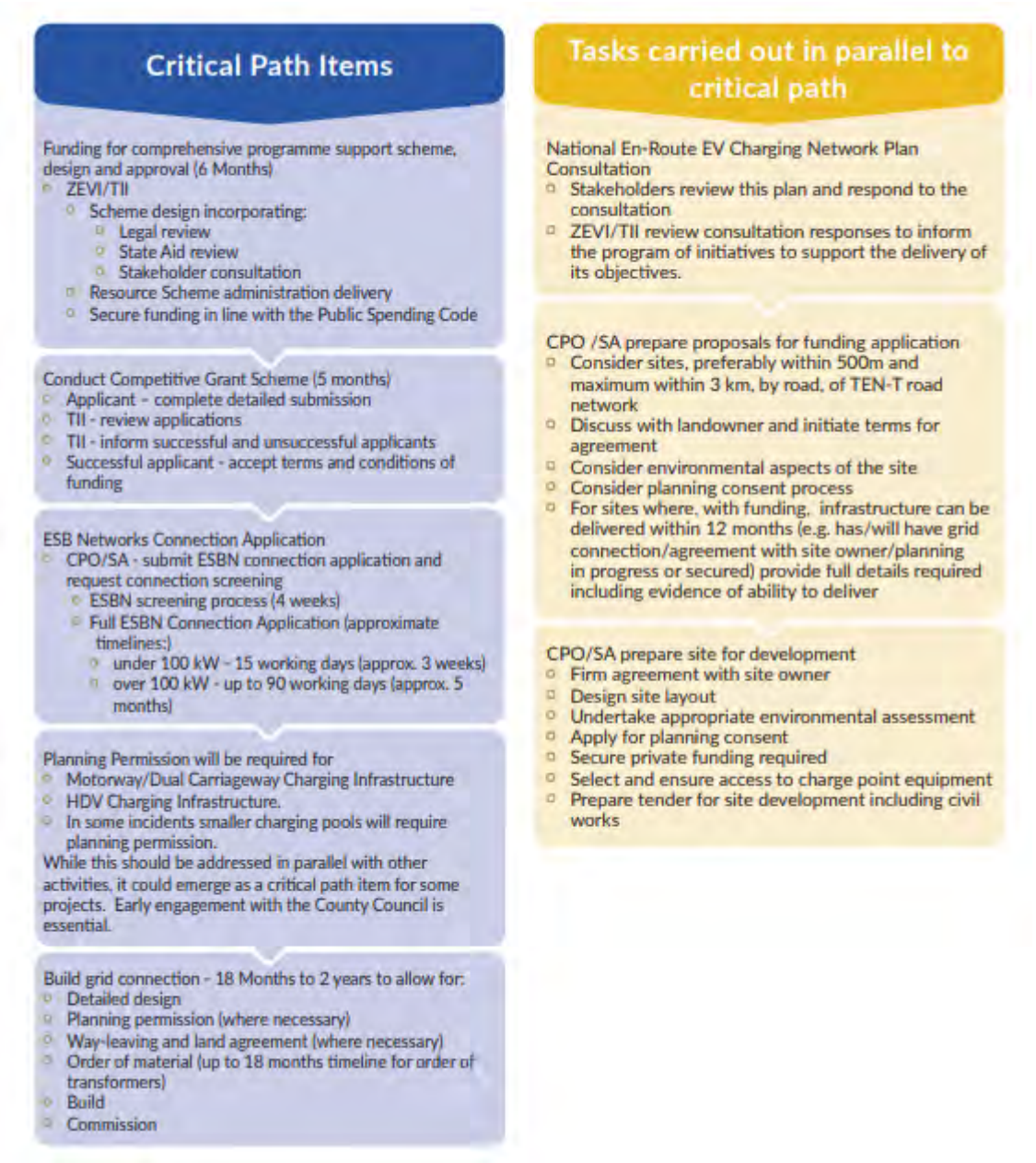

Figure 2.1 Tasks to be completed to deliver an EV charging pool | Source: NRNEVCP; Fig. 21

2.6 Guiding Principles of the National Road Network EV Charging Plan

The NRNEVCP sets out a list of guiding principles to assist with the engagement of the private sector to support the deployment of EV charging infrastructure. This includes the following principles:

- **Prioritise and enhance private sector participation,** as they will be providing fuelling, charging and ancillary services for the infrastructure;
- **Sustainability first**, will prioritise the upgrading of existing facilities and infrastructure to minimise the carbon emissions associated with new construction;
- **Alignment with wider policy and other network goals,** such as the State's overall decarbonisation goals; the National Planning Framework; and alignment with ESB Network and EirGrid's electricity network strategies;
- **Customer experience and equity,** to ensure a positive perception of EV charging infrastructure provision among the public and further facilitate the EV transition;
- **Enhance and facilitate innovation** to accelerate the roll-out of appropriate EV charging infrastructure; and
- **Resource efficiency** in the use of private and public resources.

Other measures include:

- Enabling delivery by facilitating grid upgrade works to streamline uptake of private sector companies;
- Public intervention, should there be insufficient resources within the private sector for uptake; and
- Developing national standards.

2.7 Extent of the Plan Area

The NRNEVCP is a national level plan which covers the covers the entirety of the Republic of Ireland for the deployment of EV charging infrastructure across the TEN-T Core and Comprehensive network, including national primary and secondary roads as indicated in Figure 2.2.

The deployment of en-route charging infrastructure requires careful consideration of factors such as charging station locations, availability of electrical grid capacity, and support of deployment in remote areas.

Identification of appropriate locations for the charging infrastructure considered the following key factors:

- The availability of ESB Networks Grid connection or smart technology capable of supporting the necessary power requirements;
- Geographical location to deliver required coverage;
- Environmental considerations; and
- Understanding of existing HDV movements (and distance travelled) and projected future movements on Ten-T network will also inform optimum site locations.

The SEA Directive requires that where the NRNEVCP has potential for transboundary environmental effects these must be addressed within the SEA. The potential for transboundary environmental effects between the Republic of Ireland and Northern Ireland has also been considered throughout this Environmental Report, as appropriate.

Figure 2.2 National Road Network Categories, Ireland (TEN-T Core, TEN-T Comprehensive and Non TEN-T Roads in Ireland) | Source: National Road Network EV Charging Plan; Fig. 16

2.8 Implementation

ZEVI will undertake the following actions to contribute towards the implementation of the Plan:

- As part of a "Build Once for 2040" approach ZEVI/TII will work with ESB Networks to identify the grid connections required for later years and, where it is timely and efficient, they will support the creation of those larger connections in one build to avoid multiple works on the same sites;
- ZEVI will make a grid application for all the on-line Service Areas for HDV Infrastructure;
- ZEVI has considered the use of battery technology to mitigate delays in grid connection;
- ZEVI will continue to roll out destination and neighbourhood charging through the Shared Island Sports Club EV Charging Scheme and other schemes to be announced in 2023; and
- ZEVI is working with Local Authorities who are progressing their EV charging strategies for areas and will be rolling out infrastructure to deliver those strategies.

Other Plans, Policies, Programmes and Guidelines arising in this space in Ireland include the following:

Electric Vehicle Charging Infrastructure Strategy 2022-2025

The strategy focuses on the provision of publicly accessible charging infrastructure for electric cars and light-duty vehicles. The strategy also addresses the needs of heavy-duty vehicles as required by EU regulations. It identifies four main categories of charging infrastructure: home / apartment charging; residential neighbourhood charging; destination charging; and motorway / en-route charging. The EV Charging Infrastructure Implementation Plan has been prepared to assist with the delivery of this Strategy.

Electric Vehicle Charging Infrastructure Implementation Plan

The Implementation Plan, in its current and future iterations, will provide a comprehensive range of new and expanded measures to support the delivery of electric vehicle charge point infrastructure. In turn, this infrastructure will support the Climate Action Plan ambition that nearly 1 in 3 private cars will be an electric vehicle by 2030.

As part of the EV Charging Infrastructure Implementation Plan, a National En-Route EV Charging Network Plan will be prepared for the delivery of the first iteration of the National En-Route EV Charging Network Plan to meet user needs and deliver AFIR TEN-T requirements for both LGVs and HGVs by 2025.

Electric Vehicle Charging Infrastructure Universal Design

ZEVI has prepared universal design guidelines for EV Charging Infrastructure. This guideline outlines key considerations for accessibility when designing, installing, and operating electric vehicle charging stations.

2.9 Plan Period

The time horizon for the NRNEVCP covers the period from 2024 to 2030 to align with Climate Action Plan 2024 (CAP24) objectives for achieving electrification of 30% private car fleet by 2030 and end of sale of all new petrol and diesel vehicles by 2035.

The NRNEVCP 2024-2030 will be in place for a period of 8 years, for the duration of the Electric Vehicle Charging Infrastructure Strategy 2022-2025 and subsequent Strategy for 2026-2030. The Plan sets out a road map and timeline for the deployment of en-route charging infrastructure to accommodate the transition to electric vehicles, as summarised in Figure 2.3.

Figure 2.3 Timeline for EV charging infrastructure delivery

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, this section should set out the NRNEVCP in its wider planning context. It should explain which other plans and environmental objective affect the NRNEVCP , and which plans and projects are affected by the NRNEVCP .

The wide range of plans, policies, programmes and legislation which are considered to be of relevance to the NRNEVCP and are outlined in Appendix B.

A number of these plans policies and programmes have been identified as being key with regards interaction with the NRNEVCP – these are described in Section 3.2.

3.2 Key Policy, Plans, Programmes and Legislation of Relevance

This section of the Environmental Report aims to identify the key policy, plans and programmes of relevance to the NRNEVCP and show how these are interlinked with the NRNEVCP . The schematic as displayed in Figure 3.1 aims to show how these relationships can set the context for the NRNEVCP with regards to policy, plans, programmes and legislation, including transport planning.

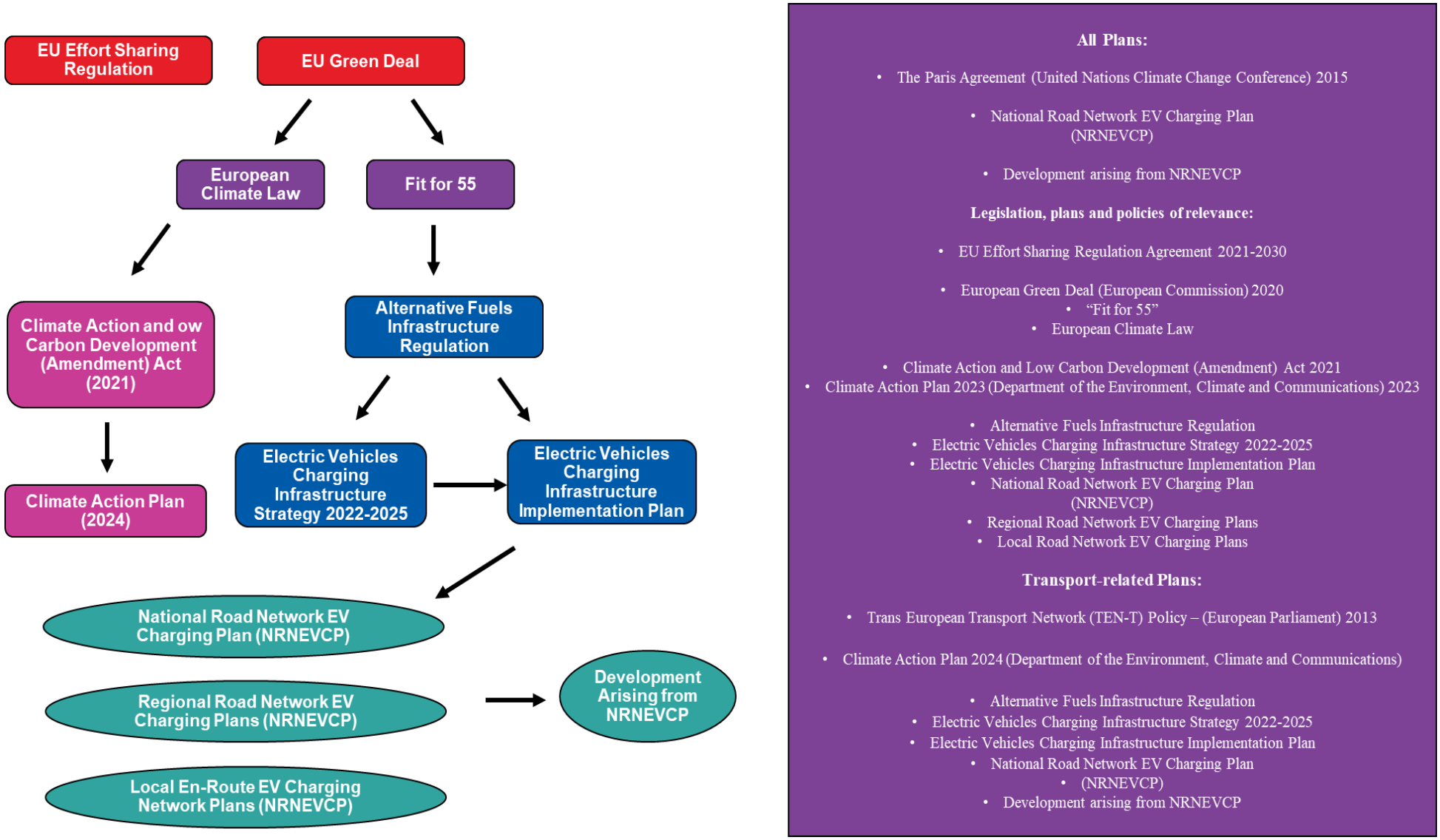

Figure 3.1 Interaction of Key Policy, Plans, Programmes and Legislation (including transport planning) with the NRNEVCP

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The preparation of the Plan responds to legislation and policy, including statutory plans, at European Union (EU) and national levels, establishing ambitious targets for decarbonisation and, to this end, the deployment of EV charging infrastructure. The most relevant legislative instruments and plans or programmes are as follows.

3.2.1 The EU Effort Sharing Regulation

The EU Effort Sharing Regulation (ESR) establishes legally binding annual emissions reduction targets for EU member states including Ireland. The ESR targets emission reductions in most sectors not covered by the EU Emissions Trading System (ETS), including transport. Under the ESR, Ireland is required to reduce its emissions from non-ETS sectors by 42% by 2030, relative to 2005 levels.

3.2.2 The European Green Deal

The European Green DEAL (EGD) 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. The deal includes key policies aimed at ambitiously cutting emissions, including the goal of achieving 90% reduction in transport-related greenhouse gas emissions by 2050.

Under the EGD, the Commission has adopted a set of policy proposals with a view to realising its aim. These include, among others:

- **European Climate Law**, which makes the 2050 climate neutrality target legally binding; and
- **The 'Fit for 55' Package**, which aims to deliver wide-ranging legislative and policy changes needed to support the achievement of the EU's emissions reductions target for 2030 and 2050.

3.2.3 Alternative Fuels Infrastructure Regulation

The European Commission's Alternative Fuels Infrastructure Regulation (AFIR) is part of the "Fit for 55" package. Agreed in March 2023, AFIR establishes mandatory deployment targets for electric charging and hydrogen refuelling infrastructure for the roads, shipping and aviation sectors across the TEN-T network.

AFIR sets locational/distance-based charging infrastructure targets for member states to achieve by 2025 and 2027 with a view to deliver the following key requirements by 2030/2035:

- By 2035, 600 kW of EV charging infrastructure for passenger cars and LGVs on every 60 km of the entire TEN-T; and
- By 2030, 3,800 kW of EV charging infrastructure for HDVs (including buses) on every 60 km of the TEN-T Core road network; and
- By 2030, 1,500 kW of EV charging infrastructure for dedicated to HDVs on every 100 km of the TEN-T Comprehensive road network; and
- By 2030, 1,800 kW of EV charging infrastructure for dedicated to HDVs at each Urban Node.

In addition, AFIR sets a fleet based target for EV charging infrastructure commensurate with the level of take up of EVs as follows:

- EV charging infrastructure capacity is proportionate to EV uptake; i.e., provision of charging infrastructure power output of 1.3 kW per battery EV, and 0.8 kW per plug-in hybrid vehicle, until battery EVs reach at least 15% market share of all passenger cars and LGVs.

3.2.4 Climate Action and Low Carbon Development (Amendment) Act (2021)

At the national level, in July 2021, the Climate Action and Low Carbon Development (Amendment) Act 2021 ('the Climate Act') was signed into Irish law. The Climate Act establishes a statutory national climate objective to pursue and achieve, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy.

It enshrines in Irish legislation a national target of achieving net zero emissions by 2050, and an interim 2030 target of reducing greenhouse gas emissions by 51% relative to 2018 levels – the most ambitious legally binding emissions reduction target to which Ireland is bound. The Act also provides for the establishment of five-year carbon budgets, sectoral emissions ceilings and statutory Government and Local Authority Climate Action Plans, establishing national and regional roadmaps to ensure compliance with same.

3.2.5 Climate Action Plan 2024

The Climate Action Plan 2024 (CAP24) provides a detailed plan for taking decisive action to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and setting us on a path to reach net-zero emissions by no later than 2050, as committed to in the Programme for Government and set out in the Climate Act 2021. The Plan lists the Actions needed to deliver on our climate targets and sets indicative ranges of emissions reductions for each sector of the economy. It is updated annually, to ensure alignment with our legally binding economy-wide carbon budgets and sectoral ceilings.

CAP24 builds on the CAP23 Decarbonisation Pathway for Transport which provides updated modelling to identify the additional measures to close the 'gap' to delivering 50% emissions abatement by 2030, when compared with CAP21. Fleet electrification and use of biofuels will continue to provide the greatest share of emissions abatement in the medium term for Ireland.

The CAP sets out the sectoral carbon budgets for the transport sector in Ireland: 54 Mt CO2eq from 2021 – 2025 (requiring an average emissions reduction of 4.1% per annum), and 37 Mt CO2eq from 2026 – 2030 (requiring an average emissions reduction of 9.4% per annum). It states that the scale of transformation needed to comply with these budgets is "unprecedented" and that fleet electrification and use of biofuels will provide the greatest share of emissions abatement for the sector in the medium-term. Fleet electrification targets to 2025 and 2030, as set out in CAP24, are as follows:

2025 (total abatement – 1.96 MtCO2eq)

- 175,000 passenger EVs
- 20,000 commercial vans
- 700 low-emission HGV
- 300 EV buses in Public Service Obligation (PSO) bus fleet
- Expansion of electrified rail services

2030 (total abatement – 4.74 MtCO2eq)

Private Car Fleet

- Battery EV share of total passenger car fleet (30%)
- EV share of new registrations (100%)
- 845,000 Private EVs

Commercial Fleet

- 20% EV share of total LGV fleet.
- 95,000 commercial EVs
- 30% EV share of new heavy duty vehicle registrations
- 3,500 HGVs

PT Services

- 1,500 EV buses in PSO bus fleet;

- Expansion of electrified rail services

CAP24 states that ZEVI will lead on the delivery of the headline target of 30% of the total private fleet (or c.845,000 vehicles) being electric by 2030. It sets out specific measures and actions for ZEVI, as set out in Table 3.1, below.

Table 3.1 CAP24 Actions Under "EV Charging Infrastructure Strategy & ZEVI Work Programme"

2024 Actions	2025 Actions
• Ongoing delivery of Destination Charge Point Scheme – including sports clubs, community centres and State operated visitor sites, as well as commercial destinations. • Roll out of en route High-Powered Charging Network • Review of financial incentives to further the transition of vehicle fleets, considering actions to support and deliver a just and equitable EV transition.	• Ongoing delivery Destination Charge Point Scheme – including sports clubs, community centres and State operated visitor sites, as well as commercial destinations. • Roll out of en route High-Powered Charging network. • Review of financial incentives to further the transition of vehicle fleets, considering actions to support and deliver a just and equitable EV transition.

3.2.6 Electric Vehicle Charging Infrastructure Strategy 2022-2025

In January 2023, the Department of Transport and ZEVI launched a national Electric Vehicle Charging Infrastructure Strategy 2022 – 2025 and accompanying Implementation Plan. Together, they provide a strategy and practical action plan for the development of Ireland's EV charging network to 2025, in accordance with targets and requirements in the above-mentioned national and EU legislation and policies.

The Strategy document explicitly identifies the need for the Plan, which is the subject of this SEA Scoping Report, stating that *"Following the publication of this Electric Vehicle Charging Infrastructure Strategy, ZEVI, in conjunction with TII, ESBN, and private operators, will develop a National EV Charging Network Plan (En-Route Charging)"*. It is stated that the En-Route Charging Plan[2] should consider the charging infrastructure needs and how enabling services can be delivered to support en-route charging, pending the final agreement of the AFIR.

4. SEA Methodology

4.1 Introduction

This section highlights how the SEA has been undertaken for the NRNEVCP.

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 28/01/2022) was also used as a source of information during the scoping process[3].

The NRNEVCP(ZEVI), the SEA Environmental Report and the Appropriate Assessment (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 ZEVI and Arup.

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

[2] Note a change in name has since publication of this Strategy to the 'National Road Network EV Charging Plan 2023-2030'

[3] Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/SEA-Pack-2022.pdf

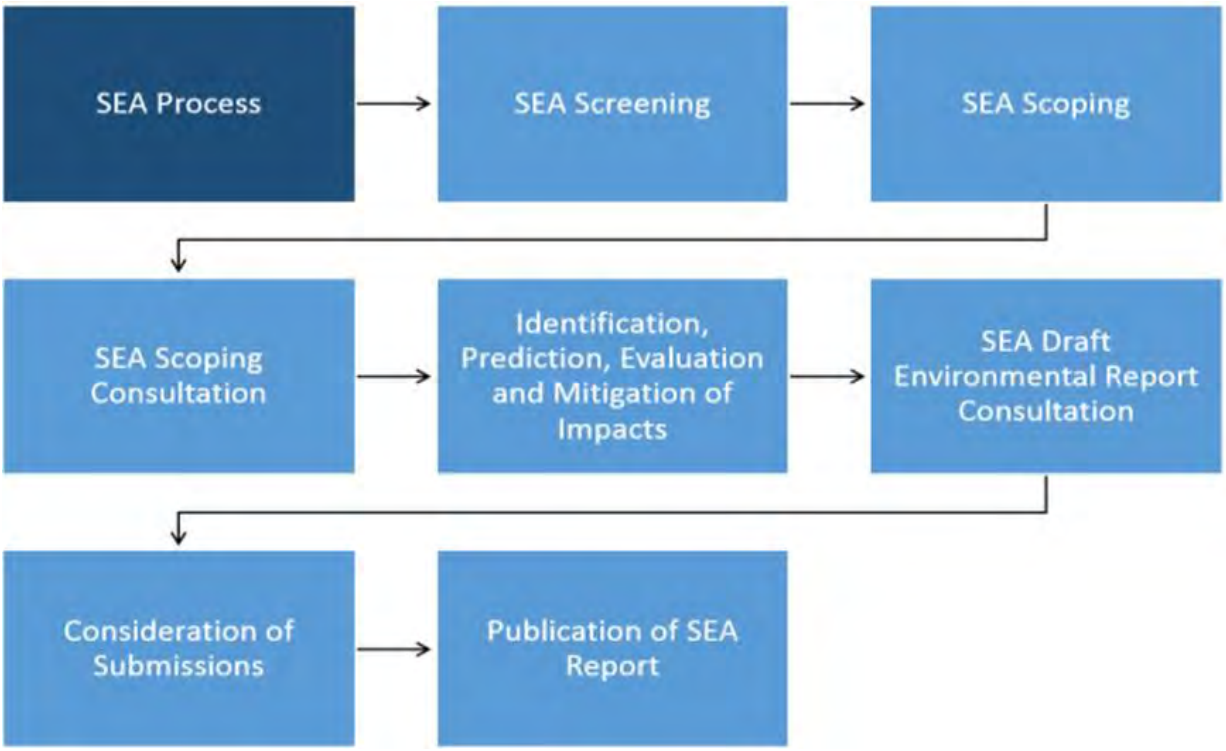

Figure 4.1 Key Stages of the SEA Process

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 screening determination for the NRNEVCP was determined to be mandatory as the NRNEVCP is of a type of Plan/Programme (P/P) which falls within the remit of the SEA Directive/SEA Regulations based on the following:

- The Plan has been prepared by a Government Authority at national level, ZEVI, a dedicated Office of Government established in 2022;
- The Plan is considered to constitute a P/P that is required by legislative/administrative provisions arising from EU and national law and policy;
- The NRNEVCP is a P/P prepared for the transport sector and has the potential to set a framework for the development consent for projects listed in the EIA Directive; and
- The NRNEVCP is not of a type exempted from SEA. It does not serve national defence or civil emergency purposes or provide a financial budget, and it has not been co-financed by the Structural Funds/Regional Development Funds programme.

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 NRNEVCP, so they may be addressed appropriately in the ER.

There are a number of tasks at this stage:

- Determine the key elements of the NRNEVCP 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 NRNEVCP;
- 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 NRNEVCP .

A Scoping Report was prepared in June 2023 in relation to the NRNEVCP, 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 NRNEVCP 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 NRNEVCP has potential for transboundary environmental effects these must be addressed within the SEA. 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. Responses received are provided in Table 4.1.

- Environmental Protection Agency (EPA);
- Department of Environment, Climate and Communications (DECC) on behalf of Geological Survey of Ireland (GSI);
- Department for Communities – Historic Environment Division (HED); and
- Department for Agriculture, Environment and Rural Affairs (DAERA) – Northern Ireland Environment Agency (NIEA) – SEA Team.

Table 4.1 Scoping Responses

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
Environmental Protection Agency (EPA)	The phased implementation of the Plan and related technologies should be set within the context of maintaining/improving air quality and reducing greenhouse gas emissions within the transport sector.	This comment is welcomed and has been considered by ZEVI and DoT.
	Some key relevant plans and programmes at national and regional level to consider in preparing the Plan include the National Planning Framework, Regional Spatial and Economic Strategies, Grid 25 Implementation Plan, National Policy Framework on Alternative Fuels Infrastructure for Transport and the National Climate Action Plan 2023.	This comment is welcomed and has been considered by ZEVI and DoT. Reference to key relevant policies, plans, programmes and legislation has been included in Chapter 3 of the Strategic Environmental Assessment (SEA) Environmental Report (ER).
	The Plan and SEA should also take account of the Urban Transport Related Air Pollution (UTRAP) Interim Report (Government of Ireland, March 2021).	Noted. Reference to the UTRAP Interim Report has been included in the review of key relevant policies, plans, programmes and legislation in Chapter 3 of the SEA ER.
	In preparing the Plan and SEA, the recommendations and challenges described within the EPA State of the Environment Report (SOE) Ireland's Environment – An Integrated Assessment 2020 (EPA, 2020) should be considered, in preparing the Plan and SEA as relevant and appropriate. Other chapters in the report relating to Air Quality (Chapter 3) and Noise (Chapter 4) are also relevant to consider in the preparation of the SEA. More up to date EPA reports covering air quality, noise, greenhouse gas emissions etc are available on the EPA website and should be consulted, as appropriate in preparing the Plan and SEA.	The State of the Environment Report Ireland's Environment – An Integrated Assessment 2020 (EPA, 2020) Report has been reviewed in full and relied on for the description of much of the baseline environment in both the SEA Scoping Report and the Environmental Report. Chapter 5 of the SEA ER has been updated to include reference to Noise.
	There is an urgent need to rapidly decarbonise the transport sector in order to reverse the current greenhouse gas emissions trends. The Plan should be aligned with national commitments on climate change mitigation and adaptation, such as identified in the National Climate Action Plan 2023, as well as taking account of any relevant sectoral, regional or local authority adaptation plans.	This comment is welcomed and has been considered by ZEVI and DoT.
	All recommendations from the SEA process, including mitigation and monitoring measures, should be integrated in the Plan. The EPA recommends that the Plan includes summary tables outlining the key findings of the SEA, including alternatives appraisal and preferred option(s) selection, and linking the significant environmental effects identified to the proposed mitigation measures, monitoring programme and Plan policies/measures.	It is envisaged that key findings of the SEA will be included within the final version of the NRNEVCP. Appraisal of alternatives and preferred options have been included in Chapter 7 of the SEA ER. Mitigation and monitoring measures of SEA have been integrated into the plan, in so far as possible. Chapter 9 of the SEA ER outlines a list

[4] Please note a change in name has occurred since this consultation process. The Plan is now referred to as 'National Road Network EV Charging Plan (NRNEVCP) 2024-2030'. An updated Climate Action Plan (CAP24) has also been issued and was considered in the updating of this report.

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
		of all mitigation measures and monitoring suggested for the NRNEVCP.
	The Plan should include a commitment to implement the environmental monitoring programme and associated reporting. It would be useful to include a separate section on 'Monitoring, Review and Reporting' within the Plan, setting out the provisions for environmental monitoring and reporting on the implementation of the Plan and where relevant, any periodic reviews of the Plan.	Section 9 of this ER contains information on monitoring and reporting. ZEVI has referred to 'Monitoring, Review and Reporting' within the Plan.
	The EPA suggest that you consider including a commitment to review the Plan over an appropriate interval, such as every 5 years. There may be merits in aligning the periodic reviews of the Plan with existing cyclical reporting e.g., Ireland's Environment, National Planning Framework, etc. In between review periods for the Plan, the EPA recommend that Plan-related implementation reports are published annually, or biennially, as appropriate. The EPA recommend aligning this Plan related monitoring/reporting with the environmental monitoring required under the SEA legislation. Doing so would enable the environmental performance of the Plan to be evaluated and would also provide for increased transparency during implementation.	This comment is welcomed and has been considered by ZEVI and DoT.
	The SEA-related environmental 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 environmental issues that may arise. The 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 where possible for the plan-related and SEA-related monitoring.	Section 9 of the SEA ER relates to Mitigation and Monitoring. This contains information such as monitoring frequency where applicable and monitoring sources. All proposals and measures outlined in the NRNEVCP have been mitigated against and covered off through the Strategic Environmental Assessment detailed in the SEA Environmental Report.
	Under the SEA Regulations, you should consult with: • Environmental Protection Agency • Minister for Housing, Local Government and Heritage • Minister for Environment, Climate and Communications • Minister for Agriculture, Food and Marine	All of the aforementioned authorities/agencies have been consulted with and any comments received have been taken into account, as part of the making of the Plan and the SEA Environmental Report, in line with SEA Regulations. These bodies will also be consulted with on the SEA ER and Plan.
	The scoping report includes a comprehensive list of plans and programmes. It would be useful for the SEA Environmental Report to identify the key relevant plans and programmes and to show how these are interlinked with the Plan. A schematic showing these relationships would be useful to set the context for the Plan.	Noted. SEA ER report updated to include a schematic in Chapter 3 of the SEA ER.

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
	Additionally, the EPA recommend including a schematic of the relevant transport planning hierarchy (including any proposed new plans, that may arise out of this Plan). This will help inform the level and type of engagement with other stakeholders in their own sectoral planning and land management.	Noted. SEA ER report updated to include a schematic in Chapter 3 of the SEA ER.
	It would also be useful to include an additional column in Table 3 to summarise the relevance of the plans and programmes listed to the Plan. Below is a list of legislation, plans, programmes and research resources that may be relevant for consideration. **International Plans, Programmes, Policies or Legislation** • ESPOO Convention and Kyiv (SEA) Protocol • OSPAR Convention • WHO Global Air Quality Guidelines 2021 (WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide) **European Plans, Programmes, Policies or Legislation** • National Emissions Ceiling Directive (2016/2284) • 8th Environmental Action Programme • The EU Zero Pollution Action Plan • Proposal for a Regulation of the European Parliament and of the Council on nature restoration **National and Regional level Plans and Programmes** • National Air Pollution Control Programme • Grid 25 Implementation Plan (Eirgrid) • State of Global Climate Provisional Report 2021 (World Meteorological Society) • Prioritised Action Framework 2021-2027 (NPWS) • Management plans for Natura 2000 sites • Just Transition First Progress Report • Regional Tourism Strategies (Fáilte Ireland) • Healthy Cities Project (WHO) • Clean Air Strategy • Dublin Action Plan for Nitrogen Dioxide (December 2021) • Urban Transport-Related Air Pollution (UTRAP) Working Group (www.gov.ie)	Noted. Chapter 3 of the SEA ER which relates to relevant plans, programmes, policies and legislation has been updated to include reference to the listed international, European, National, regional and research level documents specified by the EPA in their responses. Appendix B of the SEA ER has been updated to include a summary of the relevance of these plans and programmes.

National Road Network EV Charging Plan (NRNEVCP), formerly named 'National En-Route EV Charging Network Plan'

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
	National SEA Guidelines • Strategic Environmental Assessment: Guidelines for Regional Assemblies and Planning Authorities (DHLGH, 2022) (https://assets.gov.ie/218356/6c57ccf6-3d2b-4c43-b871-1698e7daab5d.pdf) • Possible additional Data Sets and information sources • National Land Cover map • Ireland's Greenhouse Gas emissions 1990-2021 (https://www.epa.ie/publications/monitoring--assessment/climate-change/airemissions/Ireland's-Final-Greenhouse-gas-report-1990-2021_April-2023.pdf) Article 17 Habitats Directive Reports Ireland/Northern Ireland https://www.npws.ie/publications/article-17-reports/article-17-reports-2019 o https://jncc.gov.uk/our-work/article-17-habitats-directive-report-2019/ EPA SEA Spatial Datasets (https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/sea-spatialinformation-sources-inventory-.php) Spatial analysis of Ireland's greenhouse gas exist at https://projects.au.dk/mapeire/spatial-results/. EPA national air pollutant inventory submissions, available at http://www.epa.ie/pubs/reports/air/airemissions/airpollutantemissions/ Data on levels of atmospheric pollutants from the EPA's national ambient air quality monitoring network (http://www.epa.ie/air/quality/monitor/) Climate Change Advisory Council annual review (https://www.climatecouncil.ie/councilpublications/annualreviewandreport/) **Research** • Evaluating Ireland's Climate Policy Performance (Sabrina Dekker and Diarmuid Torney) http://www.epa.ie/pubs/reports/research/climate/research362.html • Synthesis of literature and preliminary modelling relevant to society-wide scenarios for effective climate change mitigation in Ireland (Barry McMullin and Paul Price) http://www.epa.ie/pubs/reports/research/climate/research352.html • TRANSLATE project is a Met Éireann funded project which will develop future "standard" climate scenarios for Ireland. • FLARES – Fire, Land and Atmospheric Remote sensing of Emissions research project, University College Cork	

National Road Network EV Charging Plan (NRNEVCP), formerly named 'National En-Route EV Charging Network Plan'

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
	• Department of Transport - Demand Management Study, 2021 (gov.ie - Five Cities Demand Management Study (www.gov.ie)) – This study helps to better understand what drives transport demand and how a greater shift to more sustainable and healthier forms of travel can be encouraged in Ireland's five largest urban centres.	
	The EPA welcome that both opportunities and key issues for each of the environmental criteria are scoped into the process. This will help in the assessment of the Plan objectives and what mitigation measures, or monitoring may be required.	Opportunities and key issues described in the NRNEVCP have been considered and integrated into the SEA Environmental Report. Consideration of the issues and opportunities have been included in the assessment of mitigation measures and monitoring in Chapter 9 of the SEA ER.
	Continued efforts should be made, by all relevant stakeholders, to closely align and integrate transport and land use planning. The Plan and SEA should consider options for developing sufficient charging infrastructure close to public transport hubs to encourage commuters to securely charge private vehicles while availing of public transport to travel into urban centres. This will also support safer active travel (walking/cycling) in cities and provide for less traffic congestion and better air quality outcomes.	Consideration of geospatial options will be assessed as part of the implementation of the NRNEVCP. Consideration will be given to urban nodes, regional and rural areas, coverage of tourist / seasonal hotspots and key economic sectors. This has been considered within the Plan.
	The SEA and Plan should take account of the latest GHG projections which can be found here https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/irelands-greenhouse-gas-emissions-projections-2022-2040.php .	Noted. This has been reviewed in relation to baseline condition of Air Quality, Noise & Climate in Chapter 5 of the ER.
	Section 5.5 – Water should include a reference to the latest published EPA water quality report Water Quality in 2022- An Indicators Report (EPA, 2023).	Noted. Section 5.5 of this SEA ER "Water" has been updated on the back of this comment.
	Regarding Section 5.8 - Landscape and visual aspects, the EPA will be publishing a guidance note on SEA and Landscape during Q3 2023. It may be useful to consider, once available, in preparing the draft Plan and associated SEA Environmental Report. Additionally, EPA is co-funding a research project – RELAVENT (Reframe Landscape Character Assessment), which is looking to prepare a toolkit to help landscape character assessments and is due to be completed in Q4 2023. It may also be worth considering in implementing the Plan.	Noted.
	In Figure A1, consider clarifying the area covered by the Plan. Highlighting the existing EV and supporting infrastructure covered by the Plan would be useful to help inform the scope of the environmental assessments.	Figure 16 of the National Roads Network EV Charging Plan outlines the existing TEN-T Core, TEN-T Comprehensive, Primary and Secondary national roads in Ireland which are covered under the Plan. A map of the TEN-T road network and existing EV charging infrastructure has been included in Figure 6 and Figure 16 of the NRNEVCP. Reference has been made to these figures in Figure 2.2 and Figure 5.1 of the NRNEVCP.

National Road Network EV Charging Plan (NRNEVCP), formerly named 'National En-Route EV Charging Network Plan'

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
	The SEA environmental report should clearly set out the scope, remit and implementation-related elements of the Plan. It is important to note that where it is envisaged that measures proposed in the Plan will be implemented via strategies and plans, which themselves have been or may be subject to SEA, this should be explained in the SEA Environmental Report and taken into account in the assessment. Where specific measures will be implemented directly, further detail should be provided in the Environmental Report and Plan on the relevant environmental assessments to be carried out at lower-level planning and project stages and relevant mitigation measures to be applied, as appropriate.	The details of the NRNEVCP are outlined in Section 2 of the SEA ER. It is stated in this Environmental Report that any plans/projects arising from the implementation of the NRNEVCP will be subject to appropriate feasibility, options and environmental assessment where required.
	There is merit in reviewing the EPA's SEA Spatial Information Sources Inventory to determine whether any additional information may be of relevant to the Plan and SEA. https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/sea-spatial-information-sources-inventory-.php	Use of this inventory has been noted and reviewed as a useful support to assist the SEA process.
	The key aspects of the Plan identified as having potential for likely significant environmental effects should help identify which environmental criteria may be more potentially impacted. This should help inform what environmental sensitivities are considered and the weightings assigned to those sensitivities.	The potential for likely significant effects has informed the environmental sensitivities and weightings of associated with those sensitivities. The methodology and weighting system applied is adopted from the EPA report 'GISEA Manual Improving the Evidence Base in SEA' and based on feedback from the scoping consultation process.
	Increasing the sensitivity weighting associated with high status water bodies (rivers/lakes/coastal/estuarine) from 5 to 10, to reflect their importance should be considered.	All weightings have been reviewed and updated on the back of comments made during the statutory consultee period.
	The EPA note the comprehensive nature of the objectives for the various environmental components set out in Table 7. Given that the Plan is national in scale, it may be more appropriate to split these objectives into a smaller number of higher-level environmental protection objectives (EPOs) which seek to address the key environmental objectives. These can be supported by sub-objectives for more specific elements of the Plan. Where possible, the EPOs should also be made more specific to the Plan and assessment being carried out.	Noted. The SEA Objectives, Targets and Indicators table in Section 6.2 of this SEA ER has been updated to include higher level objectives for each environmental topic.
	Table 7 – Strategic Environmental Objectives, Targets and Indicators should include reference to 'Noise' under the environmental topic 'Air and Climate' and take into account local authority noise action plans, where appropriate and relevant.	Noted. The Objectives, Indicators and Target Table in Section 6 of the SEA ER has been reviewed and updated accordingly in the Air, Noise and Climate Section. Noise has been incorporated under the Air Quality, Noise and Climate topic throughout the SEA ER.

National Road Network EV Charging Plan (NRNEVCP), formerly named 'National En-Route EV Charging Network Plan'

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
		Reference to local authority noise action plans have been considered throughout the SEA ER.
	The assessment of the EPOs against the Plan objectives could be done, taking account of the higher-level EPOs. The assessment for each environmental theme, could also include summary text of any aspects identified requiring mitigation, further assessment, policy wording changes/additions etc. For example, at a high level a water-related objective could commit to "Meeting the objectives of the Water Framework Directive", as relevant to the Plan. Additionally, a high-level biodiversity objective could be "Support achievement of the conservation objectives and requirements of the Birds and Habitats Directives, and other sites of nature conservation value."	Noted. The SEA Objectives, Targets and Indicators table in Section 6.2 of the SEA ER has been updated to include higher level objectives for each environmental topic. Where mitigation measures or further assessment is required, this is outlined in Table 9.1 of the SEA ER.
	In terms of selecting monitoring indicators, where possible these should take into account the potential impacts of the Plan and which monitoring indicators may be best placed to take these into account over the lifetime of the Plan. Using broader environmental monitoring, will make it more difficult to differentiate whether any changes in environmental quality relate to implementation of the Plan (needing to be mitigated) or relating to wider environmental changes not linked to the Plan.	Noted. This has been taken into consideration in the SEA ER. Due to the nature and scale of the NRNEVCP, only broader environmental monitoring measures can be included at this time. Any plans/projects arising from the implementation of the NRNEVCP will include more specific monitoring measures (as outlined in Table 9.2 of the SEA ER). This has been considered by ZEVI and DoT.
	In Table 1 – CAP23 Actions under 'ZEVI and Electrification Strategy' the EPA note the intention to publish a high-powered charging strategy and also note the intention to implement regional assembly and local authority EV network plans. Where relevant and appropriate, the requirements of the SEA and Habitats directives should be considered for these strategies and plans.	Noted. This has been considered by ZEVI and DoT.
	The EPA recommend including schematics in the Plan and SEA Environmental Report, showing the links and key inter-relationships with other key relevant national, regional, sectoral and environmental plans. This would clearly indicate how the various transport and land use plans are interlinked and demonstrate a connected outlook on transport planning on the island of Ireland. It would also be helpful to include a schematic of the hierarchy of transport planning and the Plans position within that overall framework.	This has been updated in Section 3 of the SEA ER.
	In particular, the Plan should take account of the National Strategic objective on Sustainable Mobility where investment will be made to progressively put in place sustainable transport alternatives to those currently available. Furthermore, the Plan should show clear connectivity between the objectives and goals of other national, regional and local transport strategies, e.g., metropolitan area transport strategies. In particular the Plan should ensure that the objective of the Plan aligns with the National Planning Framework and	Noted. This has been considered by ZEVI and DoT.

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	also takes account of County/City Development Plans and sectoral transport planning, as appropriate.	
	Biodiversity The Plan should integrate available, appropriately scaled, habitat mapping and take account of important green/blue infrastructure/ecological corridors. A commitment should be included in the Plan to protect designated national and European sites during Plan implementation. Aspects such as recognising the need to control and manage the potential spread of invasive species should also be considered. Additionally, the relevant aspects of the National Biodiversity Action Plan (currently being reviewed) and the All-Island Pollinator Plan should be integrated into the Plan.	Noted. This has been considered by ZEVI and DoT.
	Flood Risk Assessment – Integration of Strategic Flood Risk Assessment with SEA Relevant Flood Risk Management Plans and associated SEA Environmental Reports and Appropriate Assessments should be considered, in undertaking the Strategic Flood Risk Assessment for the Plan.	Noted. EPA Guidance documents have been referred to and incorporated into the SEA ER. Reference to flooding has been included under the "Water" heading throughout the report. Assessment of potential significant effects has been included under Chapter 8 of the SEA ER.
	The SEA should clearly set out the scope of the Plan, remit and implementation related elements. These will have implications for the SEA, in terms of guiding the level of assessment applicable at the appropriate level for the Plan. Where it is envisaged that measures proposed in the Plan 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.	Noted. Chapter 2 of the ER includes an introduction and overview of the NRNEVCP. Proposals included in the Plan have been assessed in the SEA ER in terms of significant effects on the environment – refer to Chapter 8. It is stated in this Environmental Report that any plans/projects arising from the implementation of the NRNEVCP will be subject to appropriate feasibility, options and environmental assessment where required.
	You should describe the alternatives considered and how the selection and assessment of these has led to the selection of the preferred alternative. You should assess the alternatives against the 'Strategic Environmental Objectives' identified in the SEA ER. The EPA's good practice guidance note on Developing and Assessing Alternatives in Strategic Environmental Assessment (EPA, 2015) may be useful to consider in preparing and assessing alternatives.	Consideration of alternatives have been included in Chapter 7 of the SEA ER. EPA Guidance documents have been referred to and incorporated into the SEA ER.
	The SEA should refer to the full range of environmental 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 and synergistic effects of the legislation. With regards the potential for cumulative effects, the EPA Guidance Practice Guidance Note on Cumulative Effects Assessment in	Assessment of potential environmental effects arising from the plan have been included in Chapter 8 of the SEA ER. EPA Guidance documents have been referred to and incorporated into the SEA ER.

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	Strategic Environmental Assessment (EPA, 2020) may be useful to consider in this context.	
	The SEA should identify any significant data and knowledge gaps and include commitments to help address these on a priority basis during the implementation phase of the Plan. This is with a view to strengthening the evidence base for future reviews and iterations of the Plan.	Due to the high-level nature of the Plan and non-specificity of geospatial locations for charging infrastructure at this time, data and knowledge gaps cannot be identified at this stage.
	The EPA note the reference in Chapter 8 of the scoping report relating to the next steps to be taken in the SEA process. There is merit in noting that the scoping for the SEA is dynamic and should continue to feed into the preparation of the SEA environmental report and draft Plan.	Noted. Scoping responses have been incorporated into the SEA ER.
	Following the completion of the public consultation on the SEA and the Plan, while ongoing opportunities are presented for integration during the SEA process, the final stages of the SEA process are to integrate the environmental considerations of the SEA environmental report into the Plan, as appropriate. In accordance with Article 16 of the SEA Regulations, a SEA Statement should be published alongside the adopted Plan, summarising: • how environmental considerations have been integrated into the Plan • how the environmental report and consultation comments on it have been taken into account. • the reasons for choosing the Plan as adopted, in light of the other reasonable alternatives dealt with (in the Environmental Report and the associated consulting) • the measures decided concerning monitoring. The EPA has published Guidance on SEA Statements and Monitoring, which should be considered in preparing the SEA statement.	The SEA statement, when published, will include information on how submissions, observations and consultation feedback made to ZEVI and DoT during the SEA process have been incorporated into the NRNEVCP. Reference will be made to the EPA Guidance on SEA Statements and Monitoring as part of this process.
	The EPA website contains various SEA resources and guidance, including: - SEA process guidance and checklists - Topic specific SEA guidance (including SEA Guidance for the Tourism Sector (EPA, 2023), Good practice note on Cumulative Effects Assessment (EPA, 2020), Guidance on SEA Statements and Monitoring (EPA, 2020), Integrating climatic factors into SEA (EPA, 2019), Developing and Assessing Alternatives in SEA (EPA, 2015), and Integrated Biodiversity Impact Assessment (EPA, 2012)).	Noted. EPA Guidance documents have been referred to and incorporated into the SEA ER.
	The ESM Webtool is a decision support tool to assist SEA and planning processes in Ireland. The tool brings together over 100 datasets and allows	Use of this tool has been noted and reviewed as a useful support tool to assist the SEA process.

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	users to explore environmental considerations within a particular area and create plan-specific environmental sensitivity maps. These maps can help planners anticipate potential land-use conflicts and help identify suitable development locations, while also protecting the environment. The ESM Webtool is available at www.enviromap.ie.	
	The EPA SEA Search and Reporting Tool is 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.	Use of this tool has been noted and reviewed as a useful support tool to assist the SEA process.
	The EPA 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 for each European Site within the area. It is available at: https://gis.epa.ie/EPAMaps/AAGeoTool.	Use of this tool has been noted and reviewed as a useful support tool to assist the SEA process.
Department of Environment, Climate and Communications on behalf of Geological Survey of Ireland (GSI)	Geological Survey Ireland encourage the use of and reference to their datasets. This data can add to the content and robustness of the SEA process. With this in mind a list of GSI publicly available datasets that may be useful to the environmental assessment and planning process have been included in the submission. GSI recommend that this list is reviewed and any datasets you consider relevant to the assessment are referred to. The remainder of the letter and following sections provide more detail on some of these datasets.	Use of the various data sets included in this submission have been noted and reviewed as useful support tools to assist the SEA process.
	Geoheritage Geological Survey Ireland is in partnership with the National Parks and Wildlife Service (NPWS) in the Department of Culture, Heritage and the Gaeltacht to identify and select important geological and geomorphological sites throughout the country for designation as geological NHAs (Natural Heritage Areas). This is addressed by the Geoheritage Programme in Geological Survey Ireland, under 16 different geological themes, in which the minimum number of scientifically significant sites that best represent the theme were rigorously selected by a panel of theme experts. County Geological Sites (CGSs) have been adopted in the National Heritage Plan and will form a major strand of geological nature conservation to complement the various ecological and cultural conservation measures. It is important to note however, that management issues for the majority of geological heritage sites may differ from ecological sites. County Geological Sites are the optimal way of addressing the responsibility of each authority	Noted. The GSI website and records, and the National Heritage Plan (Heritage Ireland 2030) have all been reviewed with reference to County Geological Sites (CGSs). GSI Geological Heritage Sites have been illustrated in Figure A6 of the SEA Scoping Report and are included in Appendix A of this Environmental Report.

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	under the Planning and Development Act 2000 and its amendments, to protect sites of geological interest. Currently 29 local authority areas have completed geological heritage audits, and one is currently under way, (Cork County), creating an almost national level of audited sites. Completed audits for the 29 local authority areas can be viewed and downloaded here.	
	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. GSI recommend using the groundwater maps on the GSI 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. 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. Geological Survey Ireland has completed Groundwater Protection Schemes (GWPSs) in partnership with Local Authorities, and there is now national coverage of GWPS mapping. A Groundwater Protection Scheme provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater. The Groundwater Protection Response overview and link to the main reports is here: https://www.gsi.ie/en-ie/programmes-and-projects/groundwater/projects/protecting-drinking-water/what-is-drinking-water-protection/county-groundwater-protection-schemes/Pages/default.asp	This comment is welcomed. Use of GSI's Groundwater Resources have been reviewed and utilised throughout the SEA process. Groundwater Body Quality Status in the vicinity of the plan area has been illustrated in Figure A13, Groundwater Public Supply Source Protection Zones have been illustrated in Figure A15, Appendix A of the SEA Scoping Report and also in Appendix A of the SEA ER. Reference to flooding has been included under the "Water" heading throughout the report. Assessment of potential significant effects has been included under Chapter 8 of the SEA ER.
	Geological Mapping	Use of the Geological Survey Ireland's online datasets of bedrock and subsoils geological mapping have been reviewed in full and

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	Geological Survey Ireland maintains online datasets of bedrock and subsoils geological mapping that are reliable and accessible. We would encourage you to use these data which can be found here, in future assessments. Please note we have recently launched QGIS compatible bedrock (100K) and Quaternary geology map data, with instructional manuals and videos. This makes GSI data more accessible to general public and external stakeholders. QGIS compatible data can be found in the downloadable bedrock 100k .zip file on the Data & Maps section of the GSI website. GSI 3D models can help stakeholders visualize, understand and characterise geology, for deposit and resource mapping, for flooding and for urban geology applications including basement impact assessment, Sustainable Drainage Systems (SuDS), and subsurface management. GSI 3D models offer a key element of geotechnical risk management by identifying areas requiring further site investigation.	incorporated throughout the SEA Scoping and SEA Environmental Report.
	<u>Geohazards</u> 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 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.	Use of the GSI databases included in this submission have been noted and reviewed as useful support tools to assist the SEA process. Reference to flooding has been included under the "Water" heading throughout the report. Assessment of potential significant effects has been included under Chapter 8 of the SEA ER.
	<u>Natural Resources (Minerals/Aggregates)</u> Geological Survey Ireland provides data, maps, interpretations and advice on matters related to minerals, their use and their development in the Minerals section of the website. The Active Quarries, Mineral Localities and the Aggregate Potential maps are available on the GSI Map Viewer.	The Plan provides a high-level overview of the proposed implementation of EV charging infrastructure across the Irish road network. Identification of locations has not yet been considered at this stage. Reference to minerals or aggregates is not considered relevant at this stage.

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	GSI 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 GSI would recommend use of the GSI data and mapping viewers to identify and ensure that natural resources used in any proposed EV infrastructure developments are sustainably sourced from properly recognised and licensed facilities, and that consideration of future resource sterilization is considered.	
	<u>Geochemistry of soils, surface waters and sediments</u> Geological Survey Ireland provides baseline geochemistry data for Ireland as part of the Tellus programme. Baseline geochemistry data can be used to assess the chemical status of soil and water at a regional scale and to support the assessment of existing or potential impacts of human activity on environmental chemical quality. Tellus is a national-scale mapping programme which provides multi-element data for shallow soil, stream sediment and stream water in Ireland. At present, mapping consists of the border, western and midland regions. Data is available at https://www.gsi.ie/en-ie/data-and-maps/Pages/Geochemistry.aspx. This page also hosts urban geochemistry mapping (Dublin SURGE project), Geochemical Mapping of Agricultural and Grazing Land Soil of Europe (GEMAS) and lithogeochemistry (rock geochemistry) from southeast Ireland datasets. Geological Survey Ireland and partners are undertaking applied geochemistry projects to provide data for agriculture (Terra Soil), waste soil characterisation (Geochemically Appropriate Levels for Soil Recovery Facilities) and mineral exploration (Mineral Prospectivity Mapping).	This comment is welcomed, and Geological Survey Ireland's Tellus programme has been reviewed as useful support tools to assist the SEA process.
	<u>Historic Mines</u> The EPA, Geological Survey Ireland and the former Exploration & Mining Division undertook a joint project entitled "Historic Mine Site - Inventory and Risk Characterisation (HMS - IRC)". This project carried out detailed site investigations and characterisation on priority historic mine sites in the country. A risk ranking methodology was developed which categorised the sites according to the risks posed to human and animal health and the environment. The project commenced in January 2006 and was completed in December 2008. A final report and a GIS geodatabase was produced on completion of the project. Reports and maps available here. The project provides an	Noted. The GSI database has been reviewed in relation to this final report and mapping produced for historic mining in Ireland to assist with the SEA Environmental Report.

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	understanding of the impacts of historic mining sites in Ireland and their status at the time of the study.	
	Physiographic Units Physiographic Units are cartographic representations of the broad-scale physical landscape of a region. They delineate physical regions showing internal uniformity with respect to one or more environmental attributes that can be clearly differentiated from neighbouring regions. They are valuable for regional land-use planning, and in studies of the influence of physical landscape on the ecological environment. This map is produced in support of the actions to be implemented in National Landscape Strategy for Ireland 2015 – 2025. Physiographic Units map data can be viewed online under the Physiographic Units tab on the online Map Viewer.	Noted. The GSI database has been reviewed in relation physiographic units to assist with the SEA Environmental Report.
Department for Communities, Historic Environment Division (HED)	HED welcome the consideration of transboundary issues in relation to Northern Irelands historic environment. In order to assist in identification of potential project specific transboundary impacts HED advise that their full suite of currently recorded heritage assets (including architectural, historic parks and gardens, industrial and defence heritage, as well as archaeological) are available spatially via their downloadable Historic Environment Digital Datasets (Historic Environment Digital Datasets | Department for Communities (communities-ni.gov.uk)) and our Historic Environment Map Viewer | Department for Communities (communities-ni.gov.uk) (Historic Environment Map Viewer | Department for Communities (communities-ni.gov.uk))	Noted. The HED datasets have been reviewed when considering transboundary impacts as part of the SEA ER.
Department of Agriculture, Environment and Rural Affairs (DAERA)	DAERA welcomes the inclusion of transboundary issues incorporated into the Scoping Report. DAERA would 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 the environment of 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. The assessment of transboundary impacts has been included as part of the current state of the environment section in Chapter 5 of the SEA ER. Any potential significant impact has been identified in this section of the report. The assessment of significant effects outlined in Section 8 of the SEA ER report also accounts for transboundary effects of the NRNEVCP on Northern Ireland. Where there is potential for any significant effects to occur, particularly in relation to the air quality, climate and water assessments that have been detailed in Section 8.2 – Section 8.4 of the SEA ER, the potential for transboundary effects between the Republic of Ireland and Northern Ireland have also been considered throughout the assessment process. Refer to Section 8 of the SEA ER for further detail.

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		Measures proposed to mitigate any significant adverse effects on the environment have been included in Chapter 9 of the SEA ER.
DAERA Natural Environment Division (NED)	Although screening for a Habitats Regulations Assessment (HRA) has not yet been carried out, NED notes from p 5 of the scoping report that an AA Screening (Stage 1) will be undertaken to examine potential adverse impacts of the EVCI on Natura 2000 sites. Considerations with regard to HRA should assess direct and indirect effects on designated sites including potential emissions and hydrological links to include any potential impacts to NSN* sites within Northern Ireland that may be impacted by the EVCI and NED look forward to commenting on this. The NED would reiterate that the results of the screening and any resulting AA should be included along with the final SEA Environmental Report (ER). *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" (NSN) sites within the United Kingdom, which includes Northern Ireland.	Noted. For consideration in the AA screening report and NIS. The results of the AA screening and resulting AA will be included with the SEA Environmental Report.
	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). 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.daera-ni.gov.uk/publications/biodiversity-strategy-northern-ireland-2020-0 • Draft Environment Strategy https://www.daera-ni.gov.uk/consultations/esni-public-discussion-document • The Draft NI peatland policy: https://www.daera-ni.gov.uk/consultations/ni-peatland-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)	All relevant legislation will be adhered to in full during the implementation of the NRNEVCP.

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	• Northern Ireland Energy Strategy 2050 Northern Ireland Energy Strategy 2050 | Department for the Economy (economy-ni.gov.uk) 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.daera-ni.gov.uk/publications/state-environment-report-2013 • Northern Ireland Environmental Statistics Reports: https://www.daera-ni.gov.uk/articles/northern-ireland-environmental-statistics-report Other relevant web-links are: • Designated Scientific Sites: www.daera-ni.gov.uk/landing-pages/protected-areas • Regional Landscape Character Map viewer: https://www.daera-ni.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 DAERA 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-directive-report-2019/ and the UK Article 12 report for the Birds Directive https://jncc.gov.uk/our-work/european-reporting/#birds-directive-reporting	Noted. A Natura Impact Statement (NIS) has been prepared for the NRNEVCP. NED will have the opportunity to comment on the NIS during the consultation period.
	Transboundary issues arising from this plan should be considered as part of the forthcoming SEA including the potential disturbance to/impact on NI/RoI migratory/mobile species. Cross border designated sites, European sites in Northern Ireland adjacent to or with pathways to/from the Republic of Ireland, priority habitats, river basins, and other landscape types also require special attention as ecological functionality and 'views' of landscape cross political boundaries. The SEA should consider all potential impacts including those which may impact Northern Ireland both directly and indirectly. Consideration should be given to all potential impacts on NI habitats (particularly designated sites, priority habitats and those important for migratory species and NI populations) including habitat quality and conservation status.	Consideration of potential transboundary impacts have been included within Chapter 5 of the SEA ER with reference to environmental topics. This includes consideration of designated site, European sites, priority habitats, river basins and other landscape types. The assessment of significant effects outlined in Section 8 of the SEA ER report also accounts for transboundary effects of the NRNEVCP on Northern Ireland. Where there is potential for any significant effects to occur, particularly in relation to the air quality, climate and water assessments that have been detailed in Section 8.2 – Section 8.4 of the SEA ER, the potential for transboundary effects between the Republic of Ireland and Northern Ireland have also been considered throughout the

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		assessment process. Refer to Section 8 of the SEA ER for further detail.
	DAERA SEA Team are content that the issues included in the scoping report include all those listed in the SEA Directive and considers that all issues scoped in should be included in the environmental report.	Noted.
	NED notes from the maps in appendix A that little to no consideration seems to have been given to transboundary issues during the sensitivity mapping. For example, although the Lough Melvin SAC has been included on the RoI side of the border the NI side has not been considered, as the SAC boundary cuts off at the border. As one ecological system with the same protections in place this should be highlighted. Similar issues would arise with geological sites, rivers, and lakes. NED would require a suitable buffer across the border to be included in the mapping to account for any transboundary issues that may arise.	The potential for likely significant effects has informed the environmental sensitivities and weightings of associated with those sensitivities. Consideration of transboundary issues have been included within this assessment in Chapter 8 of the SEA ER. The methodology and weighting system applied is adopted from the EPA report 'GISEA Manual Improving the Evidence Base in SEA' and based on feedback from the scoping consultation process.
	NED has no comment on the removal of sensitivities from the mapping and would highlight that it is up to the responsible authority to satisfy themselves that the analysis is robust and appropriate.	Noted.
	NED has no comment to make regarding any recommended changes to the weightings set out in the sensitivity mapping.	Noted.
	NED is content with the proposed objectives, targets and indicators as they have been presented in the scoping report.	Noted.
	NED require that a statement as to the impact of the plan on Northern Ireland designated sites, environment and protected / priority species to be included in the environmental report.	Noted. A statement of the transboundary impact has been included in Chapter 5 of the SEA ER under each environmental issue.
	In the biodiversity key issues and opportunities section on page 21, any habitat removal which may impact species along the border must be taken into consideration in the ER. With respect to biodiversity net gain, careful consideration must be given to species and habitats across the border. No works should be considered where there will be disruption to habitats or connectivity across the border even if there will be a net gain elsewhere as this may result in net loss of biodiversity in NI. Ecological functionality must be maintained across the border.	Noted. Consideration of potential habitat removal along the border has been taken into account in the SEA ER.
DAEFA Drinking Water Inspectorate	With regard to Transboundary potential, consultation with Northern Ireland Water Limited (water undertaker for Northern Ireland) is recommended. All catchments are considered as Drinking Water Protection Areas (DWPAs) under Article 7 of the Water Framework Directive. The nationwide basins are	There is no statutory requirement to liaise with these bodies at scoping stage. Northern Ireland Water Limited will have an opportunity to comment on the SEA ER and Plan at that stage.

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	utilised by the NI Water, to provide the public supply of water. Consideration should be given to the location of any works and protection of DWPAs.	Consideration of transboundary impacts on drinking water supply has been included under Material Assets in Section 5.9 and Chapter 8 of the SEA ER. Mitigation measures and monitoring has been suggested in Chapter 9 of the SEA ER.
	NI Water has a regulatory obligation, under Regulation 30 of The Water Supply (Water Quality) Regulations (Northern Ireland) 2017, to undertake risk assessments of all aspects of its drinking water supply systems from catchment through to consumers' taps. The data of any proposed works should be forwarded to NI Water for integration into their risk assessments to determine any potential impact on the management of its drinking water abstractions.	All relevant stakeholders will be consulted with during the implementation of the NRNEVCP. Consideration of transboundary impacts on drinking water supply has been included under Material Assets in Section 5.9 and Chapter 8 of the SEA ER. Mitigation measures and monitoring has been suggested in Chapter 9 of the SEA ER.
	Any EVCI locations must not impact on either the quality or sufficiency of a private water supply, and mitigation measures must be put in place, where required, in the protection of such drinking water supplies. Dependent on the scale, type, location and the potential impacts the proposal may have on such supplies the developer should undertake a scoping exercise to determine the location of any private water supplies. In Northern Ireland, this search can be completed at the following viewer: Drinking Water Inspectorate Viewer (daera-ni.gov.uk)	Noted. Potential transboundary impacts have been considered as part of this SEA ER. Key issues for each environmental topic including drinking water have been identified in Chapter 5 and considered as part of the assessment for significant effects in Chapter 8 of the SEA ER. Proposed mitigation and monitoring measure have been included in Chapter 9 of the SEA ER.
DAEFA Water Management Unit	The SEA should consider all potential transboundary issues in relation to the aquatic environment. While impacts to the aquatic environment may be more pronounced during the construction phase, all aspects / phases in relation to the Draft National En-Route EV Charging Network Plan. This includes (but not limited to) the potential disturbance to/impact on NI/RoI migratory/mobile species such as salmon. Such species rely on, and can be impacted by, water quality and water resource issues.	Noted. This has been taken into account in this SEA ER where appropriate.
	Cross border river basins require special attention as ecological functionality cross jurisdictional boundaries. Assessment should consider all potential impacts including those which may impact Northern Ireland both directly and indirectly. After consideration, the SEA should clearly state whether, or not, any potential impacts to the aquatic environment in Northern Ireland have been identified and the nature of those impacts. (Water Management Unit notes both the initial consideration of baseline conditions in Northern Ireland in relation to the aquatic environment and the recognition that he potential for increased EVCI and associated works brings forth the potential for similar issues to those identified for the RoI).	Noted. Consideration of potential transboundary impacts have been included within Chapter 5 of the SEA ER with reference to environmental topics. This includes reference to cross border river basins and the aquatic environment. Reference to potential impacts have been included in the assessment of significant effects in Chapter 8 of the SEA ER. The assessment of significant effects outlined in Section 8 of SEA ER report also accounts for transboundary effects of the NRNEVCP on Northern Ireland. Where there is potential for any significant effects to occur, particularly in relation to the air quality, climate and water

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Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
		assessments that have been detailed in Section 8.2 – Section 8.4 of the SEA ER, the potential for transboundary effects between the Republic of Ireland and Northern Ireland have also been considered throughout the assessment process. Refer to Section 8 of the SEA ER for further detail.
	Regarding relevant plans and programmes, River Basin Management Plans are the key tools for implementing the Water Framework Directive and to achieving its objectives. Water Management Unit recommends NI River Basin Management Plans are considered during the SEA process. DAERA has published the Draft River Basin Management Plan for the 3rd cycle period which runs from 2021-2027 should be considered as part of the assessment. The draft plan provides an update on the health of Northern Ireland's water environment (the status of water bodies) and sets out our targets (objectives) and actions (programme of measures) on how we want to improve our water environment in the next six years. The draft plan covers the North Western, Neagh Bann and North Eastern river basin districts (RBD) and includes detailed status updates on each RBD. The documents can be downloaded from the consultation webpage: https://www.daera-ni.gov.uk/consultations/consultation-draft-3rd-cycle-river-basin-management-plan-2021-2027 DAERA issued a consultation document on Significant Water Management Issues to inform the development of the third cycle River Basin Management Plan (2021-2027). This identified the most significant pressures on water quality in Northern Ireland. Further details on this issue can be found at Planning for the third cycle River Basin Management Plan 2021-2027 - Consultation on Significant Water Management Issues December 2019 | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk)	Consideration of potential transboundary impacts have been included within Chapter 5 of the SEA ER with reference to environmental topics. Due regard has been given to River Basin Management Plans in Section 5.5, Section 6 and Section 9 under the environmental topic "Water" of the SEA ER. The assessment of significant effects outlined in Section 8 of the SEA ER report also accounts for transboundary effects of the NRNEVCP on Northern Ireland. Where there is potential for any significant effects to occur, particularly in relation to the air quality, climate and water assessments that have been detailed in Section 8.2 – Section 8.4 of the SEA ER, the potential for transboundary effects between the Republic of Ireland and Northern Ireland have also been considered throughout the assessment process. Refer to Section 8 of the SEA ER for further detail.
	Water Management Unit notes, and welcomes, reference to The Water Framework Directive Statistics Report published in December 2021 by NIEA which present the statistics on the state of the water environment in Northern Ireland. A number of other useful information sources are available that highlight the current state of the environment in Northern Ireland at a regional level which could be referenced. This includes the Northern Ireland Environmental Statistics Report the latest of which currently dated May 2023. Northern Ireland Environmental Statistics Reports: https://www.daera-ni.gov.uk/articles/northern-ireland-environmental-statistics-report	Consideration of potential transboundary impacts have been included within Chapter 5 of the SEA ER with reference to environmental topics. This has been updated to include reference to the Water Framework Directive Statistics Report and Northern Ireland Environmental Statistics Report. Due regard has been given to River Basin Management Plans in Section 5.5, Section 6 and Section 9 of the SEA ER under the environmental topic "Water".
	Where adverse impacts on the aquatic environment are identified during the SEA process, relevant and appropriate mitigation measures should be proposed. In addition, monitoring regimes should be identified (including	Refer to Section 9 on Mitigation and Monitoring. All Measures in the NRNEVCP have been mitigated against and covered off through the

National Road Network EV Charging Plan (NRNEVCP), formerly named 'National En-Route EV Charging Network Plan'

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
	where feasible, consideration of the frequency of monitoring, appropriate analysis, and reporting) to ensure both the efficacy of those mitigation measures and identify any unforeseen impacts to the aquatic environment that may arise from implementation of the Draft National En-Route EV Charging Network Plan.	Strategic Environmental Assessment detailed in the SEA Environmental Report.
DAERA Landscape Team	The Landscape Team welcomes that landscape character and visual amenity has been considered within the scoping report and the consideration of transboundary issues in relation to Northern Ireland's landscape and visual amenity.	Noted.
	There may be potential for the plan to impact landscape and visual amenity of the Northern Ireland landscape, particularly in areas adjacent to the border. Therefore consideration of potential transboundary landscape and visual impacts is of paramount importance. There are several areas designated for their landscape quality located on or close to the border, such as Ring of Gullion Area of Outstanding Natural Beauty (AONB), the landscape around AONBs performs an important function by providing context, particularly in views to and from the AONB. The following link details where additional information on the AONBs can be resourced; https://www.daera-ni.gov.uk/topics/land-and-landscapes/areas-outstanding-natural-beauty	Consideration of areas of outstanding natural beauty has been included in Section 5.8 of the SEA ER.
	The Northern Ireland Landscape Character Assessment could also be used for any potential transboundary landscape impacts. There are two Landscape Character Assessments for Northern Ireland, The Northern Ireland Landscape Character Assessment 2000 (NILCA 2000) and NI Regional Landscape Character Assessment. The NILCA 2000 has subdivided the NI countryside into 130 Landscape Character Areas (LCAs), each based upon local patterns of geology, landform, land use, cultural and ecological features. The key characteristics are described and an analysis of landscape condition and its sensitivity to change are also included. The NILCA 2000 provides detailed local studies and is complemented by the NI Regional Landscape Character Assessment, this provides a strategic overview of the landscape in Northern Ireland and subdivides the countryside into 26 Regional Landscape Character Areas based upon information on people and place and the combinations of nature, culture and perception which make each part of Northern Ireland unique. Both could be consulted for impacts in border areas. The following link details the Northern Ireland Regional Landscape Character Assessment and Northern Ireland Landscape Character Assessment 2000; https://www.daera-ni.gov.uk/articles/landscape-character-northern-ireland	Reference to these character assessments is made in Section 5.8 of this Environmental Report.

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
	Cuilcagh Lakelands UNESCO Global Geopark, formerly Marble Arch Caves UNESCO Global Geopark, crosses the Northern Ireland and Republic of Ireland border, and the Mourne Gullion Strangford UNESCO Global Geopark located along the southeast border of Northern Ireland may potentially be impacted by the EV Charging Infrastructure Plan. UNESCO's Global Geoparks are areas of internationally important rocks and landscapes, all of which are managed responsibly for conservation, education, and sustainable development, and could maybe be considered within the SEA Environmental Statement.	Reference to UNESCO world heritage sites has been included in Section 5.7 of this report under Archaeology, Architectural and Cultural Heritage. Consideration of potential transboundary impacts have been included within the assessment of significant effects in Chapter 8 of this SEA ER.
	The NIEA Map Viewer may be of use in identifying NILCA 2000, NI Regional Landscape Character Assessment (NIRLCA) locations and AONBs, located in border areas that may be impacted by transboundary landscape and visual impacts. (https://www.daera-ni.gov.uk/services/natural-environment-map-viewer)	Use of this tool has been noted and reviewed as a useful map viewer to assist the SEA process.
DAERA Natural Environment Division Air Quality and Biodiversity Unity	Natural Environment Division - Air Quality and Biodiversity Unit welcome the opportunity to comment on the SEA Scoping Report. • Page 28 – unfinished sentence 'Ambient air quality in Northern Ireland is regulated….' • Page 28 – worth mentioning status of ammonia levels in NI Environmental Statistic Report 2023 (Northern Ireland Environmental Statistics Report 2023 (daera-ni.gov.uk). Will the Plan have any [minimal] effect on ammonia emissions e.g. through reduced use of Ad Blu for diesel cars?	Noted. Items on page 28 of the SEA ER have been addressed and updated. Ammonia levels in the NI Environmental Report 2023 arise from the presence of fertilisers and it was not deemed applicable to include under the baseline assessment. Reference to ammonia emissions reduction as a result of reduced use of Ad Blu for diesel cars has been made within the assessment of significant effects in Chapter 8 of the SEA ER.
DAERA Marine and Fisheries Division	With regards to legislation which should be taken into account within the DAERA jurisdiction this should include reference to – The Fisheries Act (NI) 1966 (as amended). With particular consideration where appropriate to the sections as follows – • Section 47 of the Fisheries Act (NI) 1966, which covers the applicant's responsibilities relating to Penalties for Pollution and the consequences of causing or permitting the release of any Deleterious materials into any waters. • Section 48 Any works in or on the riverbank must be permitted under section 48 of the Fisheries Act (Northern Ireland) 1966 which is issued by DAERA Inland Fisheries. • Section 54 of the Fisheries Act (NI) 1966 (as amended) relates to the Construction of fish passes in dams in rivers (maintenance of fish passage over any dam) • Sections 58 and 59 which relate to Water Abstractions.	All relevant legislation will be adhered to in full during the implementation of the NRNEVCP.

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
	With regards to other Plans or Policies which may be impacted we would recommend the inclusion of – • In relation to transboundary catchments Inland fisheries would recommend that any SEA/AA be cognisant of the North Atlantic Salmon Conservation Organisation (NASCO), Convention for the Conservation of Salmon in the North Atlantic Implementation Plan for the period 2019 – 2024, this an international commitment for Northern Ireland (as part of the UK; ROI through the EU is also a signatory) and should be included in any policy has the potential to impact this species and the goals of this plan. • If any transboundary watercourses within DAERA Inland Fisheries jurisdiction are impacted by the policy or plan should be considered in any SEA, should include non-designated sites and the assessment should consider Priority Fish Species and their Priority Habitats as listed by NIEA. An SEA should also consider fish migration, habitat fragmentation and degradation. • The Loughs Agency is the lead body for provision of advice regarding impacts to salmonid and inland fisheries interests within the catchments of Lough Foyle and Carlingford Lough. Consequently, said agency should also be consulted in relation to any impacts to salmon and inland fisheries within their jurisdiction.	All relevant legislation will be adhered to in full during the implementation of the NRNEVCP. Potential impacts on non-designated sites, priority fish species and priority habitats have been considered in full in Section 5 and Section 8 of the SEA Environmental Report under the Biodiversity and Water headings. There is no statutory requirement to liaise with these bodies at scoping stage. All relevant stakeholders will be consulted with during the implementation of the NRNEVCP. The Loughs Agency will have an opportunity to comment on the SEA ER and Plan at that stage.
DAERA Marine Plan Team (MPT)	Having reviewed the supplied consultation document and being aware of the mostly terrestrial nature of any future developments and proposals, the Marine Plan team are concerned to note the complete lack of any marine related consideration (either legislation or marine related issues) within the scoping report – both for the RoI or as part of a wide transboundary NI setting. This is particularly relevant as it is widely perceived that EV charging will lead to a greatly increased electricity usage, requiring greater renewables generation (including that from offshore wind) to meet that demand. It is considered the inclusion of such a consideration now will enable the subsequent Environmental Report to be fully compliant in terms of considering and assessing all likely impacts that the proposed plan may have on the marine environment and coastal area, including seascape. To assist, the MPT would suggest reference is made and consideration is given to: **Republic of Ireland** • The National Marine Planning Framework (NMPF) **Northern Ireland** • Marine Act (NI) 2013	All relevant legislation will be adhered to in full during the implementation of the NRNEVCP.

Consultee/Stakeholder	SEA Scoping Response[4]	SEA Actions
	• Marine and Coastal Access Act 2009 • UK Marine Policy Statement 2011 • Draft Marine Plan for Northern Ireland 2018 • Integrated Coastal Zone Management Strategy for Northern Ireland 2006-2026 • Draft 3rd cycle River Basin Management Plan (RBMP) for Northern Ireland 2021-2027	

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4.4 Baseline Data

Gathering relevant information relating to the state of the baseline 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. A Geographical Information System (GIS) was used to graphically present relevant information. 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 Plan, 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.

4.7 Environmental Assessment of the National Road Network EV Charging Plan

The environmental assessment process ran in parallel to the development and preparation of NRNEVCP. 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 NRNEVCP and proposals for suitable mitigation measures along with monitoring.

4.8 SEA Statement

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

It will highlight the following:

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

4.9 Consultations

Further to the SEA Scoping consultation outlined in Section 4.3, this SEA Environmental Report will be issued to the relevant statutory stakeholders for comment. The responses received will be addressed in the finalisation of the Environmental Report. An outline of the responses received will be included in the SEA Statement.

4.10 Technical Difficulties Encountered

Data relating to land cover on the Republic of Ireland was taken from the European Environmental Agency (EEA) CORINE (Coordination of Information on the Environment) land cover data series, which is an EU-wide inventory of land cover in 44 classes categorised from satellite photography. The new national land cover map prepared by the National Mapping Division of Tailte Éireann, was considered too detailed for a national level plan.

No further technical difficulties were encountered during the preparation of this Environmental Report.

5. Current State of the Environment

5.1 Introduction

An assessment of the current state of the environment and key environmental issues across the Republic of Ireland was conducted within the National Road Network EV Charging Plan SEA Scoping Report. GIS is used extensively to provide national information.

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 & Human Health;
- Biodiversity (note: the topic of marine environment and aquatic species have been assessed under Biodiversity);
- Land & Soil;
- Water (note: the topic of marine environment has been assessed under Water);
- Air Quality, Noise & Climate;
- Archaeology, Architectural & Cultural Heritage;
- Landscape & Visual; and
- Material Assets.

In accordance with S.I. 436 of 2004 (as amended) consideration will 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, as extracted from the SEA Scoping Report, unless otherwise stated.

The SEA Directive requires that where the NRNEVCP has potential for transboundary environmental effects these must be addressed within the SEA. Where relevant and or appropriate, potential transboundary effects in Northern Ireland are included, as it is considered that significant effects may be likely due to the extensive nature of the border between the Republic of Ireland and Northern Ireland. In addition, mitigation which has been developed as part of this SEA can be applied for any potential transboundary effects in the same manner in which they are applied for effects in the Republic of Ireland. A transboundary baseline has been provided in Sections 5.2 to 5.9.

5.1.1 Overview of Electric Vehicles in Ireland

The use of EVs in Ireland has seen significant growth in recent years. By the end of 2022, it is estimated that a total of approximately 73,576 EVs were registered in Ireland. This represents a 57% increase in the use of electric vehicles from the 2021. The majority of these EVs (53%) are battery electric vehicles (BEVs) and the remaining 47% are plug-in hybrid electric vehicles (PHEVs). This increasing trend is expected to continue in the coming years to meet the government's ambitious target which aims to have all new cars sold in Ireland to be zero-emission by 2030, five years in advance of the target set by European regulations (2035).

To accommodate for the rise in EV uptake across the country, Ireland's EV charging infrastructure has concurrently expanded, with approximately 2,100 public charging points and 1,800 en-route charge points currently available to road users. This is highlighted in Figure 5.1.

Most of the EV charging units available across the country are fast charging stations with an ability to charge an EV to 80% in 20 to 30 minutes. These stations are strategically located in services areas along motorways or on the major national road network. There are currently 22 online services areas which provide EV charging across Ireland and four EV charging pools which provide significant charging opportunities.

The AFIR requires the implementation of separated dedicated charging bays for HDVs, however, at present only one initiative for this has been initiated for public infrastructure in Ireland at Mullingar.

In Ireland, the National Road Network consists of approximately 5,300km of National Primary (including motorways) and National Secondary roads. Within this network, approximately 500km comprise the Core network and 1,700 km the Comprehensive network of the TEN-T for Ireland. This is an EU initiative to develop a comprehensive and interconnected transportation infrastructure network across member states and includes road, rail, inland waterways and maritime transport.

The TEN-T network provides almost enough geographic coverage to enable EV charging infrastructure to accommodate the minimum standards set by the Alternative Fuels Infrastructure Regulation for 2025 (400kW capacity every 60km on the Core Network).

Despite the growing uptake of electric vehicles ownership in Ireland, significant development is required to meet user demands and AFIR targets for EV charging infrastructure across the TEN-T network to ensure full coverage, reliability and accessibility for all EV users.

Figure 5.1 Current EV charging infrastructure on the Irish National Road Network | Source: NRNEVCP; Fig. 6

5.2 Population and Human Health

5.2.1 Baseline

This section describes the baseline Population & Human Health environment of the Republic of Ireland.

5.2.1.1 Population

This section summarises some key results of the 2022 Census for Ireland which, at the time of writing, is the most recent Census.

The 2022 Census results outline a population of 5,149,139 for Ireland, making it the first year since 1851 to have a population greater than 5 million. This is an increase of 8.1%, almost twice the increase rate on the 2016 Census (4,761,865)[5]. The population of Ireland has generally been rising since the 1960's as a result of declines in emigration, an increase in birth rate and declining death rates. Between 2016 and 2022, the population grew by an average of growth rate of 1.3%.

At 11 people per 1,000 of the population between 2016 and 2022, Fingal recorded the highest annual average natural increase in population. The next highest were Kildare, South Dublin and Meath, all recording 9 people per 1,000. Kerry and Mayo had the lowest annual average natural increase with 3 people per 1,000. The highest average annual net inward migration was recorded for Longford at 17 people per 1,000 of the population from 2016 to 2022. The counties with the lowest annual average net migration include Kilkenny and Tipperary, both at 4 people per 1,000.

The average age of the population increased from 37.4 years in 2016 to 38.8 years in 2022. In the 11 years between 2011 and 2022, the average age increased by 2.7 years and by 3.7 years since 2002. Figure 5.2 shows the population change since 2016 by County (%).

Ireland's National Planning Framework projects that the Republic of Ireland will be home to an additional one million people by 2040[6]. These projected population increases will increase pressure on land-use and the requirement for development.

[5] Central Statistics Office (2022) Census 2022 Summary Results – Part 1. Available at: Key Findings - CSO - Central Statistics Office

[6] DHLGH (2021) Project 2040 National Planning Framework. Available at: gov.ie - National Planning Framework - Ireland 2040 Our Plan (NPF) (2018) (www.gov.ie)

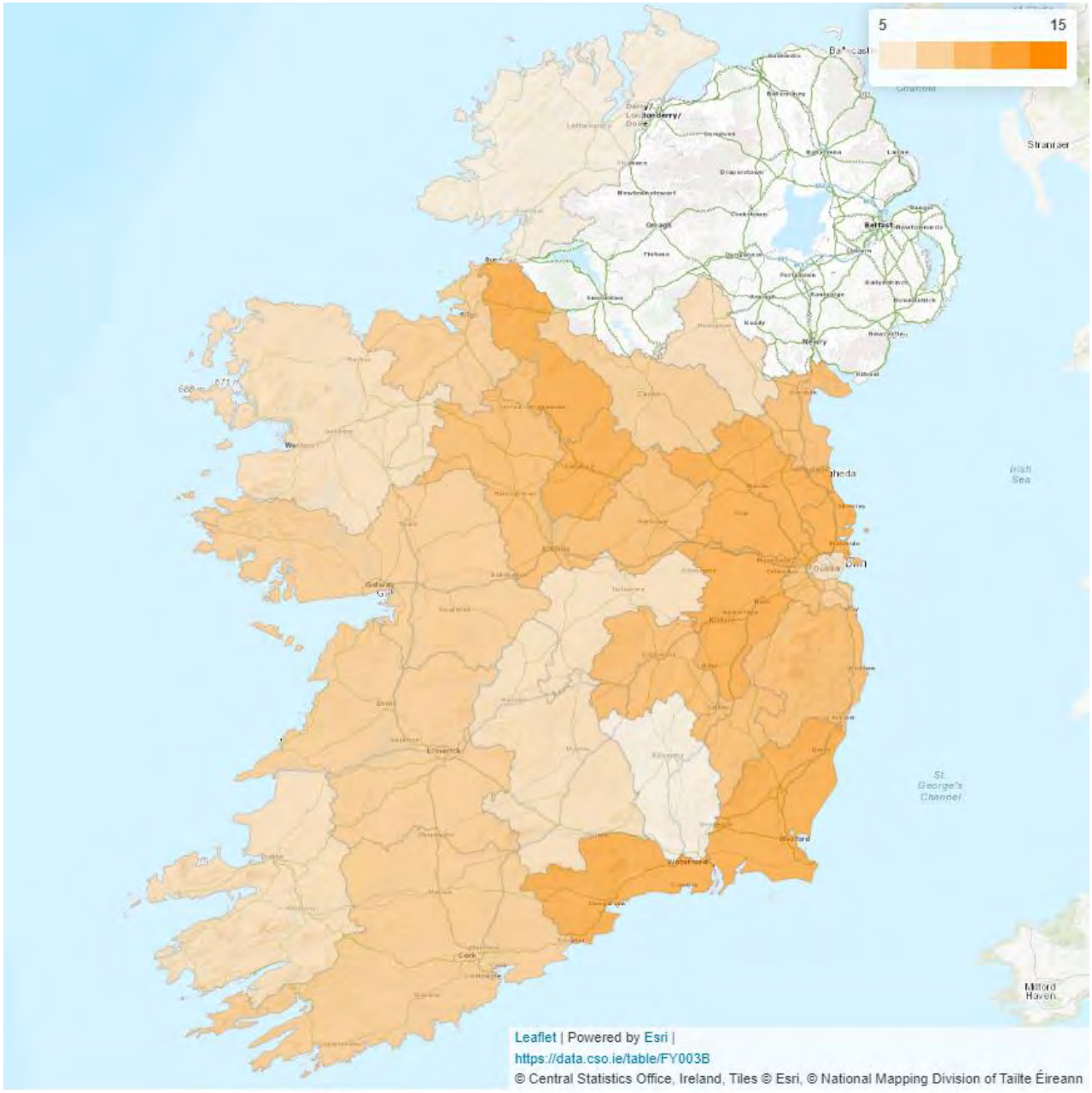

Figure 5.2 Population Change in Ireland since 2016 (%) | Source: SCO, 2022

5.2.1.2 Human Health

Availability of spatial data on human health is limited. A key area of consideration of human health will be the interaction between environmental aspects such as water, landscape, biodiversity, air, and energy and human beings.

According to the Department of Health report '*Health in Ireland: Key Trends 2022*', Ireland has the highest self-perceived health status in the EU, with 82.1% of people rating their health as good or very good. The number of people reporting a chronic illness or health problem is also better than the EU average, at approximately 20% of the population.

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.

5.2.1.3 Transboundary Baseline

Northern Ireland, like the Republic of Ireland, is experiencing a rise in population as seen by their most recent Census (2021)[7]. The increasing population brings forth similar issues and opportunities as in Republic of Ireland as outlined in Section 5.2.2, particularly if EVCI is deployed along and or around roadways connecting the Republic of Ireland to Northern Ireland e.g., the M1.

Like the Republic of Ireland, availability of spatial data on human health is limited and health is influenced by the same factors outlined above.

A Health Survey was carried out by the Department of Health in Northern Ireland for the period 2021-2022. Approximately 73% of respondents rated their general health as very good, or good while 10% rated their general health as bad or very bad.

5.3 Biodiversity

5.3.1 Baseline

5.3.1.1 Biodiversity Overview

The Convention on Biological Diversity[8] defines biodiversity as "*the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part*". This includes sites, habitats, species and networks of importance at the international, national or local level.

Biodiversity loss is a significant and pressing social, political and economic issue for Ireland and the global community. Approximately 95% of the land surface has been modified by activities such as urbanisation, agriculture, energy infrastructure and mining[9]. These anthropic activities have had detrimental impacts on natural habitats and species, resulting in an extinction rate hundreds of times higher than in the past 10 million years and which continues to accelerate. Species decline and extinction are beginning to affect the ecosystem services that communities rely on, such as the production of food and water, pollination, flood control, soil formation and nutrient cycling.

In growing recognition of the importance of reversing biodiversity decline caused by unsustainable development, land use change and pollution, the UN Convention on Biological Diversity (CBD) adopted the "*Kunming-Montreal Global Biodiversity Framework*" at the 15th Conference of Parties on the 19th of December 2022[10] The adoption of the ambitious Biodiversity Framework included the launch of the Accelerated Partnership to help countries fast track and upscale the implementation of their National Biodiversity Strategies and Actions Plans (NBSAPs). The Partnership will contribute to the achievement of the newly adopted global biodiversity goals and targets and, ultimately, the global vision of living in harmony with nature by 2050.

The four long-term goals for 2050 set out by the Kunming-Montreal Framework include:

1. Maintaining, enhancing, or restoring the integrity, connectivity and resilience of all ecosystems;
2. Halting human-induced extinction of threatened species and reducing the extinction rate and risk of all species;
3. Maintaining genetic diversity within populations of wild and domesticated species; and

[7] NISRA (2021) Statistical Bulletin - 2021 Mid-year Population Estimates for Northern Ireland - Summary (nisra.gov.uk)

[8] United Nations (1992) Convention on Biological Diversity

[9] DHLGH (2022) Ireland's 4th National Biodiversity Action Plan draft. Available at: gov.ie - Public Consultation on Ireland's 4th National Biodiversity Action Plan (www.gov.ie)

[10] UNEP (2022) Nations Adopt Four Goals, 23 Targets for 2030 In Landmark UN Biodiversity Agreement. Available at: COP15: Nations Adopt Four Goals, 23 Targets for 2030 In Landmark UN Biodiversity Agreement | Convention on Biological Diversity (cbd.int)

4. Sustainably using and managing biodiversity and valuing nature's contributions to people.

The global trends of biodiversity loss are equally as problematic in Ireland, where the draft of the most recent National Biodiversity Action Plan[90] referred to the 2019 conservation status assessments, required under Article 17 of the EU Habitats Directive, where 15% of EU protected species demonstrated ongoing declines over a 12-year period. Of those threatened species it was reported that half of all bee species have undergone substantial decline in population and 63% of bird species are declining at alarming rates[9]. The decline of these species can be a result of many factors, mainly the deterioration of a species natural habitat. For example, half of the rivers in Ireland were recorded to have an unhealthy ecological status, putting freshwater species at risk. In the case of rivers, the deterioration of the habitat is mainly owing to nutrient inputs from wastewater, acidification caused by afforestation of Sitka Spruce and agriculture[9]. Further agricultural intensification and use of fertiliser, and increased volumes of wastewater caused by population growth is expected to worsen the status of biological diversity in Ireland[9].

5.3.1.2 State of Biodiversity in the Republic of Ireland

As outlined in (the draft) Ireland's 4th National Biodiversity Action Plan, global trends of biodiversity loss are reflected in Irish land and waterscapes. Intensive agricultural and forestry practises, overfishing, invasive species, changes in land-use (particularly for residential, agricultural, and commercial development) and the over-exploitation of resources such as peatland are the main drivers of biodiversity loss. Figure A2 of Appendix A shows the distribution of designated sites across the Republic of Ireland.

The latest review of birds of conservation concern from Bird Watch Ireland states that 63% of species including previously common birds such as house sparrows and starlings are declining at alarming rates (Gilbert et al., 2021)[11].

Article 12 reporting, under the EU Birds Directive, on the long- term status and trends of Ireland's bird species shows population declines of 9% and 24% respectively for breeding and wintering taxa (www.eea.europa.eu). Iconic species such as the curlew and corncrake are considered to be under threat of extinction.

The 2019 conservation status assessments required under Article 17 of the EU Habitats Directive reported that 46% of EU protected habitats and 15% of EU protected species demonstrated ongoing declines over a 12 year (NPWS, 2019), with freshwater species most at risk. However, many mammal species such as seals, dolphins, as well as several whale and bat species were assessed favourably.

About half of Ireland's rivers and lakes are in unhealthy ecological state mainly owing to nutrient inputs from wastewater and agriculture. The number of pristine river sites has dropped from 500 to 20 over the past 40 years (EPA, 2019). These water quality declines have major consequences for many freshwater species such as the Freshwater Pearl Mussel (*Margaritifera margaritifera*), Ireland's longest living animal, which is under threat owing to water quality issues in addition to changes to river flow and hydrology.

Despite ongoing conservation and restoration efforts, Ireland's biodiversity is in a state of crisis and urgent impactful action is imperative to prevent the continued erosion of its natural heritage.

As outlined in Ireland's Environment, An Integrated Assessment 2020, Ireland's marine territory is one of the largest in Europe and the recent Marine Strategy Framework assessment of environmental status indicates that Ireland's nearshore coastal and offshore marine waters are predominantly clean, healthy and biologically diverse. Recent assessments show that 80% of Ireland's coastal waterbodies and 38% of transitional waterbodies have a high or good ecological status.

[11] Gilbert G, Stanbury A and Lewis L (2021) Birds of Conservation Concern in Ireland 2020 – 2026. Irish Birds 9. 523-544.

5.3.1.3 Transboundary Baseline

As outlined in the Department of the Environment's report 'A Biodiversity Strategy for Northern Ireland to 2020', Northern Ireland's biodiversity is internationally important with some 20,000 species found on the land, in the soil, in the air and in the waters. This important biodiversity is a reflection of Northern Ireland's remarkable geological diversity.

During the preparation of the Northern Ireland Biodiversity Strategy (2002), a list of Northern Ireland Priority Species requiring conservation action was identified and since updated as needed. The Northern Ireland Priority Species list currently stands at 481 species. Northern Ireland also has a list of priority habitats which require conservation action because of their decline, rarity and importance.

Peaty soils cover almost 13% (206,400 hectares) of Northern Ireland's land, including most of the uplands. Of this total area, 165,000 hectares (ha) consists of either semi-natural blanket bog, lowland raised bog or fen vegetation each with a high biodiversity value. Approximately 70% of land in Northern Ireland is devoted to agricultural activities.

Two of the main ecosystem categories are primarily managed by agriculture – enclosed farmland covering about 44% of Northern Ireland, and semi-natural grassland, a much-threatened habitat covering 18.5% of the land.

Northern Ireland has approximately 111,000 ha of forest and woodland (approximately 10% of land cover) of which 62,000 ha, or 56% is managed by the Forest Service, an executive agency of the Department of Agriculture and Rural Development. The remainder is predominantly privately owned and managed by a wide range of land managers.

Semi-natural grasslands cover approximately 18.5% of Northern Ireland. These areas are used for low intensity grazing and are valuable for carbon storage especially in areas of permanent grassland. This habitat is also important for scenery and tourism.

Wetlands, including lakes, fens and flooded grassland, cover around 7% of Northern Ireland. There are more than 1,600 lakes ranging in size from small ponds to Lough Neagh, the largest freshwater lake in the UK. Most lakes are fringed by fen, marsh and swamp. However, this broad habitat also frequently occurs in low-lying wet ground or poorly-drained marginal land. Many have been highly modified over the years by drainage and nutrient enrichment from surrounding farmland and urban wastewater. A high proportion of such wetlands are eutrophic with resultant negative impacts on biodiversity.

The Ramsar Convention is an intergovernmental treaty that provides the framework for "*the conservation and wise use of all wetlands through local, regional and national actions and international co-operation as a contribution towards achieving sustainable development throughout the world*". There are currently 21 Ramsar sites in Northern Ireland.

As noted in the 'A Second Assessment of the State of Northern Ireland's Environment', the overall quality of the marine environment around Northern Ireland's shores, including bathing water quality and beaches is improving, assisted by improvements to wastewater treatment. It notes that implementing the Marine Strategy Framework Directive will be a challenge, with just one third of Northern Ireland's marine bodies meeting objectives.

5.4 Land and Soils

5.4.1 Baseline

5.4.1.1 Land-Use

According to data from Eurostat, and as described in the report '*Climate Change and Land Use in Ireland*' (EPA, 2018), land use in Ireland is markedly different from the average across the Member States of the EU. The main differences are in the proportions of land devoted to agriculture, which in Ireland is 18.8% higher than the average in the EU-28 (EU-28 is the abbreviation of European Union which consists of a group of 28 countries). In 2018 the EU-28 average was 39.1%.

Also, the proportions of land devoted to forestry in Ireland is 23.3% lower than in the EU-28. The EU-28 average in 2018 was 35.9%.

According to the same EPA report, the main source of national scale information on land cover in Ireland is the European Environment Agency (EEA) CORINE (Coordination of Information on the Environment) land cover data series, which is an EU-wide inventory of land cover in 44 classes categorised from satellite photography. According to 2018 CORINE data, the main land cover type in Ireland is agricultural land, which accounts for approximately two-thirds (67%) of the national landmass. The new national land cover map prepared by the National Mapping Division of Tailte Éireann, was considered too detailed for a national level plan.

Most of this is permanent grassland pastures. Peatlands and wetlands are the second most widespread land cover type, covering almost one-fifth (18%) of the country, while forested areas cover 11.6% of the country.

5.4.1.2 Soil

The quality of soils in Ireland is considered generally good although there are pressures impacting on its long-term protection and maintenance particularly from land use changes, intensification of use, urbanisation, and contamination[12].

The soils of the Republic of Ireland, mapped in Figure A4 of Appendix A, are an immensely valuable, and finite, national resource, which forms and evolves slowly over very long periods of time and can easily be damaged and lost[13]. The long process of soil formation extends to the process of soil restoration after pollution or deterioration. The EPA report[12] states that there are six overarching degradation processes that can impact on soils. These processes include compaction, erosion, organic matter decline, salination, landslides and soil sealing which is where soils are closed off from the surface of the land, e.g., road and building developments. The bedrock underlying these soils greatly influence soil formation and soil chemistry, as such, a map of the bedrock type distribution of Ireland can be found in Figure A5 of Appendix A.

Geological Heritage Sites are presented in Figure A6 of Appendix A.

5.4.1.3 Transboundary baseline

In Northern Ireland, the primary soil functions include biomass production (grass and grain), regulation of nutrients and water in soils and maintenance and enhancement of soil carbon stocks.

The Sustainable Agricultural Land Management Strategy Report in 2016 stated that 98% of soils in Northern Ireland are inadequately analysed every year and that 82% of soils are below optimum fertility. Consequently, the Agri-Food and Biosciences Institute started a four-year Department of Agriculture, Environment and Rural Affairs' funded project on soil health that will measure key soil chemical, physical and biological characteristics in soils.

Soil erosion is also of concern in Northern Ireland. In the temperate region of Northern Ireland, recent studies have highlighted the off-site issue of soil erosion by water in the present day and projected that the problem may become more widespread and serious in a changing climate.

For a small area, Northern Ireland is known to have exceptional geological biodiversity.

[12] EPA (2020) Ireland's Environment - An Integrated Assessment 2020. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/state-of-theenvironment/EPA_Ireland's_Environment_2020.pdf

[13] RPS (2017) Environmental Report – Ireland 2040: The National Planning Framework. Available at: https://npf.ie/wp-content/uploads/2017/09/Environmental-Report-%E2%80%93-Ireland-2040.pdf

5.5 Water

5.5.1 Baseline

5.5.1.1 Surface Water

Nearly half of the surface waters in Ireland are failing to meet the legally binding water quality objectives set by the EU Water Framework Directive because of pollution and other human disturbance. Surface water features and their status' across the Republic of Ireland have been illustrated in Figures A7, A8, A9, A10, A11, and A12 in Appendix A.

Based on the Water Framework Directive monitoring programme, the biological quality of rivers is assessed and categorised into five categories; high, good, moderate, poor, and bad. The EPA's report '*Water Quality in 2022'*[14] found that out of the 2,362 river waterbodies assessed over the period of 2019 and 2022, 1,317 (56%) were in *High* or *Good* biological status. The remainder (1,045 / 44%) were in moderate, poor or bad quality. In 2022, 671 river water bodies were assessed. 84 of these improved in quality, while 77 declined. This is a small net improvement in biological quality of seven river bodies in comparison to their previous survey.

The number of river water bodies in bad condition has reduced to two. This means that nearly half of the surface water bodies in Ireland are failing to meet the objectives set by the EU Water Framework Directive (2000/60/ EC)[15] because of pollution and other human disturbance. Indicators as taken from the EPA's report '*Water Quality in 2022*' have shown that nutrient levels in many of Irelands waters are too high and high levels of nitrates have predominantly been found across rivers, groundwaters, and estuaries in the south and southeast of the country, also in areas with intensive agriculture over freely draining soils[14].

One of the main issues driving instances of poor quality among water bodies are the increased levels of nutrients and sediment entering water courses, such as nitrogen, nitrate, phosphate and phosphorous. Human activities, waste water and forestry are the main drivers for these nutrients entering waterways.

A summary of the key issues recorded in 2022 is contained in Table 5.1 below.

Table 5.1 Water Quality in Ireland Key Indicators | Source: EPA, 2022

Key Findings
There has been no significant change in the biological quality of our rivers or lakes in 2022. The rate of decline largely matches the rate of improvement.
Nitrate concentrations are too high in 40% of river sites nationally and in 20% of estuarine and coastal water bodies. These elevated levels are found mainly in the south and south east and are too high to support good water quality in our estuaries. This is primarily attributable to intensive agricultural activities on freely draining soils in these areas. Most of the nitrogen in Irish waters comes from organic and inorganic fertilisers.
Average nitrate levels in rivers and groundwaters increased nationally between 2021 and 2022. While levels can fluctuate between years based on climate there is no indication that nitrate levels are reducing.
Phosphate concentrations are too high in 28% of rivers and 36% of lakes which impacts on their biological quality. Concentrations will need to reduce in these rivers and lakes to improve water quality. Phosphate primarily comes from wastewater discharges and from agricultural run-off in areas with poorly draining soils.
Phosphate levels in rivers and lakes fluctuate between years but have been generally stable over recent years.
Nitrogen and phosphorous loadings to the marine environment have been generally increasing since 2013. Loads of both nutrients were higher in 2022 than in 2021, placing continued pressure on our marine water bodies.

[14] EPA (2023) Water Quality in Ireland 2022. Available at: https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/Water-Quality-2022-Indicator-Report-Web.pdf

[15] European Commission (2000) EU Water Framework Directive 2000/60/EC. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0060

According to the EPA[14], Ireland's surface waters are being damaged by pressures arising from various human activities.

The most significant pressures, those considered to put a water body at risk of not meeting its environmental objectives, were identified and reported in the Draft River Basin Management Plan 2022-2027, following a comprehensive assessment by the EPA of various human activities and their potential impact on the aquatic environment. The complete breakdown is shown in Figure 5.3 below.

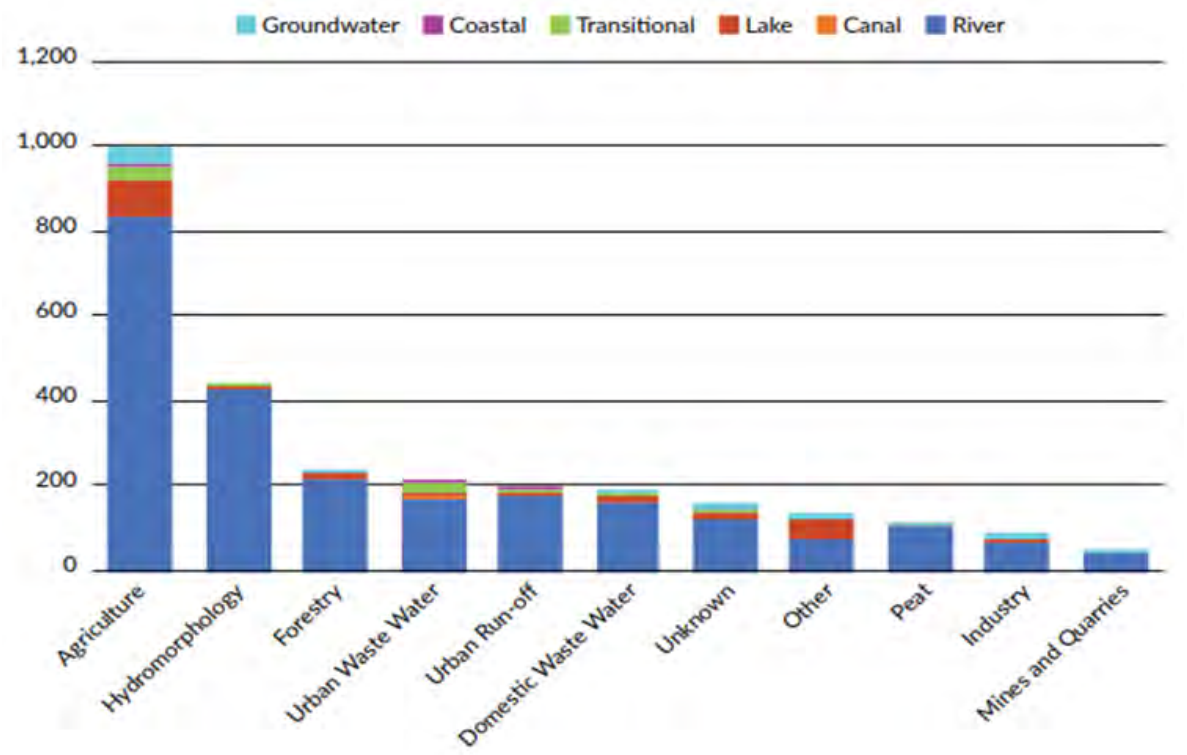

Figure 5.3 Representation of significant pressures in the rivers monitoring programme | Source: DHLGH, 2022[16]

5.5.1.2 Groundwater

Groundwater features and their status' in the Republic of Ireland have been illustrated in Figures A13, A14 and A15 of Appendix A.

Overall, 91% of groundwater bodies are in good chemical status and nearly all are in good quantitative status. The south and southeast regions have the greatest proportion of sites with high and increasing nitrate concentration. There has been a slight decline of 0.8% (four waterbodies) in the number of groundwater bodies at good status since the last assessment.

5.5.1.3 Flood Risk

Figure A16 of Appendix A illustrates the flood risk across the Republic of Ireland. The information presented is divided into three categories:

- Fluvial Flood Depth Annual Exceedance Probability 10%;
- Fluvial Flood Depth Annual Exceedance Probability 1%; and
- Fluvial Flood Depth Annual Exceedance Probability 0.1%.

[16] EPA_WFD_MonitoringProgramme_2019_2021.pdf (dcuwater.ie)

5.5.1.4 Transboundary Baseline

The Water Framework Directive Statistics Report published in December 2021[17] by the Northern Ireland Environmental Agency presents the statistics on the state of the water environment in Northern Ireland.

The report states that there have been significant changes in monitoring and overall classification for rivers, lakes, transitional & coastal water bodies since the last publication. In 2018, new priority substances were introduced to the monitoring programme. For the first time the presence of ubiquitous, persistent, bioaccumulative, toxic (uPBT) substances, so-called 'forever' chemicals, have been assessed as part of chemical status. Due to their bioaccumulative and persistent nature, uPBT substances have been detected at all monitored stations and resulted in failures of all of those stations.

It is therefore reasonable to presume that uPBT substances would cause more failures if additional stations were monitored.

For this reason, the uPBT failures have been extrapolated to all surface water bodies across Northern Ireland, meaning that none of its rivers, lakes, transitional and coastal water bodies will meet overall good status (when ecological and chemical status are combined).

Overall River Water Body Status

In 2015, 147 (33 %) of the 450 river water bodies in Northern Ireland were classified as good or high overall status. In 2018, 141 (31 %) of river water bodies were classified as good or high overall status. In 2021, no river water bodies achieved good or high overall status.

Overall Lake Status

In 2015 and 2018, 5 (24 %) of the 21 lake water bodies in Northern Ireland were classified as good overall status. In 2021, no lakes achieved good overall status.

Overall Transitional and Coastal Water Body Status

In 2015, 8 (32 %) of the 25 transitional & coastal water bodies in Northern Ireland achieved good overall status and 1 (4 %) achieved high overall status. In 2018, 10 (40 %) water bodies achieved good overall status. In 2021, no water bodies achieved good overall status.

5.6 Air Quality and Climate

5.6.1 Baseline

5.6.1.1 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 area's 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 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

[17] Available at: https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20Water%20Framework%20Directive%20Statistics%20Report%202021.pdf

Zone D: Rural Ireland which is the remainder of the State excluding Zones A, B and C.

While air quality in Ireland has been considered to be generally good, new evidence from increased monitoring and modelling, coupled with new research on the health impacts at lower levels of exposure to particulate matter, raises questions about that status.

The Irish Ambient Air Quality Standards Regulations (2022) are informed by the EU Air quality standards which set the annual limits for each parameter in Table 5.2. These annual limits must not be exceeded in order to protect human health and environmental quality across Ireland.

Table 5.2 Air Quality Standards | Source: Government of Ireland, 2022

Parameter	Air quality standard (µg/m3) annual limits
NO2	40
SO2	20
CO	10,000
PM10	40
PM2.5	25
Benzene	5

The EPA manages the National Ambient Air Quality Network. This network sets legislative limits and target values for the protection of human health and vegetation.

According to the '*Air Quality in Ireland Report 2021*'[18], monitoring carried out by the EPA in 2021 continues to highlight the need for action on the two key issues that have a negative impact on air quality in Ireland: emissions from the burning of solid fuels in our homes and transport emissions from vehicles in urban areas. Ireland was compliant with EU legal limits in 2021, however, monitored levels were above the WHO air quality guideline values for most pollutants in almost all air quality monitoring stations[18] mainly due to the two key issues identified above.

5.6.1.2 Noise

The World Health Organisation (WHO) has identified long-term noise exposure as an important public health issue and the second most significant environmental cause of ill health in western Europe. The WHO have published a guideline for noise in 2018[19] which sets out how noise pollution in towns and cities across Ireland is increasing and how excessive noise, such as that from transport sources has negative impacts on human health.

The Environmental Noise Directive (END) (2002/49/EC) requires that action is taken by each member state, with a view to preventing and reducing environmental noise where necessary (particularly where exposure levels can induce harmful effects on human health) and to preserving environmental acoustic quality where it is good. The relevant local authorities have been designated by the Environmental Noise Regulations, S.I. Regulations No. 140 of 2006, as the bodies charged with development and making of 'Noise Action Plans'.

In Ireland, Local Authorities are responsible for preparing Noise Action Plans, which primarily consider the long-term environmental noise impact from road, rail and air traffic noise sources, and set out an approach to review noise impact levels near to the major sources assessed during the strategic noise mapping with a view to identifying locations where noise reduction is deemed necessary in the first instance. Strategic Noise Maps are prepared to show noise exposure levels from transport and are prepared using computer modelling techniques.

[18] EPA (2022) Air Quality in Ireland 2021. Available at: https:/5publications/monitoring--assessment/air/EPA-Air_Quality_in-Ireland-Report_2021_-interactive-pdf.pdf

[19] WHO (2018) Environmental Noise Guidelines for the European Region

5.6.1.3 Climate

Climate

According to Met Eireann[20] (2022) the general climatic conditions for Ireland as a country are dominated by the Atlantic Ocean and its air and oceanic currents. Consequently, the region does not suffer from extremes of temperature. According to Met Eireann, average annual temperature is about 9°C. Average rainfall varies between about 800 and 2,800mm. Rainfall accumulation tends to be highest in winter and lowest in early summer.

Winters tend to be cool and windy, while summers, when the depression track is further north and depressions less deep, are mostly mild and less windy.

In line with the global picture, Ireland's average temperature has increased by about 0.7°C over the last 100 years, and the rate of increase has been higher in the last couple of decades, as reported by the EPA[21] (2022).

Greenhouse Gases

A carbon budget represents the total amount of emissions that may be emitted in the Republic of Ireland during a five-year period, measured in tonnes of carbon dioxide 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.

They are as follows:

- 2021-2025: 295 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.
- 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 1990-2022 [22], Ireland's GHG emissions are estimated to be 60.76 million tonnes carbon dioxide equivalent (Mt CO2eq) in 2022,

According to the EPA's latest emissions data[22], Ireland's provisional GHG emissions in 2022 was estimated to be 60.76 million tonnes carbon dioxide equivalent (Mt CO_{2eq}). This estimate is 1.9% lower (or 1.19 Mt $CO_{2\ eq}$) than emissions in 2021 (61.95 Mt $CO_{2\ eq}$) and follows a 5.1% increase in emissions reported for 2021. Emissions are 4.6% lower than pre-pandemic 2019 figures. Key findings relating to carbon emissions have been outlined in Figure 5.4.

[20] Met Eireann (2022) Climate of Ireland. Available at: https://www.met.ie/climate/climate-of-ireland

[21] EPA (2022) What Impact Will Climate Change have on Ireland? Available at: https://www.epa.ie/environment-and-you/climate-change/what-impact-will-climate-change-have-for-ireland/#:~:text=Ireland's%20climate%20is%20changing%20in,depending%20on%20the%20emissions%20trajectory

[22] Note: The latest data available by the EPA presents final 1990-2022 Inventory data (updated July 2023) and the EPA's latest 2022-2030 projections estimates (updated June 2023) Available at: Latest emissions data | Environmental Protection Agency (epa.ie) and EPA-GHG-Projections-2022-2040_Finalv2.pdf.

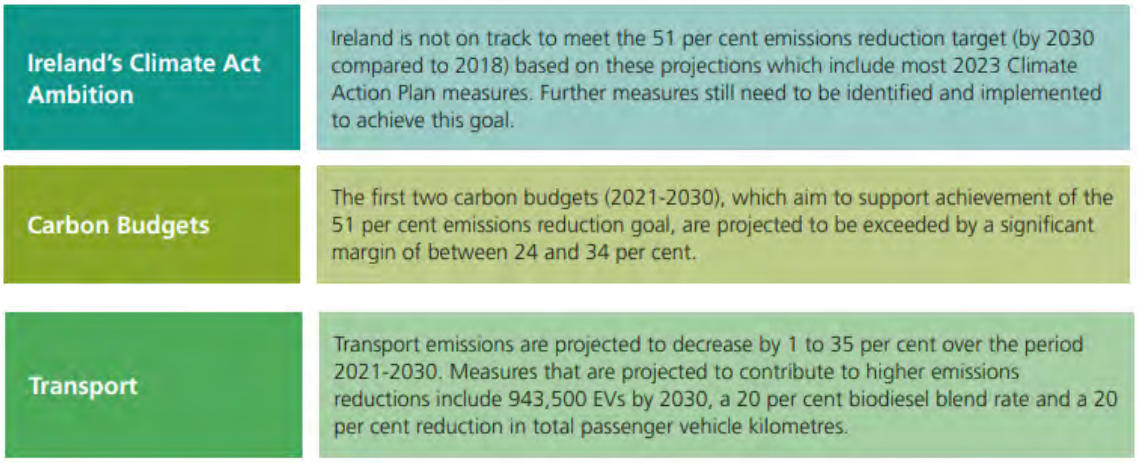

Figure 5.4 Key Findings from Ireland's Greenhous Gas Emissions Projections 2022-2040 | EPA 2023

Transport Emissions

The transport sector is projected to contribute up to 21% of Ireland's total emissions by 2030. Nitrogen dioxide (NO_2) is the air pollutant most directly associated with traffic in high-density urban contexts and is formed by a reaction between ozone and nitrogen oxide (NO). NO_2 is a known precursor to the formation of other pollutants such as ground-level ozone (O_3) and particulate matter ($PM_{2.5}$ and PM_{10}). Its sources originate from combustion and home heating. Key findings from the GHG Emissions projects have been outlined in Figure 5.4.

Following concerns with transport-related air emissions, the Urban Transport-Related Air Pollution (UTRAP) Working Group was established in Ireland in 2019 to assess the impacts of transport on air pollution and human health. In their most recent report[23], air pollution is named as the single largest environmental health risk in Europe. As part of their report, a review of traffic demand management studies across Ireland's five major cities was undertaken (Dublin, Cork, Galway, Limerick and Waterford), which identified that interactions between different traffic measures are complex, have a cumulative impact, and most importantly, there is no one measure that will address each issue with the cities.

5.6.1.4 Transboundary Baseline

Air Quality

The Air Pollution in Northern Ireland 2021 Report revealed that the regulation limit values, target values and corresponding AQS objectives have been met for the following pollutants in NI:

- Particulate matter at PM_{10}
- Particulate matter as $PM_{2.5}$
- Nitrogen dioxide
- Ozone
- Carbon monoxide
- Benzene
- Sulphur dioxide
- The elements lead, arsenic, cadmium and nickel.

[23] UTRAP Final Report (2023). Available at: gov.ie - Urban Transport-Related Air Pollution (UTRAP) Working Group (www.gov.ie)

All three sites where benzo[a]pyrene is monitored exceeded the AQS objective of 0.25ngm^{-3} in 2021.

Noise
Northern Ireland is also in compliance with EU Environmental Noise Directive (END) (2002/49/EC) and is required to determine the noise exposure of the population through noise mapping, make information on noise publicly available, and establish Noise Action Plans based on mapping results every five years.

A Noise Action Plan has been prepared in relation to Roads for the period 2019 to 2023. This includes all Major Roads with more than 3 million vehicle passages per year; and all agglomerations with more than 100,000 inhabitants.

As part of the END, Northern Ireland have designated three Quiet Areas to persevere environmental noise quality where it is good. These are:

- Conor Park / Strictlands Glen, Bangor West;
- Bashfordlands, Carrickfergus; and
- Carnmoney Hill – Upper, Newtownabbey.

Climate

The climate across Northern Ireland[24] and the Republic of Ireland is very similar and are both experiencing climactic warming due to global greenhouse gas emissions rising.

The mean annual temperature for Northern Ireland has been calculated from the Armagh Observatory temperature records. The ten-year moving average trend line shows that the mean annual temperature reached a low towards the end of the 19th century and has been steadily increasing since.

By the end of the 20th century, the ten-year moving average temperature had risen to its highest levels since the temperature records began. The lowest mean annual temperature (7.35°C) was recorded in 1879. The highest mean annual temperature (10.78°C) was recorded in 20227. The 2022 mean annual temperature (10.78°C) was 0.3°C higher than the 10.48°C recorded in 2021.

The amount of annual rainfall from 1853 to 2022 has been calculated from the Armagh Observatory temperature records. Since 1853 the ten-year moving average has remained between 748 millimetres and 901 millimetres of rain per year. 2002 saw the highest level (1,065 millimetres) of annual rainfall over the time series, whilst the lowest level of annual rainfall was recorded in 1933 at 550 millimetres.

In 2019, Northern Ireland's total greenhouse gas emissions accounted for 5% of the UK total, higher than its population share of 3%. Since the base year (1990), Northern Ireland's total greenhouse gas emissions have decreased by 18% from 26.1 to 21.4 million tonnes of carbon dioxide equivalent (MtCO2e). The largest sectors in terms of emissions in 2019 were agriculture (26%), transport (20%) and residential (14%). Most sectors showed a decreasing trend since the base year.

The largest decreases, in terms of tonnes of carbon dioxide equivalent, were in the energy supply, waste management and residential sectors. These were driven by improvements in energy efficiency, fuel switching from coal to natural gas, which became available in the late 1990s, and the introduction of methane capture and oxidation systems in landfill management.

5.7 Archaeology, Architectural and Cultural Heritage

5.7.1 Baseline

The sites and features considered as part of the cultural heritage baseline for Ireland include those listed on the following:

[24] Northern Ireland Environmental Statistics Report 2023. Available at: https://www.daera-ni.gov.uk/publications/northern-ireland-environmental-statistics-report-2023

- 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 Housing, Local Government and Heritage; 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, Local Government and Heritage [previously the Minister for Housing, Planning 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.

Ireland is particularly rich in archaeological sites and monuments which form a central component of Irish Heritage. Many of Ireland's archaeological or cultural heritage sites occur on forest land and peatlands. Archaeological sites and monuments range from substantial above-ground structures to easily damaged subterranean traces of human activity. Types of monuments vary greatly and include ecclesiastical ruins, ancient trackways, standing stones, fortifications, megalithic tombs, earthwork mounds and cairns.

Geological Heritage Sites in the Republic of Ireland are illustrated in Figure A6 of Appendix A. Recorded monuments are illustrated in Figure A17 of Appendix A.

5.7.1.1 Transboundary Baseline

Northern Ireland has been legally protecting its historic monuments with legislative measures since 1869. The Northern Irish Historic Monuments and Archaeological Objects Order 1995 protects archaeological monuments or objects of significance by either taking them into State care or by scheduling and also places restrictions on searching for archaeological material. Their sites of interest are registered on a government database which gives them protection from development.

There are two UNESCO sites which have the potential transboundary impacts as they are located on or near the Northern Ireland and Republic of Ireland border. These sites include Cuilcagh Lakelands UNESCO Global Geopark, formerly Marble Arch Caves UNESCO Global Geopark and the Mourne Gullion Strangford UNESCO Global Geopark.

5.8 Landscape and Visual

5.8.1 Baseline

The Council of Europe Landscape Convention 20/10/2000[25] promotes the protection, management and planning of European landscapes and organises European co-operation on landscape issues. It defines "landscape" as an area perceived by people, whose character is the result of the action and interaction of natural and/ or human factors. This holistic definition incorporates all aspects of an area and in doing so can be useful when considering development in that area. Ireland's National Landscape Strategy[26] is the country's way of meeting its obligations and delivering on the objectives set by the European Landscape Convention.

The Landscape Character Guidelines for Ireland[27] (Mosart, 2016) classify Ireland's landscape into four distinct character types, which vary considerably in regard to both landform and landcover. The four landscape character types include:

[25] Council of Europe (2016) Council of Europe Landscape Convention as amended by the 2016 Protocol. Available at: https://www.coe.int/en/web/conventions/full-list?module=treaty-detail&treatynum=176

[26] Department of Housing, Local Government and Heritage (2015) National Landscape Strategy for Ireland 2015-2025. Available at: https://www.gov.ie/en/publication/8a59b-national-landscape-strategy/

[27] Mosart (2016) Landscape Character Guidelines for Ireland. Available at: https://mosart.ie/wp-content/uploads/2016/02/forestry-and landscapeguidelines-ireland.pdf

- Rolling moorland;
- Rolling fertile farmland;
- Drumlins; and
- Mountain and farmland complex.

The following outlines landscape planning and design for the four distinct landscape character types commonly found in Ireland, according to the Landscape Character Guidelines for Ireland (Mosart)[27].

- **Rolling Moorland Landscape interpretation**: Many mountain slopes in Ireland are sweeping and extend as open, expansive and undulating moorland. Existing conifer plantation forests in such areas have tended to be angular in nature, because of their straight boundaries. Due to poor site conditions and exposure, they have inclined to be of limited species and age diversity, resulting in a severe visual impact on the landscape;
- **Rolling Fertile Farmland Landscape interpretation**: This landscape type is a man-made 'working landscape'. The rolling hills are characterised by a patchwork of clearly defined fields with farmsteads and houses, copses and shelterbelts scattered throughout. These fields are typically under pasture or tillage. The scale of the landscape is usually relatively enclosed. Soil fertility should allow broadleaf plantations, with a potential for silvicultural systems other than clear-felling;
- **Drumlins Landscape interpretation**: The typical continuity of small rolling hills with wet inter-drumlin flats, combined with a close network of fields and hedgerows, creates a small scale, intimate and visually complex landscape. Many fields have reverted to rush and scrub in recent years. Soils on drumlins are typically gleyed and thus limit species choice;
- **Mountain and Farmland Complex Landscape interpretation**: Landscapes comprising mountain moorland on upper ground falling through marginal land and on to farmland at lower levels, are very common in Ireland. The farmland will usually comprise either rolling hills or a plane of patchwork fields which sweeps up forming a continuum with the open mountainside. The strip of marginal land running between these two landcovers is typically identified by bracken, rush and scrub.

The National Landscape Strategy for Ireland 2015-2025[28] (Department of Housing, Local Government and Heritage, 2015) was produced in line with Ireland's obligations under the European Landscape Convention. The overall vision of the strategy is stated as: "*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*".

In the absence of a national landscape character assessment, the CORINE Land Cover Map is used as a proxy for the purposes of landscape, refer to Figure A3 in Appendix A.

In terms of Landscape & Visual amenity, local authorities in Ireland conserve and protect scenic value as Areas of High Amenity, Areas of Outstanding Natural Beauty and Protected Views. Each local authority is responsible for the designation of these within their individual jurisdictions, with each County Development Plan providing objectives to protect such views.

5.8.1.1 Transboundary Baseline

Northern Ireland abides by the Council of Europe Landscape Convention 20/10/2000. In recognising the importance of sustaining local identity, the Northern Ireland Environment Agency (NIEA) commissioned Landscape Character Assessments of Northern Ireland which resulted in the identification of distinct character areas within Northern Ireland.

[28] Department of Housing, Local Government and Heritage (2015) The National Landscape Strategy for Ireland 2015-2025. Available at: https://www.gov.ie/en/publication/8a59b-national-landscape-strategy/

The Northern Ireland Regional Landscape Character Assessment provides a strategic overview of the landscape in Northern Ireland and subdivides the countryside into 26 Regional Landscape Character Areas based upon information on people and place and the combinations of nature, culture and perception which make each part of Northern Ireland unique.

The Northern Ireland Landscape Character Assessment subdivided the countryside into 130 Landscape Character Areas (LCAs), each based upon local patterns of geology, landform, land use, cultural and ecological features. For each LCA, the key characteristics were described and an analysis of landscape condition and its sensitivity to change was made.

There are several areas designated for their landscape quality located on or close to the Northern Ireland and Republic of Ireland border, such as Ring of Gullion Area of Outstanding Natural Beauty (AONB). The landscape around AONBs performs an important function by providing context, particularly in views to and from the AONB.

5.9 Material Assets

5.9.1 Baseline

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.

However, for the purposes of this report, the term '*material assets*' is taken to mean all infrastructure and local services including transportation, water supply, wastewater treatment and discharge, waste management services and energy supply.

5.9.1.1 Transportation

Roads

Ireland's National Roads network consists of circa 5,300 km of roads, which includes National Primary roads (including motorways (916km)) and National Secondary roads. Other road infrastructure in Ireland is comprised of local roads, minor roads and unclassified urban roads. In 2020, the longest road type in the Republic of Ireland was "other roads" with a measured length of 80,548 km. Secondary or regional roads had a total length of 13,120 km. Motorways was the road type with the shortest length, at a measure of 995 km. Transport Infrastructure Ireland (TII) operates, maintains, and improves the national primary and secondary road network in Ireland, while local authorities manage the urban and remote sections of dual carriageway, regional and local roads.

Vehicular traffic is by far the most common mode of travel in Ireland. In 2021, the national vehicle fleet was made up of 2.86 million vehicles.

The TEN-T Road Network in Ireland is an EU initiative to develop a comprehensive and interconnected transportation infrastructure network across member states. The TEN-T stands for Trans-European Transport Network and includes both road, rail, inland waterways, and maritime transport and its primary objective is to provide seamless connectivity and access across the EU member states, improving trade and economic growth while also promoting sustainable transportation practices. The TEN-T road network consists of several categories of roads, including motorways, dual carriageways and other primary roads. In Ireland, the TEN-T road network comprises of almost 500km of Core network and 1,700km of Comprehensive Network.

Rail

Iarnród Éireann (Irish Rail), the state-owned railway company in Ireland, operates 1,944km (1,215 miles) of the rail network. Iarnród Éireann is responsible for maintenance of the heavy rail intercity and regional network, which is used for both passengers and freight. Transport Infrastructure Ireland is responsible for the light rail Luas networks based in Dublin.

Airports

There are 10 main airports across Ireland: Cork Airport, Donegal Airport, Dublin Airport, Weston Airport, Galway Airport, Kerry (Farranfore) Airport, Ireland West Airport Knock, Shannon Airport, Sligo Airport and Waterford Airport. Cork, Dublin and Shannon are international airports.

Seaports

Twenty commercial ports exist nationwide; international ports include Shannon Foynes, Cork, Dublin Port and Drogheda. In addition, there are 15 international ferry ports, 99 local ferry ports and 48 fishing ports. Urban nodes in Ireland include Shannon, Foynes, Dublin, Cork and Galway ports.

Public Transport

The 2022 census provides statistics on how people travel to their place of work, school, college and childcare. The number of people who drove to work increased by 4% to 1.2 million between 2016 and 2022. There were 4% fewer people commuting to work by train, LUAS or DART. However, there was a big increase recorded in the number of people who work mainly at or from home, up 173% to nearly 260,000.

Fewer third level students commuted to their place of education on foot or by bike, but more used public transport and cars.

5.9.1.2 Water Supply

Uisce Eireann (formerly Irish Water) is the national water utility, as set up in July 2013, under the Water Services Act 2013. Uisce Éireann is responsible for the production, distribution and monitoring of drinking water from Ireland's public water supplies.

Uisce Éireann is responsible for the monitoring of public water supplies and Local Authorities are responsible for monitoring of group water schemes and regulated small private supplies.

The EPA publishes an annual Public Supply Drinking Water Report which provides an overview of the quality of drinking water in public supplies. The reports are based on the assessment of monitoring results reported to the EPA by Uisce Éireann and the Local Authorities.

Results from the 2021 Drinking Water Quality in Public Supplies Report[29] show over 99.7% compliance with bacterial and chemical limits. However, a number of issues have been identified that need to be addressed including the increase in detections of Trihalomethanes (THM) limits (found in 58 supplies when compared to 35 in 2020).

Although these results show that the majority of public water supplies are safe, there are still a number of public water supplies which are in need of upgrade, replacement or improved operational control. At the end of 2021, 52 public water supplies were listed on the Remedial Action List.

5.9.1.3 Wastewater Treatment and Discharge

Irish Water operates a network of wastewater treatment plants across Ireland. Irish Water has sole responsibility for operating and maintaining the public sewer network. The wastewater treatment plants vary in size according to the population of the area they serve. Despite the variation in size, the processes used to treat wastewater are generally the same.

The EPA Report '*Urban Waste Water Treatment in 2021*'[30], provides an overview of urban waste water treatment in Ireland during 2021. It focuses on the most important issues that Irish Water needs to address to protect the Irish environment from the harmful effects of waste water discharges. 12 large urban areas that did not meet European Union treatment standards in 2021 require improvements to comply with these standards. 32 towns and villages which have been discharging raw sewage into the environment every day.

[29] EPA (2022) Drinking Water Quality in Public Supplies 2021. Available at: EPA_DrinkingWaterQualityinPublicSupplies2021.pdf

[30] EPA (2022) Urban Waste Water Treatment in 2021. Available at: Urban-Waste-Water-Treatment-in-2021-report.pdf (epa.ie)

38 priority areas require improvements to protect rivers, lakes, estuaries and coastal waters that are adversely impacted by wastewater. 12 areas need improvements in waste water treatment to protect endangered freshwater pearl mussels.

5.9.1.4 Waste Management Services

Ireland's waste management practices, infrastructure and regulation have matured significantly over the last 20 years. This change has been driven by EU and national legislation, national policy and economic initiatives. Government policy focusses on waste as a resource and the virtual elimination of landfilling.

The current and future focus is on circular economy - preventing waste, reuse, maximising recycling and using waste as a fuel in replacement of fossil fuels: all elements of the strategy to boost competitiveness, foster sustainable economic growth and generate new jobs.

More residual waste is now used as a fuel (energy recovery) than disposed to landfill.

Segregation and separate collection of food waste from households has been legislated for since 2013 and municipal waste recycling at composting and anaerobic digestion facilities has increased as a result. Ireland is reliant on export markets for the treatment of residual and recyclable and hazardous wastes.

In 2023, only three landfills are accepting municipal waste in Ireland. Between 2019 and 2020 municipal waste increased by 4% to 3.2m tonnes. Waste generation in Ireland continues to be closely linked with economic activity indicating limited progress towards a circular economy. Construction and demolition waste decreased by 0.6m tonnes to 8.2m. However, this correlates with a decrease in construction activity nationally due to Covid-19.

5.9.1.5 Energy

Since the formation of the state, energy consumption in Ireland has increased significantly in line with population growth as a result technologies have advanced, and economic activity has increased. As reported in the Sustainable Energy Authority of Ireland's (SEAI) '*Energy in Ireland 2022*' Report[31] (SEAI, 2022), in absolute terms, Ireland's current total primary energy requirement is comparable to that from 20 and 10 years ago, despite intervening periods of significant growth and decline. However, the mix of fuels and energy types in primary energy across Ireland has evolved significantly over this time.

The broad trend has been the growth of renewables and natural gas displacing oil, coal, and peat, although at this time and despite the meaningful development of renewables, fossil fuels still dominate Ireland's primary energy supply. The trends of primary energy requirement in Ireland have been illustrated by fuel and energy type in Figure 5.5.

[31] SEAI (2022) Energy in Ireland 2022. Available at: Energy-in-Ireland-2022.pdf (seai.ie)

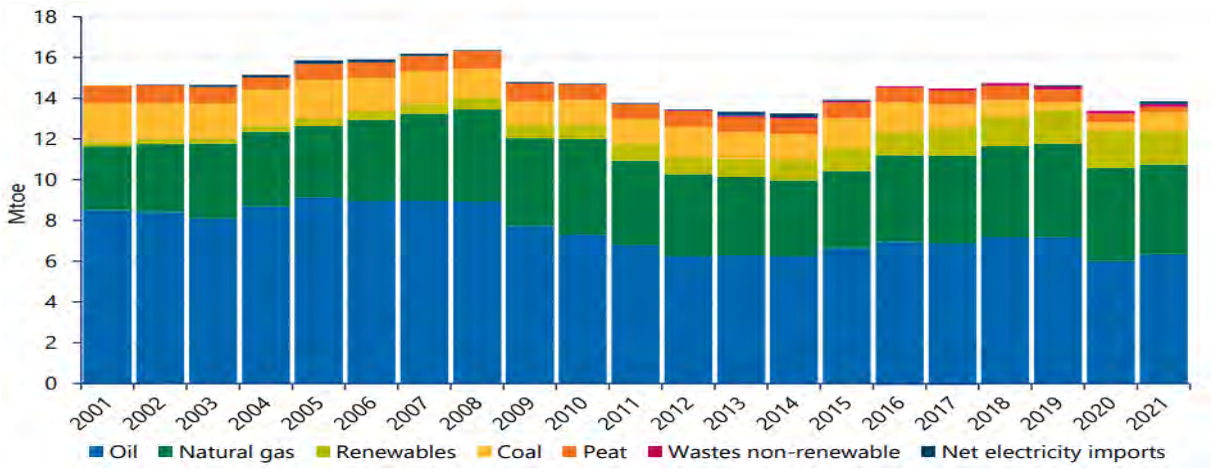

Figure 5.5 Total primary energy requirement by fuel and energy type | Source: SEAI (2022)[31]

Although Ireland has committed to reducing its CO_2 emissions by 4.8% per annum from 2021- 2025 under the first carbon budget, energy related emissions were instead up by 5.4% in 2021. Provisional data from the SEAI's monthly surveys indicate that energy related emissions will increase by a further 6% in 2022.

As a result of a low wind year for renewable generation in 2021, Ireland used more coal and oil for electricity generation, which increased the carbon intensity of electricity by 12.5%. In relation to transport, in 2021, the transport sector emitted 12.0 $MtCO_2$ and accounted for 34% of Ireland's total energy emissions and the residential sector was found to emit 9.8 $MtCO_2$ in 2021, which was 27.5% of Ireland's total energy emissions.

From 2021, the first EU Renewable Energy Directive (REDI) was replaced by the second EU Renewable Energy Directive (REDII), which continues to promote the growth of renewable energy and set renewable energy share (RES) targets out to 2030. REDII introduces new sustainability and verification criteria for biomass fuels and puts counting caps on certain biofuels. These changes in criteria and caps modify how Irelands RES results were calculated in 2021 compared to 2020, even where there has been minimum change in the underlying renewable energy, outlined as follows:

- Under REDII, Ireland's overall renewable energy share was 12.5% in 2021;
- Under REDII, Ireland's renewable energy share in electricity (RES-E) was 36.4% in 2021;
- Under REDII, Ireland's renewable energy share in heat (RES-H) was 5.2% in 2021; and
- Under REDII, Ireland's renewable energy share in transport (RES-T) was 4.3% in 2021[31].

National energy targets beyond 2021 have since been established for Ireland to establish improvements across widespread sectors. Ireland's 2023 Climate Action Plan (CAP-23) has been established and is the first CAP to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings.

The plan implements the carbon budgets and sectoral emissions ceilings and sets a roadmap for taking decisive action to halve Irelands emissions by 2030 and reach net zero no later than 2050, as Ireland is committed to in the Programme for Government[32].

[32] Government of Ireland (2023) Climate Action Plan 2023. Available at: 1c20a481-bb51-42d6-9bb9-08b9f728e4b5.pdf (www.gov.ie)

Electricity Supply

According to the SEAI[33] (SEAI, 2022) the renewable share of electricity[34] in Ireland in 2022 had increased to 38.6%, up from 35.0% in 2021. Wind is still the largest source of our renewable electricity, rebounding from a relatively poor wind year in 2021, wind generation increased by 15% in 2022. Wind generation accounted for 33.2% of our electricity in 2022, up from 29.5% in 2021. 2020 remains the highest year on record, when wind generation accounted for 36.3% of electricity.

Although still low in absolute terms, 2022 saw significant relative increases in the renewable energy captured by both solar-PV and heat-pumps. Boosted by the first grid-connected solar-farms, solar-PV increased by 42.9% over the previous year, to deliver over 100 GWh (Gigawatt per hour) of electricity, e.g., 100 million "units" of electricity. Heat pumps delivered 1,166 GWh of renewable ambient heat, up 26.6% on the previous year. Since 2018, Ireland has more than doubled its use of renewable ambient heat and increased its use of solar-PV by a factor of five.

Ireland's current grid infrastructure comprises two types of networks, transmission lines and local distribution grids. Ireland's grid infrastructure is owned and maintained by ESB Networks and operated on a day-to-day basis by EirGrid.

The Transmission grid (operated at 110kV and above) is operated on a day-to-day basis by EirGrid while ESB Networks operate the distribution network which comprises 38kVand lower in addition to operating the 110kV grid in Dublin Area.

Electric Vehicle Charging Infrastructure

The EV market in Ireland has seen significant growth in recent years, driven by a combination of government incentives, increasing consumer awareness, and improving technology. As of the end of 2022, there were approximately 73,576 total electric vehicles registered in Ireland, representing a 57% increase from the previous year.

The majority of EVs on Irish roads are battery electric vehicles (BEVs), which accounted for 53% of the total country EV passenger fleet in 2022. Plug-in hybrid electric vehicles (PHEVs) represented the remaining 47% of total EV fleet. In terms of new sales, the electric car segment continues to grow strongly with 25,857 new electric cars registered in 2022, an increase 20% in sales of EV and of 65% of BEVs on 2021[35]. This trend is expected to continue in the coming years, as the Irish government has set an ambitious target of having all new cars sold in Ireland be zero-emission by 2035.

The EV charging infrastructure along national roads (en-route) in Ireland is continuing to expand in response to the growing demand for EVs. These stations are strategically located in service areas along motorways or on the major national road network and provide EV drivers with the ability to recharge their vehicles while taking a break or stopping for a meal.

Figure 5.6 below shows the current fast charging (DC) charging infrastructure currently installed across Ireland. Across the TEN-T Network, there is a reasonable geographic coverage to enable charging of passenger and LGVs, and the minimum standards set by AFIR for 2025 (400kW capacity every 60kM on the Core network) are almost met.

Although the capacity at some locations falls below what is merited based on the growing number of EVs on the road, large charging hubs installed and expected to be installed within a year along the motorway network will help improve the level of infrastructure.

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[33] SEAI (2022) National Energy Balance. Available at: National Energy Balance | Key Publications | SEAI

[34] As a share of gross final consumption of electricity. Note that this is not 1-to-1 equivalent with the RES-E value, which is based on installed generation capacity, and averages that installed capacity over multiple years to smooth weather effects.

[35] gov.ie - Irish Bulletin of Vehicle and Driver Statistics 2020 (www.gov.ie), gov.ie - Irish Bulletin of Vehicle and Driver Statistics 2021 (www.gov.ie), Vehicles licensed for the first time April 2023 - CSO - Central Statistics Office; Number of Vehicles by Taxation Class and Fuel Type under Current Taxation on 31 December 2022

In relation to HDV which includes busses, the AFIR requires that separated dedicated charging bays are made available for those vehicles classed as M2, M3, N2 or N3. To date, in Ireland, there is only one initiative (by SSE in Mullingar) initiated for public charging infrastructure for some of these classes[36].

Existing motorway service areas play a crucial role in the delivery of en-route EV charging infrastructure. These service areas serve as strategic locations where EV charging stations can be installed, providing convenient and accessible charging options for EV drivers during their journeys. By leveraging the existing infrastructure and amenities available at motorway service areas, such as parking spaces, rest areas, and facilities, EV charging stations can be seamlessly integrated into these locations, ensuring a positive charging experience for drivers and encouraging the adoption of electric vehicles.

Currently there are 22 on-line service areas serving the almost 1,000 km of motorway network in Ireland. Transport Infrastructure Ireland are directly involved in nine of these service stations. In 2009 the first tranche of motorway service areas (MSAs) was granted a Public Private Partnerships (PPP) (locations identified in purple in Figure 5.7). Each of the first tranche sites have facilities located on both sides of the motorway. The PPP for the second tranche of MSAs were allocated in 2018 (locations identified in yellow in Figure 5.7). These covered 3 single sites with one station serving both sides of the motorway. All of the PPP contracts are over a duration of 25 years. The remaining on-line service areas coloured green in Figure 5.7 were developed by private investment to standards required by TII.

[36] Work begins on 10-vehicle electric charging facility in Westmeath | Westmeath Independent

Figure 5.6 Current EV charging infrastructure on the National Road Network | NRNEVCP; Fig. 6

Figure 5.7 On-line service areas across Ireland's motorways

5.9.1.6 Transboundary Baseline

Transportation

Department for Infrastructure Roads is a business unit within the Department for Infrastructure (DfI), DfI is responsible for the maintenance of over 25,000km of public roads in Northern Ireland. Translink (Northern Ireland Railways), the state-owned transport company in Northern Ireland, operates approximately 357km of public rail lines (223 miles).

There are three main airports in Northern Ireland – Belfast International Airport, George Best Belfast City Airport and City of Derry Airport and there are five commercial ports in Northern Ireland (Belfast, Larne, Londonderry, Warrenpoint and Coleraine).

Water Supply

Northern Ireland Water is a Government Owned Company, set up in 2007 to provide the water and sewerage services in Northern Ireland.

According to Northern Ireland's Water's Drinking Water Quality Annual Report 2021[37], overall drinking water quality compliance in 2021 was 99.88%, above the target of 99.79%.

[37] Northern Ireland Water (2021) Drinking Water Quality Annual Report 2021. Available at: 2021NIWaterDrinkingWaterQualityAnnualReport.pdf

Wastewater Treatment and Discharge

Northern Ireland Water is also responsible for providing the sewerage services in Northern Ireland. An issue facing the management of wastewater in Northern Ireland is the discharge of untreated effluent in Northern Ireland seas and rivers.

Waste Management Services

The Northern Ireland Waste Management Strategy – Delivering Resource Efficiency[38] covers the period 2013 up to 2020 when Northern Ireland was still part of the European Union. A new waste management strategy is expected to be published by the end of 2023.

Northern Ireland's councils collected 1,034,637 tonnes of waste during 2021/22 which was similar to the amount collected in 2020/21. During 2021/22, 49.7% of waste collected by councils was sent for recycling which was also similar to the recycling rate in 2020/21 (50.0%). The landfill rate for waste collected by councils was 24.9% in 2021/22, 2.1 percentage points higher than 22.8% in 2020/21 which was the lowest rate recorded. Northern Ireland is currently facing challenges in relation to landfill capacity.

Energy

In 2019, some 52,476 GWh of total energy was consumed in Northern Ireland, which was roughly 4% higher than in 2015 levels.

The combined total of diesel and petrol consumed in Northern Ireland in 2019 due to road transport was the lowest annual volume on record at under 1.18 million tonnes of oil equivalent. In 2019, around three quarters of all diesel and petrol road transport consumption was due to personal use (i.e., consumption by buses, cars, and motorcycles) while the remaining quarter was due to freight transport consumption (i.e., consumption by HGVs and LGVs)[39].

Electricity Supply

As of May 2022, Northern Ireland had three major fossil-fuel based electricity-generating plants and a number of renewable generators which make up indigenous electricity production, the interconnection with Ireland and Scotland help to maintain security of supply in Northern Ireland.

Total electricity consumption in Northern Ireland in 2021 (7,574 GWh) was over 10% lower than in 2010. In 2021, Northern Ireland was a net exporter in terms of electricity trades with the Republic of Ireland (via the North-South tie-lines).

The electricity system in Northern Ireland consists of the following distinct businesses: generation, transmission, distribution and supply [39]

EVCI in Northern Ireland

In Northern Ireland, ESB currently owns and maintains approximately 337 (a mix of Fast (AC) and Rapid (DC)) public EV charge points[40].

[38] Department of the Environment (2013) Delivering Resource Efficiency – Northern Ireland Waste Management Strategy. Available at: The Radioactive Substances (Fee and Charges) Scheme (Northern Ireland) 2015 (daera-ni.gov.uk)

[39] Department for the Economy (DfE) (2022) Energy in Northern Ireland 2022. Available at: Energy in Northern Ireland 2022 (economy-ni.gov.uk)

[40] DfI (2022) EV Infrastructure Action Plan for Northern Ireland. Available at: Action Plan for Electric Vehicle (EV) Infrastructure (infrastructure-ni.gov.uk)

6. SEA Objectives, Targets and Indicators

6.1 Introduction

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

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

6.2 SEA Objectives and Targets

Strategic Environmental Objectives (SEOs) are methodological measures against which the environmental effects of the Plan can be assessed. If complied with in full, SEOs would result in an environmentally positive, or neutral impact from realisation of the Plan. The SEOs are set out under a range of topics and are used as standards against which the provisions of the NRNEVCP 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 Plan 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 which is intended to be implemented across the country.

The SEA Directive requires that the evaluation of the NRNEVCP 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 NRNEVCP as well identifying targets which the Plan 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 NRNEVCP .
- Being used in a monitoring programme.
- Providing an early warning of significant unforeseen adverse effects.
- Prioritising key environmental effects.
- 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 Objectives	Targets	Indicators
Population & Human Health	**Environmental Protection Objective (EPO):** **Protect, enhance, and improve human health and wellbeing.** ZEVI and the Department of Transport aim to ensure the following is carried out with respect to Population and Human Health: • Protect and enhance human health and well-being. • Provide improved and increased EVCI.	• No deterioration in human health as a result of environmental factors. • Improve the number and scale of EVCI across Ireland.	• Changes in trends in perceived health status. • Mode share of electrified public transport (passenger and freight) • Scale and location of EVCI in Ireland.
Biodiversity	**Environmental Protection Objective (EPO):** **Support achievement of the conservation objectives and requirements of the Birds and Habitat Directives, and other sites of nature conservation value.** ZEVI and the Department of Transport aim to ensure the following is carried out with respect to Biodiversity: • Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, species and wildlife corridors. • To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation. • 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. • To minimise and, where possible, eliminate threats to biodiversity including invasive species. • No net biodiversity loss.	• Siting of development of infrastructure installation on non-sensitive sites, where possible and appropriate. • Maintenance of favourable conservation status for all habitats and species protected under the Habitats Directive. • No loss of protected habitats and species during the lifetime of the Plan. • Improve/maintain protection for protected sites and species. • Improve/maintain protection for important wildlife sites, particularly urban wildlife corridors. • Prevent the introduction of new invasive or alien species. Control/manage new invasive species. • An increase in biodiversity in line with the 4th National Biodiversity Action Plan.	• Conservation status/habitat quality for all sites and species located near EVCI. • Scale of EVCI permitted in proximity/within European sites/sites of ecological importance. • Conservation status/habitat quality for all sites and species positively impacted by an improvement in air quality due to decarbonisation and the electrification of Ireland's vehicle fleet. • Level of biodiversity gain achieved as a result of the implementation of the Plan. • Level of biodiversity lost as a result of the implementation of the Plan. • Achievement of the Objectives of the National Biodiversity Action Plan.

Environmental Component	Strategic Environmental Objectives	Targets	Indicators
Land & Soils	**Environmental Protection Objective (EPO):** **Protect and enhance soil quality, function, and fertility.** ZEVI and the Department of Transport aim to ensure the following is carried out with respect to Land & Soils: • Protect soils against pollution. • Minimise the excavation and movement of soils within EVCI works. • Minimise the consumption of non-renewable deposits on site. • Minimise the amount of waste to landfill from the site. • Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.	• Prevent pollution of soil through adoption of appropriate environmental protection procedures during any construction or maintenance works. • No incidences of soil contamination • Ensure appropriate management of existing contaminated soil in accordance with the requirements of current waste legislation. • Limit the amount of excavation in sensitive locations. • Minimise the consumption of non-renewable sand, gravel and rock deposits. • Preference for development on brownfield site over greenfield sites.	• Incidences of soil contamination near EVCI works. • Rates of re-use/recycling of construction waste related to implementation of Plan. • Rates of brownfield site and contaminated land re-use and development near EVCI works. • Rates of greenfield development near and throughout EVCI works.
Water	**Environmental Protection Objective (EPO):** **Support achievement of the objectives of the Water Framework Directive.** ZEVI and the Department of Transport aim to ensure the following is carried out with respect to Water: • Ensure that the status of water bodies is protected, restored and no deterioration will be seen. • Cognisance will be given to the requirements of the Water Framework Directive. • Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion. .	• All waters within the plan area to achieve the objectives of the Water Framework Directive and the relevant River Basin Management Plan by 2027. • Minimise flood risk through appropriate management of flood vulnerable zones. Support flood prevention measures, where appropriate.	• Status and quality of waterbodies near EVCI. • Number of significant pollution events recorded as a result of the implementation of the Plan. • Past flood risk events in or around existing EVCI.

Environmental Component	Strategic Environmental Objectives	Targets	Indicators
Air Quality, Noise & Climate	**Environmental Protection Objective (EPO):** **Continue to comply with air quality standards to prevent or reduce harmful effects on human health and the environment; and** **Seek to reduce Ireland's transport-related greenhouse gas emissions to help in achieving Ireland's net zero commitments by 2050.** ZEVI and the Department of Transport aim to ensure the following is carried out with respect to Air Quality, Noise & Climate: • To avoid, prevent or reduce harmful effects on human health resulting from the emissions to air as a result of fossil fuel-based transport fleets and construction vehicles. • Maintain and promote continuing improvement in Air Quality, Noise & Climate through the reduction of emissions and promotion of a decarbonised and electrified fleet. • Meet the relevant Air Quality Standards for the protection of human health and vegetation including nitrogen deposition. • Minimise the use of high-embodied carbon during any EVCI works. • Contribute towards the reduction of greenhouse gas emissions in line with national targets.	• Improvement in Air Quality trends, particularly in relation to machinery related emissions of NOx and particulate matter. • Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy. • Meeting and improving Air Quality Standards for human health and vegetation, including nitrogen deposition. • Meet EU/ Irish carbon budgets and commitments. • Achievement of Paris Agreement GHG emission reduction targets. • Minimise air and noise emissions during construction and operation of new developments.	• General air quality results in the Republic of Ireland. • The changes and level of GHG emissions from the electrification of vehicular transport over the plan period. • Mode share of electrified public transport (passenger and freight). • Noise and air quality monitoring data from any new developments arising as a result of the Plan, as required.
Archaeology, Architecture and Cultural Heritage	**Environmental Protection Objective (EPO):** **Protect, conserve, and enhance the cultural heritage and historic environment.** ZEVI and the Department of Transport aim to ensure the following is carried out with respect	• Protect entries to the Record of Monuments and Places, and the immediate setting of these entries including relationships with the surrounding landscape where relevant, from adverse effects resulting from potential development and or increased infrastructure resulting from the Plan;	• No deterioration of features of archaeological/ architectural/ cultural significance as a result of the implementation of the Plan.

Environmental Component	Strategic Environmental Objectives	Targets	Indicators
	to Archaeology, Architectural and Cultural Heritage: • Protect and conserve the cultural heritage including the built environment and settings; archaeological recorded and unrecorded monuments, architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g., field walls, footpaths, gate piers etc.).	and where archaeological sites or monuments (or portions of such) have to be removed due to development the approach of preservation by record is applied. • More generally ensure permitted developments and or increased infrastructure, where possible, avoid impacts on cultural heritage, including Protected Structures, Architectural Conservations Areas and other significant landscape features; and protect the amenities of such structures, and features.	• Number of entries to the Record of Monuments and Places, and the immediate setting of these entries including their relationships with EVCI and the surrounding landscape. • Full or partial loss to entries to the RPSs/NIAHs near EVCI. • Archaeological Impact Assessments related to increased infrastructure due to EVCI, and or the number and types of archaeological investigations undertaken.
Landscape & Visual	**Environmental Protection Objective (EPO):** **Conserve, protect and enhance valued natural, cultural and built landscapes, seascape, views of local value and features.** ZEVI and the Department of Transport aim to ensure the following is carried out with respect to Landscape & Visual: • To implement the identification, assessment, protection, management and planning of landscapes.	• Any construction works and structures should be planned with cognisance of landscape sensitive areas and protected views/ prospects	• Measure of deterioration of landscape or areas with scenic value e.g., Areas of High Amenity, Areas of Outstanding Natural Beauty and Protected Views as a result of the implementation of the Plan.
Material Assets	**Environmental Protection Objective (EPO):** **Support the development of Electric Vehicle infrastructure while making efforts to reduce the carbon emissions and waste produced by the transport industry.** ZEVI and the Department of Transport aim to ensure the following is carried out with respect to Material Assets: • Provide improved and increased EVCI in appropriate locations across Ireland. • Provide improved electrified public transport and freight transport infrastructure.	• Improve the number and scale of EVCI across Ireland at appropriate locations. • Preference for development on brownfield site over greenfield sites. • Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy.	• Scale and location of EVCI in Ireland. • Statistics relating to the electrification of transport fleets in Ireland (including number of EV's, passengers and journey times). • Mode share of electrified public transport (passenger and freight).

Environmental Component	Strategic Environmental Objectives	Targets	Indicators
	• Re-use of excavated material generated during any construction works insofar as possible. • Reduce the carbon emissions associated with the transport through an electrified intercity network and through the procurement of hybrid and electric rolling stock in the short-term.		

7. Alternatives Considered

7.1 Introduction

Article 5.1 of the SEA Directive requires the Environmental Report 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 three 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); and
3. Provide reasons for the choice of preferred alternative(s) (Refer to Section 7.4).

7.2 Identification of Reasonable Alternatives

As discussed in Section 2, the NRNEVCP provides a roadmap for the deployment of EV Charging Infrastructure across the TEN-T network in Ireland. This includes proposals and targets for the deployment of EV charging infrastructure across the TEN-T and National Roads network and the potential commitments on investment, regulation, and policy instruments required of the coming years. The plan is the first part of a complete National En-Route EV Charging Network Plan for Ireland.

As part of the NRNEVCP, alternative proposals for the deployment of EV charging infrastructure have been presented in the Plan. The initial high-level steps in the assessment of alternative approaches to the development of the Plan are outlined in Section 7.2.1 below. Details of the alternative proposals are included in Section 7.2.2.

7.2.1 High-Level Assessment Steps

7.2.1.1 Step A

The high-level alternatives considered prior to the development of the NRNEVCP were largely based on a number of different modelling methodologies and scenario analysis, considered to inform NRNEVCP. These assessments, together with the AFIR requirements provided insights to shape the deployment of infrastructure in a way that is both efficient and effective, and that meets the needs of EV drivers while also supporting the transition towards a more sustainable transportation system.

Each of the high-level alternatives acknowledged that the deployment of EV charging infrastructure along the national road network in Ireland is a critical step in facilitating the widespread adoption of electric vehicles. In order to ensure that the necessary infrastructure is in place to support this transition, it was considered essential to develop a comprehensive NRNEVCP, and that this Plan must take into account a wide range of factors, including user needs, EV penetration projections, the current and future demand for EV charging, the geographic distribution of charging points, and the availability of electricity supply and grid infrastructure.

7.2.1.2 Step B

To ensure that alternatives for the deployment plan were effective in meeting the needs of EV drivers, modelling and scenario analysis was used to inform the decision-making process. This involves the use of different models and simulations to forecast the demand for EV charging and to evaluate the potential impact of different deployment strategies.

The modelling and scenario analysis that was conducted to inform alternatives for the Plan's en-route charging in Ireland had consideration for key assumptions and inputs, and the potential impact on the national electricity grid.

By using various modelling and scenario analysis to inform the deployment plan, shaping the deployment of infrastructure in a way that is both efficient and effective, and that meets the needs of EV drivers while also supporting the transition towards a more sustainable transportation system, could be achieved. Three alternative deployment proposals were assessed and informed by modelling and analysis, as outlined in Step C.

7.2.1.3 Step C

The initial step in the modelling process involved forecasting the anticipated future uptake of EVs. The current trajectory is encouraging, with almost 110,000 EVs (of which 62,500 are full electric vehicles (BEVs))already on the road as of the end of 2023. This progress puts the country on track to meet the CAP24 target of transitioning 195,000 passenger / LGVs to electric by 2025. The CAP24 envisions a significant acceleration in EV adoption during the latter half of the decade. However, the impact of the COVID-19 pandemic has resulted in decreased levels of new car sales, and additional challenges in the supply chain have further prolonged this trend.

It has been acknowledged that the acceleration of EV uptake is dependent on a set of different factors, ranging from behavioural trends, incentives, infrastructure provision, technology, and the regulatory framework. Therefore, while the CAP target to transition 30% of internal combustion engine (ICE) vehicles to electric by 2030 will remain unchanged, it is possible that the absolute number of EVs on the road by then may be adjusted considering the evolving circumstances. Separate to this plan, a revised model for predicting the transition to EVs through to 2030 is being developed by the Department of Transport as part of modelling for the Climate Action Plan. However, this will not be complete in time for this plan.

For the purposes of developing this plan the charging requirement needs based on the Climate Action Plan targets were assessed, these include:

- 195,000 passenger EVs by 2025
- 845,000 passenger EV and 95,000 LGVs by 2030

7.2.1.4 Step D

Furthermore, in assessing alternatives, the requirement for public EV chargers to meet and surpass the charging demand was also assessed and was approached through both bottom-up and top-down approaches. An important element in developing alternatives was that the requirements outlined in the AFIR for overall public charging infrastructure (requiring 1.3 kW of charging infrastructure per BEV and 0,8kW per PHEV) will cover the evolving needs of EV drivers anticipated in 2025. Therefore, these requirements were considered as the foundation in planning scenarios for the Plan for 2025. On the other side, the modelling, together also with AFIR requirements was the foundation to assess the charging requirements for 2030 and 2035.

7.2.1.5 Step E

The analysis as detailed above, resulted in three alternatives based on different levels of EV charging infrastructure deployment for the En-Route Road infrastructure network. These alternatives consider both the primary and secondary road network and is planned to serve only passenger and LGVs. Details are outlined in the following section.

7.2.2 Reasonable Alternatives

The three reasonable alternatives have been summarised in Tables 7.1. They include the following details:

- **Alternative 1 "Alternative Fuels Infrastructure Regulation":** The first alternative outlines the required EV Charing capacity that is required to comply with the AFIR requirements on the TEN-T road network. This alternative caters only for the TEN-T core roads (500km road length). For 2025 targets it will require approximately 7,200kW per 5,300km and provide approximately 78 to 104 charging points. This would deliver 3% of the total fleet based AFIR target output based on 195,000 EVs. The AFIR also has specific requirement in relation to HDVs which are outlined in Table 7.2.

- **Alternative 2 "Medium EV Charging Capacity Scenario"** calls for AFIR 2030 TEN-T targets for LDV to be delivered in 2025. This would include the TEN-T Core, as well as TEN-T comprehensive roads including motorways / dual carriageways and single carriageways, along with 100kW of charging every 30 kms on the remaining primary and secondary national roads. This would deliver 415 to 706 charging points and 21% of the total fleet-based AFIR target in terms of power output required across the country based on having 195,00 passenger/LDVs on the road. It would require approximately 45,200kW per 5,300km.
- **Alternative 3 "High EV Charging Capacity Scenario"** calls for a higher level of high-power en-route charging guided by the fact, as outlined above, that the National Primary Network account for 34% of the road traffic in the country. This scenario is also informed by the modelling for 2030 conducted as part of this plan that indicated that AFIR targets for TEN-T road charging network would not be adequate to meet demand. For 2025 targets, this Alternative would require 72,200 kW per 5,300km to deliver 706 to 1,118 charging points (34% of the AFIR fleet-based target) across the TEN-T Core, TEN-T Comprehensive and Primary and Secondary Road networks.

In all cases the delivery of 195,000 EVs are predicted for 2025, and a target charging output of 214,000 kW is anticipated. Both alternatives 2 and 3 call for a significantly accelerated deployment of en-route EV charging infrastructure across the National Road Network. The objective of the Plan is to deliver at least Alternative 2 for EV charging infrastructure, with Alternative 3 level of charging being considered where needed at some sites.

Table 7.1 Targeted En-Route Charging Infrastructure for Passenger Vehicle / HGVs in 2025

2025: Where	Road Length km	Alternative 1: Alternative Fuel Infrastructure Regulation 2025	Alternative 2: Medium EV Charging Capacity Scenario 2025	Alternative 3: High EV Charging Capacity Scenario 2025
Ten T Core (Each Direction)[41]	500	400kW @60 km 3-4 charge points At least one with 150 kw Capacity	600kW @60km 4-6 x Charge Points	900kW @60km 6-9 x Charge Points
Ten T Comprehensive (Motorway / Dual Carriageway) (Each Direction)	700	Nothing Specific – (covered by fleet target)	600kW @60km 4-6 x Charge Points	900kW @60km 6-9 x Charge Points
Ten T Comprehensive (Single Carriageway) (Each Direction)	1,000	Nothing Specific (covered by fleet target)	300kW @ 60km 3-4x Charge Points	400kW @ 60km 3-4x Charge Points
Primary and Secondary Road Non-Ten-T	3,100	Nothing Specific (covered by fleet target)	100kW @ 30km 1-2 x Charge points	200kW @ 30km 2-4 x Charge Points
Total Charging Power (kW)	5,300	7,200	45,200	72,200
Approx no of Charge-Points		78-104	415-706	706-1118

[41] "Each Direction" requires this level of infrastructure to be available to cars travelling in each direction. For a single charging pool serving both sides of the road, with the given distance, this charge capacity level needs to be doubled.

2025: Where	Road Length km	Alternative 1: Alternative Fuel Infrastructure Regulation 2025	Alternative 2: Medium EV Charging Capacity Scenario 2025	Alternative 3: High EV Charging Capacity Scenario 2025
No of EVs anticipated		195,000	195,000	195,000
National Fleet-based target output (Kw) (Required by AFIR)		214,000	214,000	214,000
% Of National Fleet-based target output (kW) delivered through en-route charging infrastructure		3%	21%	34%

Table 7.2 Requirements of the AFIR (for charging infrastructure dedicated to HDVs, including buses)

Year	Road Network	Rechargers for heavy duty vehicles
By 2025	TEN-T Core & Comprehensive[42]	*15% of the total length of TEN-T road network* • **1400 kW** every **120 km** in each direction – *with at least one charge point with 350 kW*
	Urban node, *(Dublin, Cork, Foynes and Galway)*	**900 kW** – *provided by stations with an individual power output of 150 KW*
By 2027	TEN-T Core & Comprehensive	*50% of the total length of TEN-T Road network with capacity and distance as follows:* **TEN-T Core**: **2800 kW in each direction** every **120 km** TEN-T Comprehensive: **1400 kW in each direction** @ 120KM **note derogations may apply see Table 8 of Plan*
	At each HDV parking and rest area	**2 recharging stations dedicated** to heavy-duty vehicles (minimum **100 kW** each)
By 2030	TEN-T Core & Comprehensive	**On TEN-T Core** – **3600 kW** every **60 km**, **in each direction**– *with at least two stations with 350 kW each* **On Ten-T Comprehensive** – **1500 kW** every **100 km, in each direction** – *with at least one station with 350 kW* **note derogations may apply see Table 8 of Plan*
	Parking and Rest Areas	By **2030**: each safe and secure parking area **4 recharging stations** dedicated to heavy-duty vehicles (minimum **100 kW** each)
	Urban Nodes	**1800 kW** – *provided by stations with an individual power output of 150 kW*

[42] TEN-T core network' means a network as defined in Article 38 of Regulation (EU) No 1315/2013 - maps

7.3 Evaluation and Comparison of Reasonable Alternatives

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 7.3 which is based on the impact assessment criteria defined by the EPA for environmental impact assessment.

Table 7.3 Impact Ratings

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

Table 7.4 identifies the likely unmitigated impacts associated with each of the alternatives considered. The emerging preferred alternative is Alternative 2.

Table 7.4 High Level Environmental Assessment of Alternatives

Alternative Number	Description of Alternative Scenario:	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
Alternative 1	Alternative Fuels Infrastructure Regulation Compliance with AFIR (TEN-T core only)								
Alternative 2	Medium EV Charging Capacity Scenario AFIR 2030 TEN-T targets for LDV to be delivered in 2025								
Alternative 3	High EV Charging Capacity Scenario Higher level of high-power en-route charging than AFIR to be delivered by 2025								

Each Alternative is likely to result in a positive environmental effect overall, on Population & Human Health and Air Quality, Noise & Climate through the improvement of charging infrastructure and consequent uptake of zero emissions vehicles. However, implementation would require an increased demand in Material Assets for the development of the infrastructure and use of electricity for charging vehicles. In addition, to accommodate the deployment of this amount of EV charging infrastructure across the TEN-T network there is potential for negative impacts on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; Landscape & Visual; and as a result of construction.

Alternative 1 would have both positive and negative potential impacts on Material Assets. Positive impacts could result from the improvement of charging infrastructure across Ireland, however, as this Alternative sets out to achieve AFIR targets solely, there is potential for an increased demand on Material Assets as a higher number of infrastructures has been modelled to meet with EV demands.

Alternative 2 is likely to result in positive effects on Population & Human Health, Air Quality, Noise & Climate, and Material Assets as a result of increased availability of EV charging infrastructure across the country. In terms of climate, this alternative ambitiously aims to surpass the requirements of the AFIR and further contribute to the demands of CAP24 targets to ensure 30% private ownership of EVs by 2030 and end of the sale of all new petrol and diesel cars by 2035. While this is certainly positive in terms of Air Quality, Noise & Climate and improvements within the EV charging infrastructure, this will have an increased demand on Material Assets to deliver this infrastructure. As a greater area of road network will be used, this may have an increased impact on potential Archaeology, Architectural & Cultural Heritage records, and will equally negatively impact on Biodiversity; Land & Soil; Water; and Landscape & Visual.

Alternative 3 is likely to result in a positive impact on Population & Human Health, Air Quality, Noise & Climate, and Material Assets. However, this Alternative will lead to an increased demand on Material Assets including energy demand and infrastructure materials in order to deliver this ambitious alternative across the TEN-T Core, TEN-T Comprehensive, primary and secondary road network in Ireland. In addition, Ireland may not have the resources available to meet these criteria within this time frame, resulting in a further demand on Material Assets. Potential negative impacts may arise from the deployment of this infrastructure and will likely impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual.

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 proposals of the NRNEVCP 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.

In relation to transboundary effects, it must be noted that the assessment of significant effects outlined in Section 8.2 to Section 8.4 of this report also takes regard for transboundary effects of the NRNEVCP on Northern Ireland. Where there is potential for any significant effects to occur, particularly in relation to the air quality, climate and water assessments that have been detailed in Section 8.2 to Section 8.4, the potential for transboundary effects between the Republic of Ireland and Northern Ireland have also been considered throughout the assessment process.

8.2 Assessment of Environmental Effects

The environmental effects of the NRNEVCP's proposals 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.

Where potential effects are identified, it is expected that these can be mitigated through the implementation of the mitigation measures outlined in Section 9.

Table 8.1 Significance Ratings

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:

- Population & Human Health (P&HH);
- Biodiversity (Bio) (note: the topic of marine environment and aquatic species have been assessed under Biodiversity);
- Land and Soil (L&S);
- Water (Wat) (note: the topic of marine environment has been assessed under Water);
- Air Quality, Noise & Climate (AQ, N &C);
- Archaeology, Architectural & Cultural Heritage (AA&CH);
- Landscape &Visual (L&V); and
- Material Assets (MA).

8.3 Principal Environmental Effects

The NRNEVCP represents a roadmap for establishing EV charging infrastructure across the TEN-T network throughout the country. A number of value areas have been identified in the NRNEVCP which have the potential to give rise to positive effects on the environment. Value areas and guiding principles identified within the NRNEVCP have been outlined below:

1. **Prioritise and enhance private sector participation:** The important role of the existing private sector companies who are providing fuelling, charging and ancillary services is recognised. In this regard, interventions will be designed to ensure the continued vitality of the private sector and promote a self-sustainable high power enroute EV charging market.
2. **Sustainability first**: Upgrading of existing facilities and infrastructure will be prioritised to minimise the carbon emissions associated with new construction in line with sustainable development principles. Interventions which are aligned with Climate Action policies and avoid increasing vehicle kilometres will be viewed more favourably.
3. **Alignment with wider policy and other network goals**: The interventions will support: the State's overall decarbonisation goals; the National Planning Framework (and associated National Strategic Outcomes including sustainable mobility, enhanced regional accessibility, transition to a low carbon and climate resilient society); and consider alignment with ESBN and EirGrid's electricity network strategies. Interventions will seek to avoid encouraging over concentration of providers of enroute charging facilities on the national road network.
4. **Customer experience and equity**: Interventions will seek to provide a best-in-class customer experience to all users to ensure a positive perception of EV charging infrastructure provision and further facilitate the EV transition. This includes coverage across Ireland to ensure equitable distribution ensuring connectivity across urban, rural and end of routes.
5. **Enhance and facilitate innovation:** New and innovative technologies that further accelerate the roll-out of appropriate EV charging infrastructure will be encouraged coupled with the use of data to inform decision making.
6. **Resource efficiency:** Interventions will seek to facilitate efficient use of private and public resources.
7. **Enabling delivery:** ZEVI intends to further unblock potential barriers by facilitating and progressing grid upgrade enabling works to streamline the process for the private sector companies to access the required grid power/ connections required for high powered charging sites. This is consistent with '*Resource Efficiency*' where '*build once for 2040*' approach will avoid piecemeal grid upgrades which are resource inefficient. These enabling works should significantly reduce the overall project delivery time for enroute high power EV charging installation.

8. **Public intervention:** In such case that it becomes clear (via evidence) that a market gap (i.e. insufficient enroute high power charging infrastructure to meet AFIR and/ or forecast market demand) cannot or will not be addressed by the above mentioned options, more direct public intervention measures may be considered to facilitate delivery. This may include: insufficient private sector appetite for the provision of specific charging infrastructure for certain vehicle types or at certain locations/ sections of the national road network; demand/ supply analysis; market consultations; other evidence. Such interventions may take the form of direct government investments, public private partnerships, or other appropriate means.

9. **Developing a national data strategy:** ZEVI is formulating a national data strategy for EV charging infrastructure which will be vital for an efficient, customer focussed charging network. TII will play a coordinating role to ensure that any resulting central data management strategy / system (or similar) will support efficient operations across the national road network. Through the provision of charging infrastructure data it is intended that different stakeholders such as EV drivers, charging infrastructure providers and investors can more efficiently use/ deploy enroute charging infrastructure.

As part of the SEA process, the NRNEVCP was reviewed to identify pre-determined objectives for assessment. In the absence of clearly defined objectives, a series of proposals were identified within the NRNEVCP and assessed with respect to the existing environmental baseline and the environmental objectives and targets.

As the proposals included in the NRNEVCP have been designed to promote the deployment accessibility of EV charging infrastructure across the country to meet targets and demands, environmental assessment outcomes are generally positive or neutral. However, the ambitious and ambiguous nature of some of these proposals has resulted in negative, neutral and unknown impacts on certain environmental factors. Matrices were prepared to identify potential impacts across the plan area and those likely impact relevant to specific areas of the plan area.

The NRNEVCP contains a range of proposals relating to the implementation of EV charging infrastructure in Ireland. The deployment of this infrastructure across the TEN-T network has largely been assessed as likely to result in overall positive effects on the environment, particularly on Population & Human Health and Air Quality, Noise & Climate environmental factors, with potential negative effects on Biodiversity; Land & Soils; Water; Archaeology, Architectural and Cultural Heritage; and Landscape & Visual. However, the deployment and uptake of EV charging infrastructure is likely to have an increased demand on electricity and consequently a negative, neutral or unknown impact on Material Assets is predicted.

A generally positive effect on Population & Human Health and Air Quality, Noise & Climate is identified, as the plan recommends user-friendly and reliable charging infrastructure which will lead to a reduction in GHG and pollutant emissions. Overall, the deployment of charging infrastructure will reduce GHG and pollutant emissions and have a positive impact on Air Quality and Climate. The Plan will also contribute towards meeting the CAP24 targets of 30% EVs in private vehicles by 2030 and reducing 51% transport emissions by 2030. This will also benefit Material Assets by providing sufficient and improved charging infrastructure ahead of peak demands. A detailed assessment of each of the proposals of the NRNEVCP is set out in Table 8.2 below.

Table 8.2 Environmental Assessment of the National Road Network EV Charging Plan – Proposals

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
1	The current status of network capacity shows a direct need for reinforcement at 38 kV and MV level, to be able to accommodate the intended development and deployment of public EV recharging infrastructure. (*pg. 42*)								
SEA Comments: This proposal reads as an observation on the requirement for reinforcement of the network capacity to accommodate and deliver the public EV charging infrastructure. It is specific to analysing the current status of the network capacity and is therefore considered neutral in terms of environmental effect. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual and Material Assets are likely to occur as a result of this proposal.									
2	Prioritise and enhance private sector participation: The important role of the existing private sector companies who are providing fuelling, charging and ancillary services is recognised. In this regard, interventions will be designed to ensure the continued vitality of the private sector and promote a self-sustainable high power enroute EV charging market. (*pg. 46*)								
SEA Comments: This proposal commits the Plan to prioritising private sector participation in the deployment of charging infrastructure to ensure a self-sustainable market. It is specific to stakeholder involvement and supply chain management and is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; and Landscape & Visual are likely to occur as a result of this proposal. It can be considered that this proposal could potentially lead to a slight positive impact on Material Assets through the establishment of a self-sustaining market. However, it is most likely that this proposal will likely have a neutral impact on Material Assets as it does not lead to development directly.								
3	Sustainability first: Upgrade of existing facilities and infrastructure will be prioritised to minimise the carbon emissions associated with new construction in line with sustainable development principles. Interventions which are aligned with Climate Action policies and avoid increasing vehicle kilometres will be viewed more favourably. (*pg. 46*)								
SEA Comments: This proposal relates to sustainability and minimisation of carbon emissions in the deployment of the charging infrastructure. It states that prioritisation will be given to the upgrading of existing infrastructure over new development and construction will be in line with sustainable development principles. The aspect of this proposal focuses on the consideration of embodied carbon and sustainability in materials. This will likely have a positive impact on Population & Human Health, Air Quality, Noise & Climate and Material Assets due to the sourcing of more sustainable materials and the provision of EV infrastructure resulting in potential reductions in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e., as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. Impacts on environmental factors such as Biodiversity, cannot be ruled out, however, as the locations for infrastructure have not yet been identified. Similarly, the development of new charging infrastructure cannot rule out negative impacts on Land & Soils; Water; Archaeology, Architectural & Cultural Heritage and Landscape & Visual. Refer to mitigation measures outlined in Section 9 of this report.								

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
4	Alignment with wider policy and other network goals: The interventions will support: the State's overall decarbonisation goals; the National Planning Framework (and associated National Strategic Outcomes including sustainable mobility, enhanced regional accessibility, transition to a low carbon and climate resilient society); and consider alignment with ESBN and EirGrid's electricity network strategies. Interventions will seek to avoid encouraging over concentration of providers of enroute charging facilities on the national road network. (*pg. 46*)								
SEA Comments: This proposal relates to the consideration of other national policies in support of decarbonisation, sustainability and the electricity network. It also notes that interventions will avoid the overconcentration of providers of charging infrastructure. While these goals concentrate on sustainability, accessibility and avoidance of overconcentration of providers, which could potentially benefit Population & Human Health, Air Quality, Noise & Climate and Material Assets, this proposal centres around the alignment with goals and strategies and is therefore considered neutral overall. This proposal is likely to have a neutral impact on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architectural & Cultural Heritage; Landscape & Visual and Material Assets as it does not lead to development.								
5	Customer experience and equity: Interventions will seek to provide a best-in-class customer experience to all users to ensure a positive perception of EV charging infrastructure provision and further facilitate the EV transition. This includes coverage across Ireland to ensure equitable distribution ensuring connectivity across urban, rural and end of routes. (*pg. 46*)								
SEA Comments: This proposal relates to the customer experience of EV charging infrastructure and centres around public perception. This proposal is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; and Landscape & Visual are likely to occur as a result of this proposal.									
6	Enhance and facilitate innovation: New and innovative technologies that further accelerate the roll-out of appropriate EV charging infrastructure will be encouraged coupled with the use of data to inform decision making. (*pg. 46*)								
SEA Comments: This proposal notes that innovative technologies will be utilised to improve the roll-out of EV charging infrastructure. It is specific to technology and is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual and Material Assets are likely to occur as a result of this proposal.									
7	Resource efficiency: Interventions will seek to facilitate efficient use of private and public resources. (*pg. 46*)								
SEA Comments: This proposal commits to the efficient use of private and public sector resources. However, it is specific to stakeholder involvement and efficiency of the roll out, and therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; and Landscape & Visual are likely to occur as a result of this proposal.									

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
It can be considered that this proposal could potentially lead to a slight positive impact on Material Assets through the efficient use of resources. However, it is most likely that this proposal will likely have a neutral impact on Material Assets as it does not lead to development directly.									
8	Unblock potential barriers by facilitating and progressing grid upgrade enabling works to streamline the process for the private sector companies to access the required grid power/ connections required for high powered charging sites. This is consistent with 'Resource Efficiency' where 'build once for 2040' approach will avoid piecemeal grid upgrades which are resource inefficient. These enabling works should significantly reduce the overall project delivery time for enroute high power EV charging installation. (*pg. 47*)								
SEA Comments: This proposal seeks to identify and facilitate grid upgrade enabling works to streamline access to the required power connections to implement the Plan and reduce overall project delivery time. The potential impact on Material Assets has been identified as unknown. While the upgrading of grid and streamline of accessibility to the grid will have a potential positive impact on materials assets; utilisation of the infrastructure will also generate an increased demand on energy supply. These enabling works have the potential for an indirect negative impact on Biodiversity (including transboundary) through potential pollution pathways during construction and potential habitat removal required for construction. Similarly, these works may also negatively impact Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary). Refer to mitigation measures outlined in Section 9 of this report. This will likely have a positive impact on Population & Human Health as a result of improved access to the grid and uptake in the use of charging infrastructure. Air Quality, Noise & Climate will also be positively impacted, through the improvement of grid access and improved utilisation of alternative fuels infrastructure resulting in a potential reductions in emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase.								
9	In such case that it becomes clear (via evidence) that a market gap (i.e. insufficient enroute high power charging infrastructure to meet AFIR and/ or forecast market demand) cannot or will not be addressed by the above-mentioned options, more direct public intervention measures may be considered to facilitate delivery. This may include insufficient private sector appetite for the provision of specific charging infrastructure for certain vehicle types or at certain locations/ sections of the national road network; demand/ supply analysis; market consultations; other evidence. Such interventions may take the form of direct government investments, public private partnerships, or other appropriate means. (*pg. 47*)								
SEA Comments: This proposal relates to potential market gaps and public intervention measures to address these gaps. This is specific to financial investments that may be required to close market gaps and is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; and Landscape & Visual are likely to occur as a result of this proposal.									
10	Locations are to be considered according to the following order of priority for each option: • TEN-T core network Arterial; • TEN-T comprehensive (Motorway/Dual Carriageway); • TEN-T comprehensive single-carriageway primary road network; and								

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
	• Non TEN-T national primary and secondary road network. (*pg. 48*)								
SEA Comments: This proposal relates to the hierarchy of locations chosen for the deployment of EV charging infrastructure. This has the potential for a positive impact on Population & Human Health as a result of increased convenience of location for users and improved accessibility to infrastructure along the national road network. Overall, the deployment of infrastructure at predetermined locations is also likely to have a positive impact in Air Quality, Noise & Climate through the reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e., as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. The determination of these locations may negatively impact on Biodiversity indirectly (including transboundary), depending on potential pathways for effect arising during construction and potential habitat removal. construction of the charging infrastructure will likely have a temporary negative impact on Land & Soils; Water; Archaeology, Architectural & Cultural Heritage and Landscape & Visual (including transboundary). Refer to mitigation measures outlined in Section 9 of this report. The potential impact on Material Assets has been identified as unknown. While the development of charging infrastructure across each location will provide increased accessibility to charging infrastructure and use of EV across Ireland; utilisation of the infrastructure will also generate an increased demand on energy supply which has the potential for negative impacts on Material Assets.								
11	Further, while designing the geographical reach of possible options, compliance with national and international policies and regulations is likely to be taken into account. (*pg. 48*)								
SEA Comments: This proposal states that compliance with policies and regulations is likely to be taken into account when identifying the geographical areas for deployment. This relates specifically to the design of locations for deployment and is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual and Material Assets are likely to occur as a result of this proposal.									
12	Further, while designing the geographical reach of possible options, coverage of urban nodes and other key network nodes to ensure infrastructure availability in high traffic routes and for cross over traffic are likely to be taken into account. (*pg. 48*)								
SEA Comments: The proposal seeks to ensure infrastructure availability in urban nodes and other key network nodes in areas of high traffic, and states that it will likely be taken into account. It relates specifically to the design of locations for deployment. The construction of infrastructure at these urban nodes has the potential for negative impacts on Biodiversity (including transboundary) as a result of potential habitat loss and potential pollution pathways arising during construction. These construction activities also have the potential for negative impacts on Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual as a result (including transboundary). Refer to mitigation measures outlined in Section 9 of this report. The proposal is also likely to have a positive impact on Population & Human Health and Air Quality, Noise & Climate through the increased availability of infrastructure in high traffic routes and the potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. The potential impact on Material Assets is unknown. While the proposal will seek to improve materials asset availability for EV charging, the roll out of charging infrastructure will likely have an increased demand on Material Assets as a result of construction materials and energy demands. Refer to mitigation measures outlined in Section 9 of this report.								

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
13	Further, while designing the geographical reach of possible options, maximum coverage of national road network including regional and rural areas, ensuring connectivity and end of routes are well served is likely to be taken into account. (*pg. 48*)								
SEA Comments: The proposal seeks to ensure the network of regional, rural and end of routes are well served by EV charging infrastructure, and states that it will likely be taken into account. It relates specifically to the design of locations for deployment. The construction of infrastructure at these urban nodes has the potential for negative impacts on Biodiversity (including transboundary) as a result of potential habitat loss and potential pollution pathways arising during construction. These construction activities also have the potential for negative impacts on Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual a result (including transboundary). Refer to mitigation measures outlined in Section 9 of this report. This may have a positive impact on Population & Human Health, Air Quality, Noise & Climate and Material Assets by ensuring road networks are served with sufficient infrastructure and the potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. The potential impact on Material Assets is unknown. While the proposal will seek to improve materials asset availability for EV charging, the roll out of charging infrastructure will likely have an increased demand on Material Assets as a result of construction materials and energy demands. Refer to mitigation measures outlined in Section 9 of this report.								
14	Further, while designing the geographical reach of possible options, coverage of tourist / seasonal spots adjacent to the national primary and secondary road network is likely to be taken into account. (*pg. 48*)								
SEA Comments: The proposal seeks to ensure that tourist and seasonal spots adjacent to the national primary and secondary road network are served by EV charging infrastructure, and states that it will likely be taken into account. It relates specifically to the design of locations for deployment. The construction of infrastructure at these urban nodes has the potential for negative impacts on Biodiversity (including transboundary) as a result of potential habitat loss and potential pollution pathways arising during construction. These construction activities also have the potential for negative impacts on Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual as a result (including transboundary). Refer to mitigation measures outlined in Section 9 of this report. This may have a positive impact on Population & Human Health, and Air Quality, Noise & Climate by identifying tourists spots to be served by the infrastructure and the potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. The potential impact on Material Assets is unknown. While the proposal will seek to improve materials asset availability for EV charging, the roll out of charging infrastructure will likely have an increased demand on Material Assets as a result of construction materials and energy demands. Refer to mitigation measures outlined in Section 9 of this report.								
15	Further, while designing the geographical reach of possible options, facilitating and supporting key economic sectors including fleet; trade; business; commuter; and leisure is likely to be taken into account. (*pg. 48*)								
SEA Comments: The proposal focuses on the facilitation of key economic sectors within the Plan, and states that it will likely be taken into account in the geographical reach of options. It relates specifically to the design of locations for deployment.									

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
The construction of infrastructure at these urban nodes has the potential for negative impacts on Biodiversity (including transboundary) as a result of potential habitat loss and potential pollution pathways arising during construction. These construction activities also have the potential for negative impacts on Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual as a result (including transboundary). Refer to mitigation measures outlined in Section 9 of this report. This may have a positive impact on Population & Human Health and Air Quality, Noise & Climate by catering for economic sectors using road networks and the potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e., as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. The potential impact on Material Assets is unknown. While the proposal will seek to improve materials asset availability for EV charging, the roll out of charging infrastructure will likely have an increased demand on Material Assets as a result of construction materials and energy demands. Refer to mitigation measures outlined in Section 9 of this report.								
16	Any scheme ZEVI will implement must be in compliance with EU state aid rules. (*pg. 49*)								
SEA Comments: This proposal relates to compliance of the scheme with EU state aid rules. While this compliance will likely have a positive impact on the development of the scheme, this proposal is considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual and Material Assets are likely to occur as a result of this proposal.									
17	All expenditure will be in compliance with the Public Spending Code. (*pg. 48*)								
SEA Comments: This proposal relates to compliance of the scheme's expenditure with the Public Spending Code. This is specific to the expense management of the scheme and is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual; and Materials Assets are likely to occur as a result of this proposal.									
18	As indicated in the 2022-2025 EV Charging Infrastructure Strategy, ZEVI has been working on developing a set of Universal Design Guidelines for charging infrastructure. The aim of these guidelines is to make electric vehicle charging stations accessible to all users. The guidelines summarise key considerations when installing electric vehicle charging stations, including the design of the charging station, accessibility of the site, and information and communications to inform users before, during, and after a charging session. This document has been published for public consultation in July 2023. (*pg. 51*)								
SEA Comments: This proposal relates to the development of guidelines for the EV charging infrastructure which aims to improve accessibility, considerations of design and user experience. This proposal is specific to the design guidelines and is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual; and Material Assets are likely to occur as a result of this proposal.									
19	Currently ZEVI (in consultation with stakeholders) is working on a Data Strategy with the aim of publishing it by January 2024.								

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
	This Data Strategy has been prepared to represent Ireland's response to the impending AFIR directive on the management and distribution of current and projected data demands within the EV ecosystem. The aim of the strategy is to help ensure that people, businesses, and organisations trust the data ecosystem being developed and that can get access to data when they need it. The strategy outlines the need to establish an EV Data Hub System to ensure a trusted and consistent single source of truth for all actors in the EV ecosystem. (*pg. 51*)								
SEA Comments: This proposal relates to the development of a Data Strategy to ensure reliability of the infrastructure among businesses and users. While this may have increased confidence in services, this proposal is considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual; and Material Assets are likely to occur as a result of this proposal.									
20	While the market may dictate additional connectors, charging points for light-duty vehicles will be equipped (at least) with Type 2 connectors for AC connections and Combo 2 connectors for DC connections. Future innovations, such as wireless charging, will also be required to comply with minimum technical specifications. (*pg. 51*)								
SEA Comments: This proposal relates to the inclusion of relevant connections for vehicles at each charging station. This will allow for increased usability of the EV charging infrastructure and will likely result in a development or change. This proposal will likely have a positive impact on Population & Human Health due to the potential reduction in transport emissions. It may also have a positive impact on Air Quality, Noise & Climate by allowing vehicles to connect to alternative fuels infrastructure and the potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. The works may have an indirect negative impact Biodiversity (including transboundary) depending on potential pollutant pathways and potential habitat removal required during construction. Construction may also result in a negative impact on Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary). Refer to mitigation measures outlined in Section 9 of this report. The potential impact on Material Assets is unknown. While the proposal will seek to improve materials asset availability for EV charging, the roll out of charging infrastructure will likely have an increased demand on Material Assets as a result of construction materials and energy demands. Refer to mitigation measures outlined in Section 9 of this report.									
21	All new public charge points installed after the Alternative Fuels Infrastructure Regulation comes into force (expected to be in 2023), will be required to accept card payments by means of a contactless facility for charge points with capacity over 50kW and for charge-points with capacity below this to, at minimum, enable a QR code payment system. (*pg. 52*)								
SEA Comments: This proposal relates to the requirements of the AFIR to allow for card and contactless payments at each station. While this may have a positive impact through the improved usage and potential update by the public, this proposal is specific to the user experience and is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual; and Material Assets are likely to occur as a result of this proposal.									

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
22	From 1 January 2027 onwards, charge point operators shall ensure that all publicly accessible charging points operated by them (and that have a power output equal to or more than 50 kW) can accept card payments. (*pg. 52*)								
SEA Comments: This proposal relates to the requirements card payment acceptance at each station from January 2027. While this may have a positive impact through the improved usage and potential update by the public, this proposal is specific to the user experience and is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual; and Material Assets are likely to occur as a result of this proposal.									
23	Charge point operators will clearly display their prices, as well as comparison costs for other fuels. As a result, this information is known to end users before they initiate a charging session. Pricing will be non-discriminatory. (*pg. 52*)								
SEA Comments: This proposal relates to the requirements of operators to clearly display prices for charging at each station, as well as comparison with other fuel prices. While this may have a positive impact through the awareness of pricing for each fuel method, this proposal is specific to the user experience and is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual; and Materials Assets are likely to occur as a result of this proposal.									
24	From one year after AFIR comes into force, all new public charge points (installed from that point onwards) will be required to be enabled for smart charging. This will enable future Vehicle-to-Grid operations and other system services and efficiencies such as electricity-demand regulation. (*pg. 52*)								
SEA Comments: This proposal seeks to improve charging infrastructure to enable future Vehicle-to-Grid operations and upgrades. This may negatively impact on Biodiversity (including transboundary) as a result of potential pollutant pathways during construction and potential habitat removal which may be required for construction. Similarly, the development of these infrastructure improvements may have a negative impact on Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) during construction. Refer to mitigation measures outlined in Section 9 of this report. Overall, this proposal has the potential for a positive impact on Population & Human Health, Air Quality, Noise & Climate and Material Assets as it will lead to improved user experience and the potential reduction in transport emissions. The future improvement of Material Assets with the improvement of efficiencies such as regulation of electricity demand will also have a likely positive impact. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase.									
25	Other standards related to design of infrastructure elements related to EV charging infrastructure along national roads may need to be updated to reflect new requirements. Some examples may include TII's DN-GEO-03028 "The Location and Layout of On-line Service Areas" or the Traffic Signs Manual. (*pg. 52*)								
SEA Comments:									

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
This proposal notes that existing standards relating to EV charging infrastructure may need to be updated to reflect potential new requirements. While this may have a positive impact on through the awareness of pricing for each fuel method, this proposal is specific to the user experience is therefore considered neutral in terms of environmental effects. No positive or negative impacts on Population & Human Health; Biodiversity; Land & Soils; Water; Air Quality, Noise & Climate; Archaeology, Architecture & Cultural Heritage; Landscape & Visual; and Materials Assets are likely to occur as a result of this proposal.									
26	For passenger/LDV charging, three alternatives for the delivery of en-route infrastructure for passenger/LDV for 2025 and 2030 are outlined (See Table 11 and Table 12 of the Plan). At minimum, Alternative 1 must be delivered in order to meet AFIR's specific TEN-T road network requirements. However, results of analysis show that more than this is needed, in order to deliver AFIR's fleet-based targets and also to be ahead of the needs of EV drivers. Therefore, the target will be to deliver Alternative 2 and if possible Alternative 3 specifically in those areas of higher demand. (*pg. 54*)								
SEA Comments: This proposal establishes three alternative pathways towards implementing the EV charging network by 2025 and 2030, with Alternative 1 meeting the requirements of AFIR and Alternatives 2 and 3 delivering infrastructure to meet higher demands. It is stated that the target will be to deliver Alternative 2 and if possible Alternative 3 in areas of high demand to accommodate fleet-based targets and EV driver needs. In each case, (Alternative 1, 2 or 3), an increased demand on Material Assets will be required to facilitate the roll out of EV charging infrastructure and energy-demand requirements for the charging of vehicles. While this is likely to have a greater demand on Material Assets, as further demands for vehicles and charging infrastructure rises following the plan, there is potential for a long-term positive impact on Material Assets overall, as a result of the shift from petrol and diesel fuelled car towards electric vehicles. In the short term, there is potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works. Refer to mitigation measures outlined in Section 9 of this report. There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of this proposal's provision of increased availability and accessibility of EV charging infrastructure for road users and the potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase.									
27	By 2025, for 15% of the TEN-T Core & Comprehensive (Figure 2) 1400kW every 120km in each direction will be provided with at least one charge point with 350kW. (*pg. 56*)								
SEA Comments: The proposal seeks to deliver specific electrical grid upgrades throughout the Irish road network to supplement the delivery of the Plan. This will accommodate the TEN-T Core & Comprehensive network with 1400kV charging infrastructure every 120km. This has potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works. Refer to mitigation measures outlined in Section 9 of this report. There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of increased availability of infrastructure and uptake in the use of EVs resulting in a potential reduction in transport emissions. While there is potential for an increased demand on Material Assets as a result of electricity requirements to deliver this energy, overall, this will likely have a positive impact on Material Assets with a potential shift towards the use of electric vehicles among road users and improvement of charging infrastructure. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase.									

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
28	By 2025, at Urban Nodes (Dublin, Cork, Foynes and Galway), 900kW will be provided by stations with an individual power output of 150kW. (*pg. 56*)								
SEA Comments: The proposal seeks to deliver specific electrical grid upgrades throughout the Irish road network at urban nodes. This will facilitate the urban nodes with 900kV charging infrastructure stations with an individual power output of 150 kW. This has potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works activities. Refer to mitigation measures outlined in Section 9 of this report. There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of increased availability of infrastructure and uptake in the use of EVs resulting in the potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. While there is potential for an increased demand on Material Assets as a result of electricity requirements to deliver this energy, overall, this will likely have a positive impact on Material Assets with a potential shift towards the use of electric vehicles among road users and improvement of charging infrastructure.									
29	By 2027, 50% of the TEN-T Core will have 2800kW every 120km in each direction with at least two charge points with 350kW. (*pg. 56*)								
SEA Comments: The proposal seeks to deliver specific electrical grid upgrades to the TEN-T Core network to include 2800kW charging stations every 120km across 50% of the road network. There is potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works. Refer to mitigation measures outlined in Section 9 of this report. There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of increased availability of infrastructure and uptake in the use of EVs resulting in the potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. While there is potential for an increased demand on Material Assets as a result of electricity requirements to deliver this energy, overall, this will likely have a positive impact on Material Assets with a potential shift towards the use of electric vehicles among road users and improvement of charging infrastructure.									
30	By 2027, 50% of the TEN-T Comprehensive will have 1,400kW every 120km in each direction, with at least one charge point with 350kW. (*pg. 56*)								
SEA Comments: The proposal seeks to deliver specific electrical grid upgrades to the TEN-T Comprehensive network to include 1400kW charging stations every 120km across 50% of the road network. This proposal has potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works. Refer to mitigation measures outlined in Section 9 of this report. There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of increased availability of infrastructure and uptake in the use of EVs resulting in a potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase.									

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
While there is potential for an increased demand on Material Assets as a result of electricity requirements to deliver this energy, overall, this will likely have a positive impact on Material Assets with a potential shift towards the use of electric vehicles among road users and improvement of charging infrastructure.									
31	By 2027, at each HDV parking and rest areas dedicated to overnight parking, 2 recharging stations dedicated to heavy-duty vehicles with a minimum 100kW each will be provided. *(Note: Ireland do not have any such sites at present).* (*pg. 56*)								
SEA Comments: The proposal seeks to deliver specific electrical grid upgrades HDV parking and rest areas to include 2 recharging stations dedicated to HDVs by 2027. This proposal has potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works. Refer to mitigation measures outlined in Section 9 of this report. There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of increased availability of infrastructure and uptake in the use of EVs resulting in the potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. While there is potential for an increased demand on Material Assets as a result of electricity requirements to deliver this energy, overall, this will likely have a positive impact on Material Assets with a potential shift towards the use of electric vehicles among HDV drivers and improved charging infrastructure.									
32	By 2030, the TEN-T Core will have 3600kW every 60km in each direction with at least two stations with 350kW each. (*pg. 56*)								
SEA Comments: The proposal seeks to deliver specific electrical grid upgrades to the TEN-T Core network to include 3600kW charging stations every 60km across the road network. This proposal has potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works. Refer to mitigation measures outlined in Section 9 of this report. There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of increased availability of infrastructure and uptake in the use of EVs resulting in a potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. While there is potential for an increased demand on Material Assets as a result of electricity requirements to deliver this energy, overall, this will likely have a positive impact on Material Assets with a potential shift towards the use of electric vehicles among road users and improvement of charging infrastructure.									
33	By 2030, the TEN-T Comprehensive will have 1500kW every 100km in each direction with at least one station at 350kW. (*pg. 56*)								
SEA Comments: The proposal seeks to deliver specific electrical grid upgrades to the TEN-T Comprehensive network to include 1500kW charging stations every 100km across the road network. This proposal has potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works. Refer to mitigation measures outlined in Section 9 of this report.									

No.	Proposal	P&HH	Bio	L&S	Wat	AQN&C	AA&CH	L&V	MA
There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of increased availability of infrastructure and uptake in the use of EVs resulting in a potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. While there is potential for an increased demand on Material Assets as a result of electricity requirements to deliver this energy, overall, this will likely have a positive impact on Material Assets with a potential shift towards the use of electric vehicles among road users and improvement of charging infrastructure.									
34	By 2030, at each safe and secure parking area, 4 recharging stations will be provided which are dedicated for heavy-duty vehicles (minimum 100kW each) *(Note: Ireland do not have any such sites at present).* (*pg. 56*)								
SEA Comments: The proposal seeks to establish 4 recharging stations dedicated to HDVs by 2030. This proposal has potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works. Refer to mitigation measures outlined in Section 9 of this report. There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of increased availability of charging infrastructure resulting in a potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. While there is potential for an increased demand on Material Assets as a result of electricity requirements to deliver this energy, overall, this will likely have a positive impact on Material Assets with a potential shift towards the use of electric vehicles among HDV drivers and improvement of charging infrastructure.									
35	By 2030, 1800kW will be provided by stations with an individual power output of 150kW in Urban Nodes. (*pg. 56*)								
SEA Comments: This proposal seeks to develop 1800kW power charging stations in urban nodes. This proposal has potential for a negative impact on Biodiversity; Land & Soils; Water; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual (including transboundary) as result of construction works. Refer to mitigation measures outlined in Section 9 of this report. There is potential for a positive impact on Population & Human Health and Air Quality, Noise & Climate as a result of increased availability of infrastructure and uptake in the use of EVs resulting in a potential reduction in transport emissions. There is a potential for negative effects on these environmental aspects during any construction works required to implement this strategy (i.e. as a result of air and noise emissions, potential land take etc). However, a positive rating was assigned as it is predicted that the predominant effect is positive during the operational phase. While there is potential for an increased demand on Material Assets as a result of electricity requirements to deliver this energy, overall, this will likely have a positive impact on Material Assets with a potential shift towards the use of electric vehicles among road users and improvement of charging infrastructure.									

8.4 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 proposals of the NRNEVCP, a range of projects/schemes 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 Environmental Report to inform such, in the future development could result in environmental conflicts and lead to the deterioration of environmental quality. The interrelationships between environmental components that help determine these potential effects are identified in Table 8.2 below.
- **Potential Inter-Plan cumulative effects**, which 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 have therefore been considered for their potential to give rise to potential cumulative effects with the NRNEVCP.

Within the NRNEVCP a range of projects and schemes are proposed. Each of these should be subject to cumulative assessment at project level, as necessary, to determine whether the subject 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.

8.4.1 Intra-Plan Cumulative Effects

Potential negative intra-plan cumulative effects are identified between Material Assets and Biodiversity; Land & Soils; Air Quality, Noise & Climate; Archaeology, Architectural & Cultural Heritage; and Landscape & Visual. The deployment of EV charging infrastructure will have an increased demand on Materials Assets which will potentially impact Air Quality, Noise & Climate. Additionally, the deployment of this infrastructure will impact on Biodiversity and Archaeology, Architectural & Cultural Heritage should locations within European sites or areas containing monuments and records be required. Equally, the ambitious nature and infrastructure required to meet EV demands will impact Land & Soils and Landscape & Visual due to the volume of infrastructure required across the country. Impacts on Landscape & Visual are also likely to impact Population & Human Health and may negative impact public perception and uptake in EVs, as a result. Cumulatively, this demand will impact on Material Assets and Air Quality, Noise & Climate.

Potential negative intra-plan cumulative effects are identified between Population & Human Health, Land & Soil and Water, as any potential contamination of the same could find its way into drinking or bathing waters and become potentially harmful to health. Equally, there is a potential positive intra-plan cumulative effect between the three environmental factors as an increased uptake in EV vehicles and eradication of new petrol and diesel vehicles by 2035 will decrease any potential oil leaks or spills as a result of using these vehicles and reduction in contamination events.

Finally, potential positive intra-plan cumulative effects are identified between Material Assets, Air Quality, Noise & Climate and Population & Human Health. The improvement of infrastructure materials will encourage user friendly and accessible charging infrastructure which will benefit Population & Human Health. In turn, the increase in use and availability of alternative fuels infrastructure will have a positive impact on Air Quality, Noise & Climate.

The intra-plan cumulative effects identified are set out in Table 8.3. below.

Table 8.3 Intra-Plan Cumulative Effects

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

8.4.2 Inter-Plan Cumulative Effects

With regards Inter-Plan effects, the NRNEVCP has the potential to contribute positively and cumulatively towards a wide range of Irish Government policies, within the context in which it sits. For example, the Plan directly contributes towards the achievement of the Alternative Fuels Infrastructure Regulation (AFIR) (European Commission) 2023, which sets out legally binding national and EU-wide targets for the deployment of alternative fuels infrastructures for road vehicles, vessels and stationary aircraft. The Plan address key requirements of the AFIR including the deployment of 600 kW of EV charging infrastructure for passenger cars and LGVs on every 60 km of the entire TEN-T by 2035.

Another example in which the NRNEVCP positively contributes towards, are the objectives of the Climate Action and Low Carbon Development (Amendment) Act 2021 and National Climate Action Plan (CAP 23) through the extensive suite of proposals for the deployment of EV charging infrastructure to accommodate the uptake of EV and contribute towards Ireland's target of having 30% EVs for private vehicles by 2030 and no new petrol or diesel cars being sold by 2035.

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

Table 8.4 Cumulative Impacts of the NRNEVCP with key plans and programmes

Environmental Component	Potential Cumulative effects that could generally occur across environmental components:
Population & Human Health	There is potential for cumulative negative impacts on communities and/or individuals to occur as a result of inappropriate locations for new EV charging infrastructure deployment, in combination with the increased population, land-use and associated development emanating from County Development Plans, Local Area Plans and other Land Use Plans. While most EV charging infrastructure are likely to be located within existing stations, a significant number of new developments may be required to facilitate the achievement of the NRNEVCP within greenfield sites or lands zoned for other purposes. 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 relating to Population & Human Health 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 Population & Human Health as a result of the implementation of developments plans and the NRNEVCP. There is potential for cumulative positive impacts on local communities and or individuals as a result of increased development and public infrastructure, particularly in relation to improved availability of and accessibility to EV charging infrastructure. The NRNEVCP, the Alternative Fuels Infrastructure Regulations, the TEN-T policy, Electric Vehicle Charging Infrastructure Strategy 2022 – 2025 and accompanying Implementation Plan (Department of Transport and ZEVI) 2023, along with other national transportation initiatives, will have a cumulative positive impact on Population & Human Health through the improvement of infrastructure, increased availability and accessibility of infrastructure and consideration of all road networks including national primary and secondary roads. These policies have undergone 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, no likely cumulative effects on human health and population are anticipated in combination with the NRNEVCP, where all relevant mitigation and monitoring are undertaken from SEA and or AA processes.
Biodiversity	There is potential for cumulative, negative impacts on Biodiversity as a result of the implementation of the NRNEVCP, in combination with all Management Plans for Natura 2000 sites and other plans for infrastructure requirements across Ireland. In the context of the NRNEVCP, areas within the TEN-T and National Roads network fall within the Zone of Influence for European Natura 2000 sites. The construction of new or upgrading of existing infrastructure may have the potential to negatively impact Biodiversity within potential European sites or greenfield sites which may be required for the development of the EV charging infrastructure. These Plans are 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. Overall, it is not anticipated that significant negative cumulative effects are likely to occur as a result of the aforementioned Plans and or Strategies in combination with the NRNEVCP, where all relevant mitigation and monitoring are undertaken. There is potential for negative cumulative effects to occur as a result of the implementation of the NRNEVCP, in combination with the National Planning Framework 2040, National Development Plan 2021-2023, Regional Economic and Spatial Strategy Plans, and particularly County Development Plans and Local Authority Plans, as a result of potential habitat loss which may occur as a result of the EV charging infrastructure developments in combination with other developments occurring across the country. 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 related to birds, 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 Biodiversity as a result of the implementation of developments plans and the NRNEVCP.

Environmental Component	Potential Cumulative effects that could generally occur across environmental components:
Land & Soils	There is potential for cumulative negative effects to occur on Land & Soils, as a result of the new EV charging infrastructure developments and upgrading, in combination with new development and or land use changes in line with Land Use Plans, such as Eastern and Midland Regional Spatial and Economic Strategy 2019- 2031 (Eastern and Midland Regional Assembly) 2019, Northern and Western Regional Spatial and Economic Strategy 2020- 2032 – Northern and Western Regional Assembly 2020, and Southern Regional Spatial and Economic Strategy (Southern Regional Assembly) 2020. In addition, to ensure EV charging infrastructure is available to all road users within the TEN-T and National Road Network, there is potential for cumulative negative effects to occur in combination with rural action plans such as Rural Development Policy (Department of Rural and Community Development) 2021 and Realising our Rural Potential – Action Plan for Rural – Development (Department of Rural and Community Development) 2017 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 impacts to biodiversity will be minimised insofar as possible through SEA and AA mitigation measures.
Water Resources	There is potential for cumulative negative effects to occur on water quality as a result of increased construction and development of infrastructure across the road network, in combination with plans such as the National Planning Framework 2040, National Development Plan 2021-2023, Regional Economic and Spatial Strategy Plans, and particularly County Development Plans and Local Authority Plans. However, these plans have undergone 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, no likely cumulative effects on water resources are anticipated in combination with the NRNEVCP, where all relevant mitigation and monitoring are undertaken.
Air Quality, Noise & Climate	There is potential for cumulative positive effects to occur on Air Quality, Noise & Climate, as a result of the implementation of the NRNEVCP, particularly in combination with plans such as the Climate Action Plan 2023, the European Green Deal, the Climate Action Low Carbon Development (Amendment) Act, and Local Authority Climate Adaptation Plans. Implementation of the NRNEVCP, is likely to give rise to a decrease in carbon emissions in the transition to alternative fuels resources such as the charging of electric vehicles over use of petrol and diesel alternatives. It is not anticipated that significant negative cumulative effects will result from the aforementioned Plans and the NRNEVCP, as the purpose of each Plan and or Policy is to adapt and mitigate against climate change. Thus, a potential for positive cumulative effect is anticipated for Air Quality, Noise & climate, in relation to these Plans and the NRNEVCP. Equally, there is potential for cumulative negative impacts on Air Quality, Noise & Climate as a result of increased development required across the country. The level of charging infrastructure required for the NRNEVCP in combination with other developments required for County Development Plans, Local Area Plans and other Land Use Plans has the potential to impact Air Quality, Noise & Climate during construction phases, should these developments spatially or temporally overlap. However, these plans have undergone 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, no likely cumulative effects on water resources are anticipated in combination with the NRNEVCP, where all relevant mitigation and monitoring are undertaken.
Archaeology, Architectural and Cultural Heritage	There is potential for cumulative negative impacts to occur on Archaeology, Architectural & Cultural Heritage where developments are to take place within areas containing protected structures, records or monuments, as a result from the NRNEVCP in combination with development and changes in land-use occurring as a result of the implementation of County Development Plans, Local Area Plans and Land Use Plans. 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.

Environmental Component	Potential Cumulative effects that could generally occur across environmental components:
	Thus, it is anticipated that any negative impacts to Archaeology, Architectural & Cultural Heritage will be minimised insofar as possible through the relevant mitigation and monitoring outlined within the SEA and AA of these Plans.
Landscape & Visual	Potential negative impacts to Landscape & Visual as a result of proposed infrastructure improvement and deployment of new EV charging infrastructure across the TEN-T and National Road Network in combination with other development and changes in land-use occurring as a result of the implementation of County Development Plans, Local Area Plans, Land Use Plans and Transport infrastructure policies. It is not anticipated that negative cumulative effects will occur, where the relevant mitigation and monitoring outlined in this ER are undertaken.
Material Assets	There is potential for negative cumulative effects to occur on energy resourcing within Ireland as a result of the energy demands required to facilitate the use of EV charging infrastructure as part of the NRNEVCP, in combination with other energy demands required for developments set out in County Development Plans, Local Area Plans, Land Use Plans and Regional Spatial Plans. There may be an increased pressure on the grid and electricity resources as a result of increased reliability on electrical infrastructure. These Plans have undergone full SEA and thus, no negative cumulative effects are anticipated in combination with the NRNEVCP, where all relevant mitigation and monitoring are undertaken. There is also potential for cumulative positive effects to occur on Material Assets, through the improvement of existing and development of new transport infrastructure in combination with the National Investment Framework for Transport in Ireland, EV charging Infrastructure Strategy and National Planning Framework. The NRNEVCP, in combination with the European Green Deal, Climate Action and Low Carbon Development (Amendment) Act (2021), the Climate Action Plan and Local Authority Climate and Adaptation Plans are likely to result in positive effects in terms of renewable energy resources and GHG reductions across the country providing alternative fuels resources. It is not anticipated that negative cumulative effects will result from the aforementioned Plans, in combination with the NRNEVCP as the purpose of each Plan and or Policy is to adapt and mitigate against climate change. Thus, a potential for positive cumulative effect is anticipated for material assets in relation to renewable energy, GHG reductions and the aforementioned Plans.

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 impacts on the environment of implementing the NRNEVCP. All mitigation measures have been developed and agreed with ZEVI as part of the SEA iterative process. The primary mitigation measure is to ensure the sustainable and appropriate development of the plan area without compromising the integrity of the natural and built environment.

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

In addition, many impacts will be more adequately identified and mitigated at project and EIA level. In general terms, all proposals for development will be required to have due regard to environmental considerations outlined in this Environmental Report and associated AA Screening.

In this section the mitigation measures are discussed under each environmental parameter heading. Refer to Table 9.1 for proposed mitigation measures, and recommendations of the SEA.

Table 9.1 Proposed Mitigation Measures for the NRNEVCP

Environmental Component	Relevant Mitigation Measures	Proposals to which this applies
Population & Human Health	Any developments resulting from the implementation of the NRNEVCP which would be likely to have a significant negative effect on amenities in the plan area through air emissions, noise emissions, odours, water emissions or visual disturbance should be mitigated in order to eliminate significant negative impacts or reduce them to relevant limit levels.	8, 10, 12, 13, 14, 15, 20, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
Biodiversity	**Protection of Biodiversity including Natura 2000 Network** Protect designated sites including Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), Natural Heritage Areas, proposed Natural Heritage Areas, UNESCO World Heritage and UNESCO biosphere sites, Ramsar Sites, Salmonid Waters, Shellfish Waters, Freshwater Pearl Mussel catchments, Flora Protection Orders and Species, Wildlife sites (including Nature Reserves); the Water Framework Directive Register of Protected Areas; Wildfowl Sanctuaries and Tree Preservation Orders. Identify and afford appropriate protection to any new, proposed or modified designated sites (as listed above) should they arise during the lifetime of this Plan. Any developments arising from the implementation of the NRNEVCP shall comply with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	Biodiversity and Ecological Networks Any developments arising from the implementation of the NRNEVCP 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 NRNEVCP should aim to achieve no net biodiversity loss where practicable. To ensure the protection and conservation of areas, sites, species and ecological networks/corridors of biodiversity value outside of designated sites throughout the country and to require an ecological assessment to accompany development proposals likely to impact on such areas or species. To protect and promote the sustainable management of the natural heritage, flora and fauna of the county through the promotion of biodiversity, the conservation of natural habitats and the enhancement of new and existing habitats. To promote the conservation of biodiversity through the protection of sites of biodiversity importance and wildlife corridors, both within and between the designated sites and the wider Plan area.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	Land-Take The design of any developments arising from the implementation of the NRNEVCP will ensure that measures are explored to avoid 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. If land-take cannot be avoided, an assessment of the type (and use) of habitat present is required to determine suitable mitigation and/or compensation measures.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.

Environmental Component	Relevant Mitigation Measures	Proposals to which this applies
	Existing sites (where appropriate) and brownfield sites will be considered in the first instance for any infrastructural development or expansions.	
	Hydrological Change Where proposed work has the potential to result in hydrological change, and there is a European Site within the zone of influence, then design level 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 NRNEVCP , including European Sites designated for their international nature conservation importance. This will also help to inform the overall design of any infrastructure requirements.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	Air Quality Where there is potential for implementation of the NRNEVCP to result in significant increases in air pollution, and a European Site falls within the zone of influence of such implementation, then air quality modelling should be undertaken to determine potential air quality impacts of the implementation of the NRNEVCP on sites, including European Sites within the zone of influence. Where increased air pollution may result in adverse effects on habitats, potential solutions to mitigate air pollution and resulting dust and nitrogen deposition 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).	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	Water Pollution Where proposed work has the potential to result in water pollution, and there is hydrological connectivity to a European Site, Surface Water Management Plans (SWMPs) will be prepared for planning submission of development proposals and implemented during construction where impacts on sensitive waterbodies are likely to arise. 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. Integrated and innovative solutions require a partnering approach best managed through a SWMP. Where implementation of the Proposals 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 NRNEVCP , if a European Site falls within the zone of influence.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	Noise, vibration and visual disturbance Development proposals arising as a result of implementation of the NEEVCNP will have regard to the requirements of the Noise Directive 2002/49/EC and associated Environmental Noise Regulations 2006 ES 45 and European Communities (Environmental Noise) Regulations 2018 S.I. No. 549/2018 (Ireland) (and any updated/superseding documents). 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, to the degree that the noise/vibration/visual disturbance affects the integrity of the ecological receptor. In constructing development proposals arising as a result of the NRNEVCP regard shall also be given to BS 5228 Part 1 (2014) and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001 *'Code of Practice for Noise and Vibration Control on Construction and Open Sites'* (and any updated/superseding documents).	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.

Environmental Component	Relevant Mitigation Measures	Proposals to which this applies
	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.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
Land & Soils	**Contamination** Ensure that adequate soil protection measures are undertaken where appropriate on any developments arising from the implementation of the NRNEVCP . 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. Ensure contaminated soil is disposed of in accordance with the Waste Management Regulations (S.I.821 of 2007).	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	Geological Heritage Sites To recognise the importance of Geological Heritage Sites and to protect the character and integrity of these sites.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	Land Use Development proposals arising from the implementation of the NRNEVCP should be cognisant of the target of the National Planning Framework's (2018) SEA to *"Maintain built surface cover nationally to below the EU average of 4%"* . Existing sites (where appropriate) and brownfield sites should be considered in the first instance for any infrastructural development or expansions. Avoid geologically unsuitable areas including karst where practicable, and areas susceptible to subsidence or landslides.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
Water	**Water Quality** To protect water quality, where alternative fuel infrastructure is being developed at existing refuelling infrastructure, ensure that the appropriate tests for contaminated land are carried out and the appropriate mitigation measures are developed prior to construction works of alternative fuel infrastructure. To ensure Sustainable Drainage Systems (SuDS) is applied to any new facility and that site-specific solutions to surface water drainage systems are developed taking account of the alternative fuel type(s) being deployed on the site, and which meet the requirements of the Water Framework Directive and associated River Basin Management Plans. To ensure that developments likely to have an unacceptable impact on water resources, including surface water and groundwater quality and quantity, designated sources protection areas, estuarine, coastal transitional waters, river corridors and associated wetlands are not permitted. To protect river habitats, species and water quality, ensure that no infrastructure, including clearance and storage of materials, takes place within a minimum distance of 25m measured from each bank of any river, stream or watercourse.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	Flood Risk Management Any developments resulting from the implementation of the NRNEVCP shall be subject to plan/project level flood risk assessments, where relevant.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.

Environmental Component	Relevant Mitigation Measures	Proposals to which this applies
	Avoid development of infrastructure in flood risk areas. Ensure that any new development does not present an inappropriate risk of flooding or does not cause or exacerbate such a risk at other locations. Reference should be made to the Planning System and Flood Risk Management for Planning Authorities (DECLG/OPW 2009) and the National Flood Hazard Mapping (OPW) while referring to the relevant Flood Risk Management Plan (FRMP).	
	Groundwater To protect groundwater resources in accordance with the statutory requirements and specific measures as set out in the relevant River Basin Management Plan.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
Air Quality, Noise & Climate	**Air** Ensure that developments do not give rise to negative effects on air quality, during both construction and operation. Dust management plans shall be prepared and implemented for any major construction/reinstatement/upgrade works associated with the implementation of the NRNEVCP .	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	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 NRNEVCP ; • Flood risk; • Susceptibility to major accidents/disasters; • Extreme temperature and associated implications including those relating to the operation of transport and ancillary infrastructure and services. The development of any future refuelling and recharging infrastructure should assess the potential vulnerability of new infrastructure to the likely impacts of climate change, where relevant.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
	Noise Consideration of existing noise policy in Ireland, for example noise mapping and noise action plans produced by the Local Authorities. Consideration of likely noise impacts/effects associated with new developments. This includes being cognisant of proximity to sensitive receptors when siting new developments and the noise levels associated with the construction plant.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
Archaeology, Architectural & Cultural Heritage	**Archaeological Heritage** Where practicable, developments arising from the implementation of the NRNEVCP 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). To have regard to archaeological concerns when considering proposed developments located in close proximity to Recorded Monuments and Places and the Zones of Archaeological Potential. 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.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.

Environmental Component	Relevant Mitigation Measures	Proposals to which this applies
	Architectural Heritage Where possible developments arising from the implementation of the NRNEVCP should contribute towards the protection of architectural heritage by adhering to the relevant legislative provisions of the Planning and Development Act 2000 (as amended). Development arising from the NRNEVCP should ensure the protection of the architectural heritage through the identification of Protected Structures, the designation of Architectural Conservation Areas, the safeguarding historic gardens, and the recognition of structures and elements that contribute positively to vernacular and industrial heritage. To protect, as set out in the Record of Protected Structures, all structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social, or technical interest.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
Landscape & Visual	Developments and plans arising from the implementation of the NRNEVCP 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 NRNEVCP 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. Existing sites (where appropriate) and brownfield sites should be considered in the first instance for any infrastructural development or expansions. Avoid, as far as possible, siting alternative fuel infrastructure in areas protected for landscape and visual amenity, geological heritage and/or cultural heritage value. Where this is unavoidable, an impact assessment should be carried out by a suitably qualified practitioner and appropriate mitigation and/or alternatives must be provided. To require that all proposed developments in Heritage Landscapes demonstrate that every effort has been made to reduce visual impact. This must be demonstrated for all aspects of the proposal- from site selection through to details of siting and design. All other relevant provisions of the development plan must be complied with. To protect sensitive areas from inappropriate development while providing for development and change that will benefit the rural community. To ensure that proposed developments take into consideration their effects on views from the public road towards scenic features or areas and are designed and located to minimise their impact. To ensure that appropriate standards of location, siting, design, finishing, and landscaping are achieved. Any future plans/programmes arising from the implementation of the NRNEVCP will have regard to existing and new landscape guidance documents.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
Material Assets	**Resources** Phasing of infrastructure deployment to manage available resources. Continued engagement with ESB Networks on the development of plans to ensure grid availability for EV charging infrastructure. Distribution of maximum power output among charge points where more than one vehicle charges simultaneously at a charging station. Use of battery technology to mitigate delays in grid connection. Promote the development of sufficient energy resources to meet the needs of the Plan area and promote the use of renewable energies to meet those needs.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.

Environmental Component	Relevant Mitigation Measures	Proposals to which this applies
	Waste Management Promote the implementation of the Waste Management Plan together with any future National or Regional Waste Management Plans. Additionally, ensure national policies and regulations regarding waste are adhered to. Encourage waste prevention, minimisation, reuse, recycling and recovery as methods of managing waste during construction.	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.
All	Any developments arising from the implementation of the NRNEVCP shall be subject to the relevant environmental assessments, as required (i.e. Environmental Impact Assessment, Environmental Impact Assessment Screening, Appropriate Assessment, Habitats Regulations Assessment). To require all planning applications for development that may have (or cannot rule out) likely significant effects on European Sites in view of the site's Conservation Objectives, either in isolation or in combination with other plans or projects, to submit a Natura Impact Statement in accordance with the requirements of the EU Habitats Directive and the Planning and Development Act, 2000 (as amended).	3, 8, 10, 12, 13, 14, 15, 20, 24, 25 26, 27, 28, 29, 30, 31, 32, 33, 34, 35.

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 NRNEVCP.

As outlined in the EPA guidance document '*Guidance on SEA Statements and Monitoring'* (EPA, 2020), SEA monitoring should reflect the nature and level of detail of the plan/programme (EPA, 2020)[43]. 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.

Refer to Table 9.2 for the potential monitoring measures. The potential monitoring measures included are based on national indicators and informed by the content of the NRNEVCP.

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

ZEVI is responsible for collating existing relevant monitored data, the preparation of preliminary and final monitoring evaluation reports, the publication of these reports where there is a potential impact likely to arise out of the implementation of an element of the Plan. Corrective measures will be carried out as required, based on the outcomes of this monitoring.

[43] EPA (2020) Guidance on SEA Statements and Monitoring. Available at: Strategic Environmental Assessment | Environmental Protection Agency (epa.ie)

Table 9.2 Potential monitoring measures for the NRNEVCP

Environmental Component	SEA Indicators	Monitoring Sources	Frequency/Responsibility
Population & Human Health	Mode share of electrified public transport (passenger and freight) Scale and location of EVCI in Ireland.	CSO Census Reports – Health, Population, Employment and Transport Statistics.	Central Statistics Office, every 6 years.
Biodiversity	Conservation status/habitat quality for all sites and species located near EVCI. Scale of EVCI permitted in proximity/within European sites/sites of ecological importance. Conservation status/habitat quality for all sites and species positively impacted by an improvement in air quality due to decarbonisation and the electrification of Ireland's vehicle fleet. Level of biodiversity gain achieved as a result of the implementation of the Plan. Level of biodiversity lost as a result of the implementation of the Plan. Achievement of the Objectives of the National Biodiversity Action Plan.	The Status of EU Protected Habitats and Species in Ireland Article 17 Report (Department of Housing, Local Government and Heritage). Department of Housing, Local Government and Heritage report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive. EPA State of the Environment Report 2020. Birds of Conservation Concern Ireland – Monitoring by Birdwatch Ireland on status, distribution, population etc. EPA Air quality monitoring reports. Northern Ireland Environmental Statistics Report	DHLGH, every 6 years. Department of Housing, Local Government and Heritage (DHLGH). Every 6 years. EPA, every 4 years. Birdwatch Ireland, every 6 years. EPA annual air quality monitoring. DAERA, annually.
Land & Soils	Incidences of soil contamination near EVCI works. Rates of re-use/recycling of construction waste related to implementation of Plan. Rates of brownfield site and contaminated land re-use and development near EVCI works. Rates of greenfield development near and throughout EVCI works.	EPA State of the Environment Report 2020. Northern Ireland Environmental Statistics Report	EPA, every 4 years. DAERA, annually.
Water	Status and quality of waterbodies near EVCI. Number of significant pollution events recorded as a result of the implementation of the Plan. Past flood risk events in or around existing EVCI.	Ireland's National Water Framework Directive Monitoring Programme, 2019-2021. River Basin Management Plan for Ireland 2018 -2021 & Draft River Basin Management Plan for Ireland (2022 – 2027). The Status of EU Protected Habitats and Species in Ireland Report (Department of Housing, Local Government and Heritage). EPA Water Quality of Ireland 2020 Report. EPA Water Quality Status for surface and ground water. EPA Risk Status for surface and ground water.	EPA, continuously. DHLGH, every 6 years. DHLGH, every 6 years. EPA, continuously. EPA, varies. EPA, varies.

Environmental Component	SEA Indicators	Monitoring Sources	Frequency/Responsibility
		Monitoring in the Review of Flood Risk Management Plans 2021. Monitoring for the EPA Catchments Unit and Local Authority Waters Programme. Northern Ireland Environmental Statistics Report	OPW, every 3 years. EPA Catchment Unit, DHLGH and relevant local authorities, varies. DAERA, annually.
Air Quality, Noise & Climate	The changes and level of GHG emissions from the electrification of vehicular transport over the plan period. Compliance with national Air Quality Standards (AQS). Mode share of electrified public transport (passenger and freight). Overall GHG emission reductions over the Plan period.	EPA Air Quality Monitoring. Sustainable Energy Authority of Ireland (SEAI) - Monitoring of Renewable Energy Sources in Ireland. Monitoring related to Local Authority Climate Action Plans. EPA Greenhouse Gas Emissions Report. Northern Ireland Environmental Statistics Report CSO Census Reports.	EPA, continuously. SEAI, varies. Local Authorities, every 5 years. EPA reports on each sector on an annual basis. DAERA, annually. CSO, every 6 years.
Archaeology, Architecture & Cultural Heritage	Number of entries to the Record of Monuments and Places, and the immediate setting of these entries including their relationships with EVCI and the surrounding landscape. Full or partial loss to entries to the RPSs/NIAHs near EVCI. Archaeological Impact Assessments related to increased infrastructure, and or the number and types of archaeological investigations undertaken.	Registers of nationally protected sites and structures. The National Inventory of Architectural Heritage. Monitoring related to relevant Local Area Plans and County/City Development Plans or RSESs. Heritage Plan Ireland 2030. Local Authority Heritage Plans. Northern Ireland Environmental Statistics Report	NPWS (National Parks and Wildlife Services), NMS (National Monuments Service), UNESCO, continually. The Department of Housing, Local Government and Heritage are responsible for monitoring the conditions of, recording the presence of, and conserving Ireland's protected sites on a routine basis. In accordance with the monitoring provisions of the lower-level plans. The Heritage Council reviewed after 3 years. Local Authorities reviewed annually. DAERA, annually.
Landscape & Visual	No deterioration of landscape or areas with scenic value e.g., Areas of High Amenity, Areas of Outstanding Natural Beauty and Protected Views as a result of the implementation of the Plan.	Monitoring related to relevant Local Area Plans and County/City Development Plans or RSESs e.g., Landscape Character Assessments as part of County Development Plans. Monitoring of the effects of capital investment project development required under separate processes (EIA, AA). Corrine mapping resurveys.	In accordance with the monitoring provisions of the lower-level plans. In accordance with the monitoring provisions of EIA/ AA. EPA, varies. DAERA, annually.
Material Assets	Scale and location of EVCI in Ireland.	Monitoring related to relevant Local Area Plans and County/City Development Plans or RSESs.	In accordance with the monitoring provisions of the lower-level plans – Relevant Local Authority, continuously.

Environmental Component	SEA Indicators	Monitoring Sources	Frequency/Responsibility
	Statistics relating to the electrification of transport fleets in Ireland (including number of EV's, passengers and journey times). Economic growth statistics – particularly those relating to EV. Mode share of electrified public transport (passenger and freight).	CSO Population, Health, Economic, Transport, Employment statistics. Sustainable Energy Authority of Ireland (SEAI) – Monitoring of Renewable Energy in Ireland. Monitoring of the effects of capital investment project development required under separate processes (EIA, AA). Monitoring related to Local Authority Climate Action Plans. CSO Transport data. Monitoring related to relevant Local Area Plans and County/City Development Plans or RSESs. EPA National Waste Statistics Summary Report. EPA State of the Environment Report 2020. The annual reports on the implementation of the Southern Region and Eastern-Midlands Region Waste Management Plans. Monitoring for the EPA's Remedial Action List. EPA Urban Wastewater Treatment Reports. Northern Ireland Environmental Statistics Report	CSO, every 6 years. SEAI, varies. Local Authority, every 5 years. CSO, every 6 years. In accordance with the monitoring provisions of the lower-level plans – Relevant Local Authority, continuously. EPA, annually. EPA, every 4 years. The Regional Waste Office, annually. Local Authorities should have regard to issues pertaining to Local Authorities treatment plants. DAERA, annually.

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Appendix A

Combined Figures Relating to Baseline Environment (as extracted from SEA Scoping Report)

Legend

Land Mass

Source: ESRI OSM Basemap

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Issue	Date	By	Chkd	Appd
P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

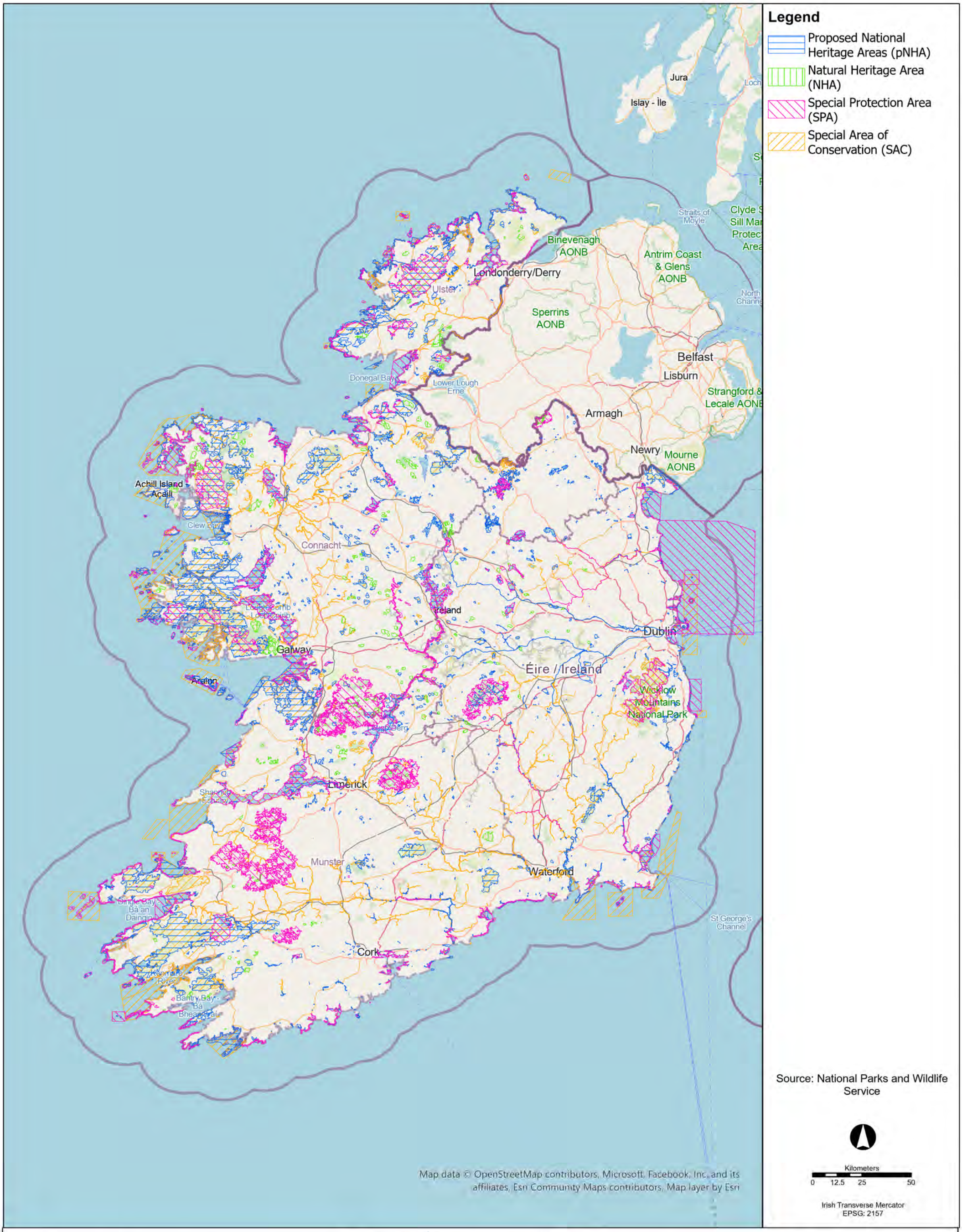
Date
September 2023

Drawing Title
Study Area / Programme Boundary

Drawing Status
Final

Figure No.
Fig A1

Project Number
293883-12



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Issue	Date	By	Chkd	Appd
P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

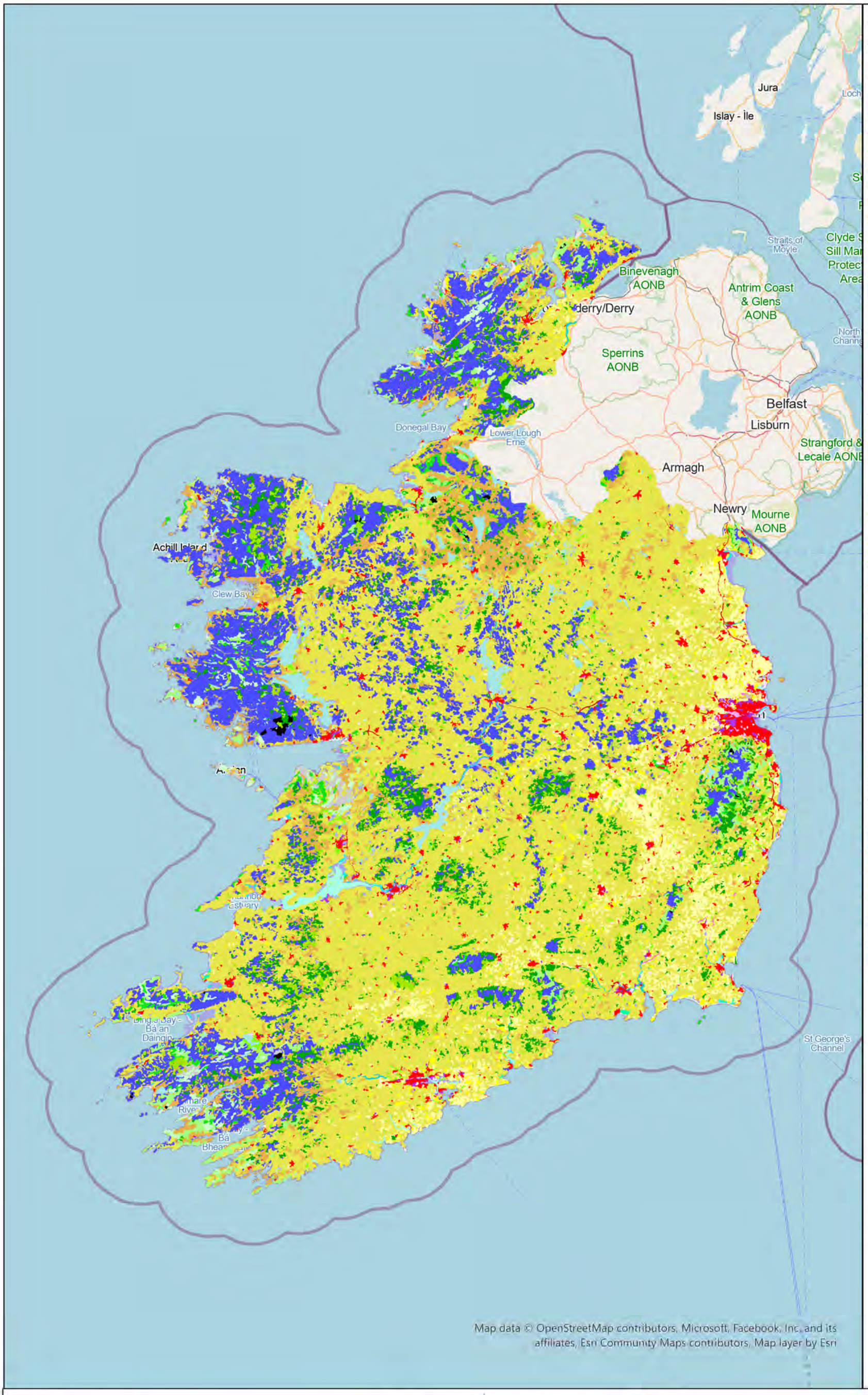
Date
September 2023

Drawing Title
Designated Sites

Drawing Status
Final

Figure No.
Fig A2

Project Number
293883-12



Legend

Corine Landcover Type

- 111 Continuous urban fabric
- 112 Discontinuous urban fabric
- 121 Industrial or commercial units
- 122 Road and rail networks
- 123 Sea ports
- 124 Airports
- 131 Mineral extraction sites
- 132 Dump
- 133 Construction sites
- 141 Green urban sites
- 142 Sport and leisure facilities
- 211 Non-irrigated land
- 231 Pastures
- 242 Complex cultivation patterns
- 243 Land principally occupied by agriculture with areas of natural vegetation
- 311 Broad-leaved forest
- 312 Coniferous forest
- 313 Mixed forest
- 321 Natural grassland
- 322 Moors and heaths
- 324 Transitional woodland scrub
- 331 Beaches dunes sand
- 332 Bare rocks
- 333 Sparsely vegetated areas
- 334 Burnt areas
- 411 Inland marshes
- 412 Peat bogs
- 421 Salt Marshes
- 423 Intertidal flats
- 511 Stream courses
- 512 Water bodies
- 521 Coastal lagoons
- 522 Estuaries

Source: Environmental Protection Agency

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Issue	Date	By	Chkd	Appd
P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

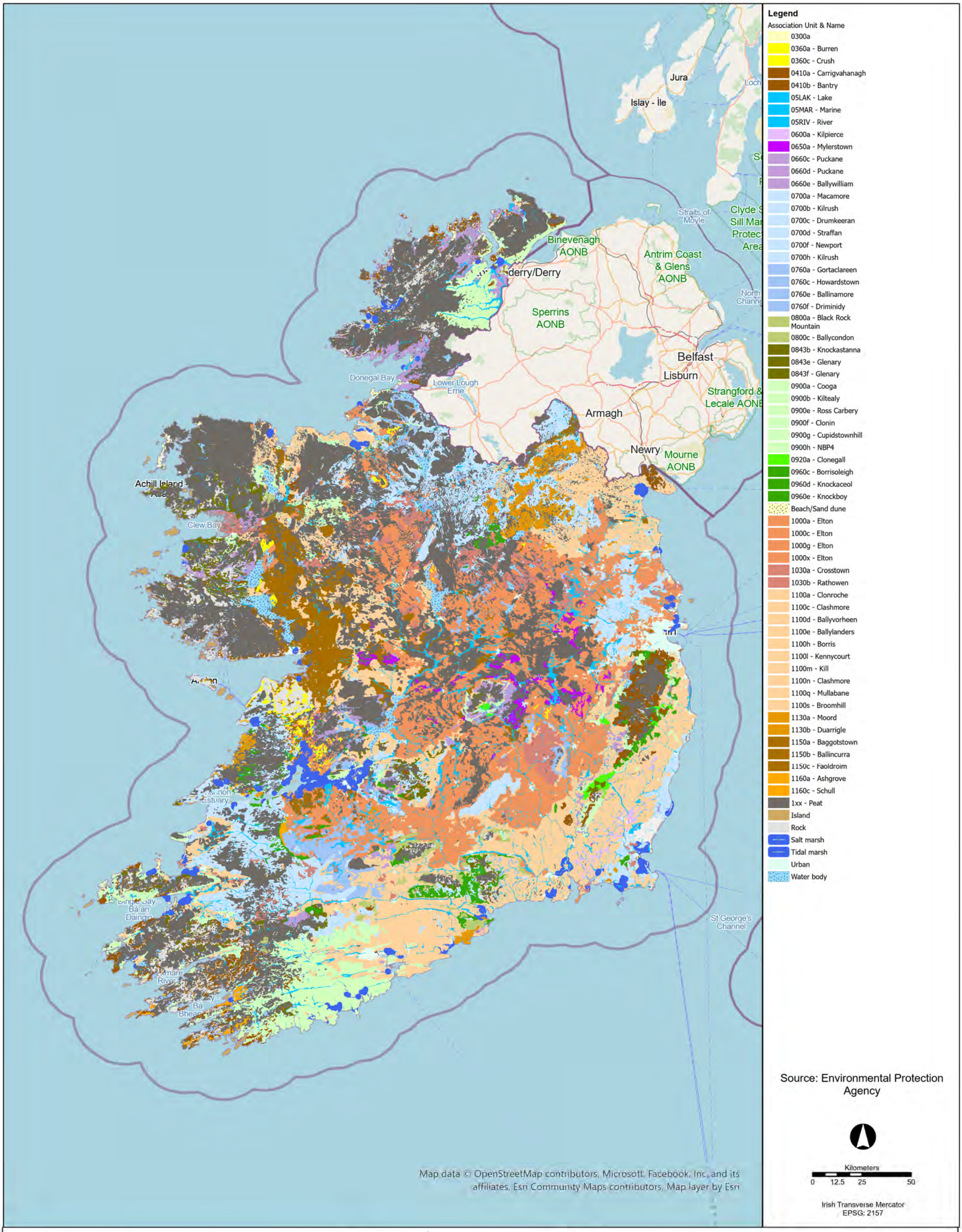
Date
September 2023

Drawing Title
Land-Use

Drawing Status
Final

Figure No.
Fig A3

Project Number
293883-12



Legend

Association Unit & Name

- 0300a
- 0360a - Burren
- 0360c - Crush
- 0410a - Carrigvahanagh
- 0410b - Bantry
- 05LAK - Lake
- 05MAR - Marine
- 05RIV - River
- 0600a - Kilpierce
- 0650a - Mylerstown
- 0660c - Puckane
- 0660d - Puckane
- 0660e - Ballywilliam
- 0700a - Macamore
- 0700b - Kilrush
- 0700c - Drumkeeran
- 0700d - Straffan
- 0700f - Newport
- 0700h - Kilrush
- 0760a - Gortaclareen
- 0760c - Howardstown
- 0760e - Ballinamore
- 0760f - Driminidy
- 0800a - Black Rock Mountain
- 0800c - Ballycondon
- 0843b - Knockastanna
- 0843e - Glenary
- 0843f - Glenary
- 0900a - Cooga
- 0900b - Kiltealy
- 0900e - Ross Carbery
- 0900f - Clonin
- 0900g - Cupidstownhill
- 0900h - NBP4
- 0920a - Clonegall
- 0960c - Borrisoleigh
- 0960d - Knockaceol
- 0960e - Knockboy
- Beach/Sand dune
- 1000a - Elton
- 1000c - Elton
- 1000g - Elton
- 1000x - Elton
- 1030a - Crosstown
- 1030b - Rathowen
- 1100a - Clonroche
- 1100c - Clashmore
- 1100d - Ballyvorheen
- 1100e - Ballylanders
- 1100h - Borris
- 1100l - Kennycourt
- 1100m - Kill
- 1100n - Clashmore
- 1100q - Mullabane
- 1100s - Broomhill
- 1130a - Moord
- 1130b - Duarrigle
- 1150a - Baggotstown
- 1150b - Ballincurra
- 1150c - Faoldroim
- 1160a - Ashgrove
- 1160c - Schull
- 1xx - Peat
- Island
- Rock
- Salt marsh
- Tidal marsh
- Urban
- Water body

Source: Environmental Protection Agency

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Issue	Date	By	Chkd	Appd
P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

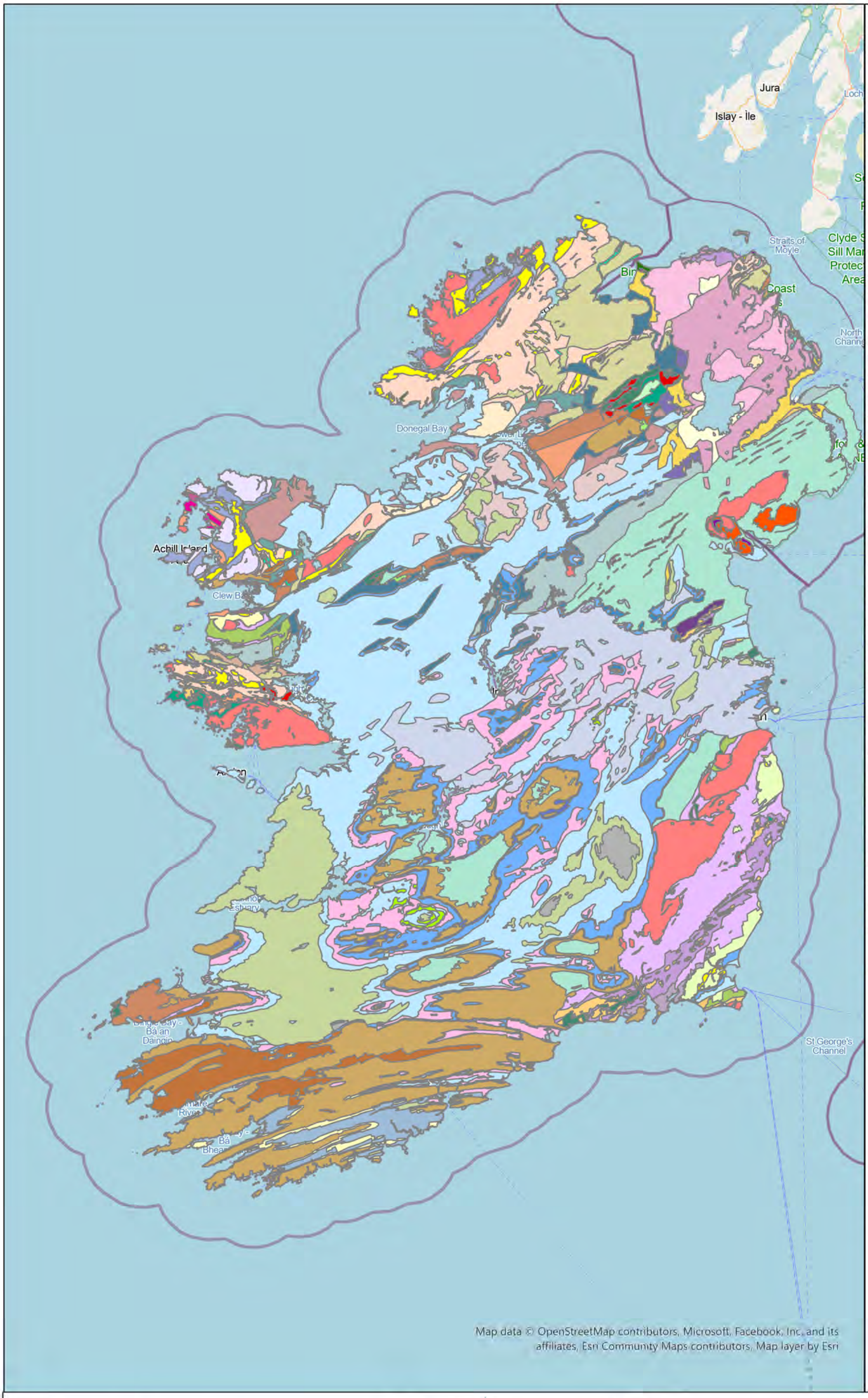
Date
September 2023

Drawing Title
Soils

Drawing Status
Final

Figure No.
Fig A4

Project Number
293883-12



Legend

UNITNAME

1, Meta-dolerite, meta-gabbro
2, Serpentinite, Neoproterozoic (NE Ox Mts) & Lower Ordovician (Clew Bay, Carnew)
3, Orthogneiss suite, mainly quartz diorite (Connemara)
4, Granodiorite, tonalite, dacite, granite
5, Gabbro, dolerite & diorite
6, Microgranite & porphyry
7, Appinite Suite
8, Granite, granodiorite
9, Granite, granophyre
10, Rhyolite
11, Dolerite & gabbro
12, Rhinns Complex (Inishtrahull); Syenitic orthogneiss, minor metagabbro
13, Mullet Gneiss; Granitic orthogneiss
14, Cross Point Gneiss; Granitic orthogneiss
15, Doolough Gneiss & Granite; Granitic orthogneiss & granite
16, Kilmore Quay Group; Paragneiss, schist
17, Greenore Point Group; Schistose amphibolite
18, Tyrone Central Inlier; Quartzo-feldspathic paragneiss & schist
19, Slishwood Division; Quartzo-feldspathic paragneiss
20, Inishkea Division (possibly Dalradian); Psammitic & pelitic schist
21, Grampian Group; Psammitic & pelitic schist
22, Appin Group; Quartzite
23, Appin Group; Psammitic & pelitic schist & marble
24, Argyll Group; Paragneiss & migmatite
25, Argyll Group; Amphibolite & amphibolitic schist
26, Argyll Group; Quartzite
27, Argyll Group; Psammitic & pelitic schist, marble, amphibolite, diamictite
28, Southern Highland Group; (Epidote-)amphibolitic schist & tuff
29, Southern Highland Group; Pelitic & psammitic schist, phyllite & marble
30, Marine; Quartzite & minor slate
31, Marine; Slate
32, Marine; Greywacke & shale
33, Basalt - andesite, tuff & shale
34, Rhyolite and rhyolitic tuff
35, Deep marine; Slate, schist & minor greywacke
36, Deep marine; Greywacke, shale, sandstone & conglomerate
37, Basalt - andesite, tuff, slate & mudstone
38, Rhyolite, rhyolitic tuff & slate
39, Deep marine; Slate, shale, minor sandstone & siltstone
40, Marine to fluvial; Greywacke, shale, sandstone & conglomerate
41, Melange (Ordovician or Silurian); Greywacke, sandstone & conglomerate
42, "Moffat shale" facies (Ordovician - Silurian); Shale & greywacke
43, Shallow marine (Dunquin Group, Dingle); Siltstone, sandstone, tuff, limestone
44, Rhyolitic tuff, basalt & andesite (in Dunquin Group)
45, Shallow marine (Croagh Patrick Succession); Sandstone, siltstone, conglomerate
46, Quartzite (in Croagh Patrick Succession)
47, Alluvial - playa (Louisburgh - Clare Island Succession); Sandstone, siltstone, conglomerate
48, Transgression - regression sequence (Killary Hbr - Joyces Country Succ.); Sandstone, conglomerate, greywacke, mudstone, tuff
49, Deep marine turbidite sequence; Mudstone, greywacke & conglomerate
50, Basalt, andesite, basaltic & andesitic tuff
51, Rhyolite & rhyolitic tuff
52, Continental redbed facies; Sandstone, siltstone & mudstone (base of Dingle Group is in the Upper Silurian)
53, Continental redbed facies; Sandstone, siltstone & mudstone
54, Continental redbed facies; Sandstone, conglomerate & siltstone (in places extends into the Carboniferous)
55, Shallow marine, (Cork Group, Old Head Sandstone Fm); Sandstone & mudstone
56, Basalt, trachyte, syenite & tuff
57, Marine (Cork Group) (extends into the Visean); Mudstone, sandstone & thin limestone
58, Shallow marine ("Lower Limestone Shale"); Shale, sandstone & thin limestone
59, Shallow marine & coastal plain (basal clastics); Sandstone, mudstone & conglomerate
60, Shallow & marginal marine (Navan Group); Dark-grey limestone, mudstone, sandstone, minor evaporite
61, Marine shelf & ramp facies; Argillaceous dark-grey bioclastic limestone, subsidiary shale
62, Waulsortian mudbank; Pale-grey massive limestone
63, Shallow marine & coastal plain (Basal Clastics); Sandstone, mudstone & conglomerate
64, Marine shelf facies; Limestone & calcareous shale
65, Marine basinal facies (Tobercolleen & Lucan Fms - "Calp"); Dark-grey argillaceous & cherty limestone & shale
66, Marginal marine (Mullaghmore, Downpatrick & Clogher Valley Fms); Sandstone, mudstone & evaporite
67, Shallow water marine (Armagh Group); Limestone, limestone conglomerate, palaeokarst with red palaeosols
68, Marginal marine (Meenymore Formation); Mudstone, sandstone & evaporite
69, Fluvio-deltaic & minor marine (late Visean to Namurian: Ballycastle); Sandstone, mudstone, thin limestone & coal
70, Continental redbed facies (late Visean to early Westphalian); Sandstone, conglomerate & mudstone
71, Fluvio-deltaic & basinal marine (Turbiditic); Shale, sandstone, siltstone & coal
72, Fluvio-deltaic & shallow marine; Shale, sandstone & siltstone with coal
73, Continental redbed facies & shallow marine; Sandstone, conglomerate, magnesian limestone, marl, evaporite
74, Continental redbed facies (Permo-Triassic, Wexford); Sandstone, conglomerate & siltstone
75, Continental redbed facies, lagoonal & shallow marine; Sandstone & mudstone with evaporite
76, Shallow marine (Lias); Mudstone & limestone
77, Shallow marine (Upper Cretaceous); Chalk, flint, glauconitic sandstone& chalk breccia
78, Undifferentiated minor volcanic rocks
79, Lower Basalt Formation; Olivine basalt lava
80, Interbasaltic Formation; Laterite, bauxite & lithomarge
81, Causeway Tholeiite Member; Columnar tholeiitic basalt lava
82, Upper Basalt Formation; Olivine basalt lava
83, Lacustrine; Clay, sand & lignite

Source: Geological Survey Ireland

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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zevi Zero Emission Vehicles Ireland

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P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

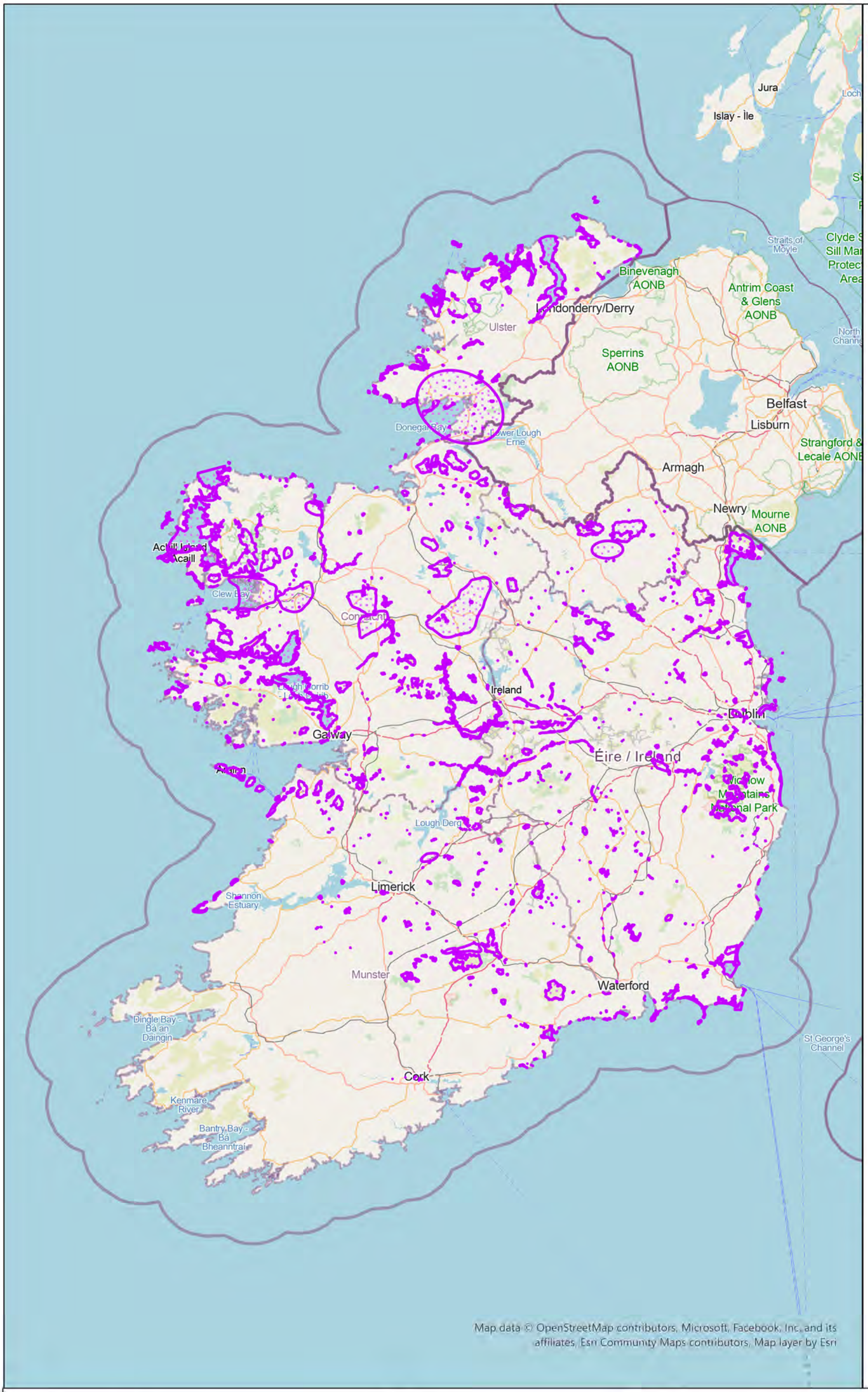
Date
September 2023

Drawing Title
Bedrock Geology

Drawing Status
Final

Figure No.
Fig A5

Project Number
293883-12



Legend

Geological Heritage Sites

Source: Geological Survey Ireland

Kilometers
0 12.5 25 50

Irish Transverse Mercator
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Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

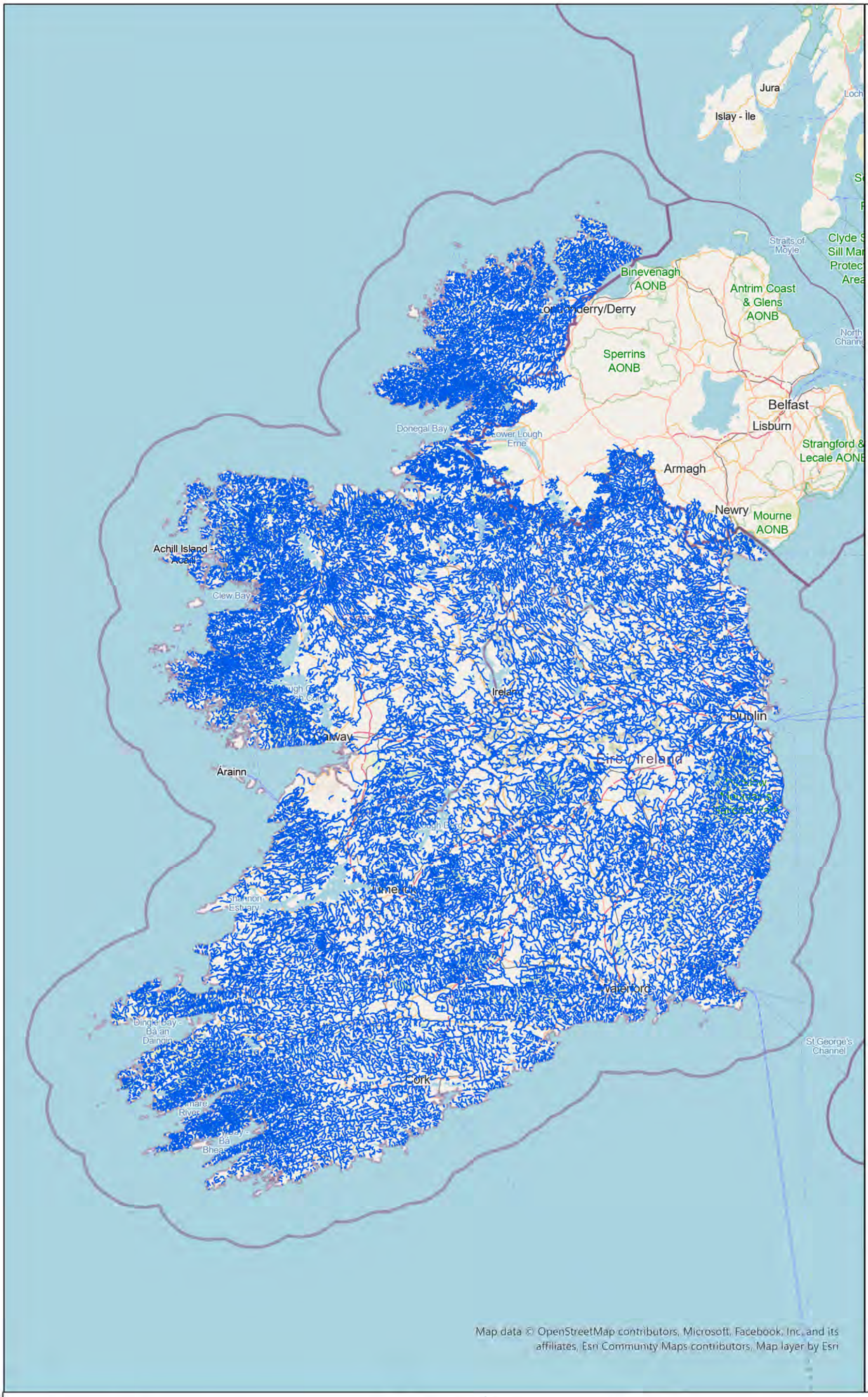
Date
September 2023

Drawing Title
Geological Heritage Sites and Areas of Special Scientific Interest

Drawing Status
Final

Figure No.
Fig A6

Project Number
293883-12



Legend

Rivers

Source: Environmental Protection Agency

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

Date
September 2023

Drawing Title
River Network

Drawing Status
Final

Figure No.
Fig A7

Project Number
293883-12

Legend

Lakes

Source: Environmental Protection Agency

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

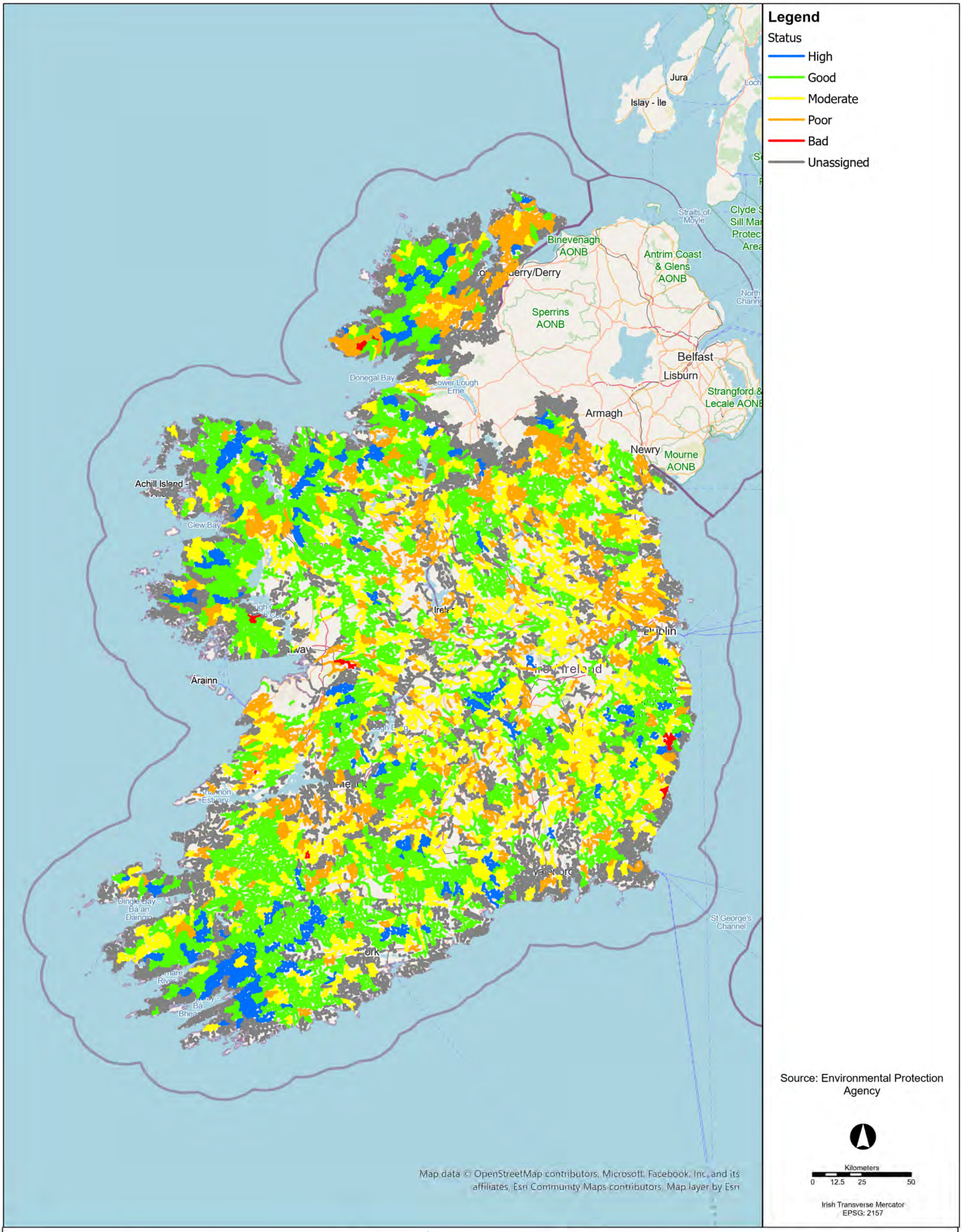
Date
September 2023

Drawing Title
Lake Network

Drawing Status
Final

Figure No.
Fig A8

Project Number
293883-12



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P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

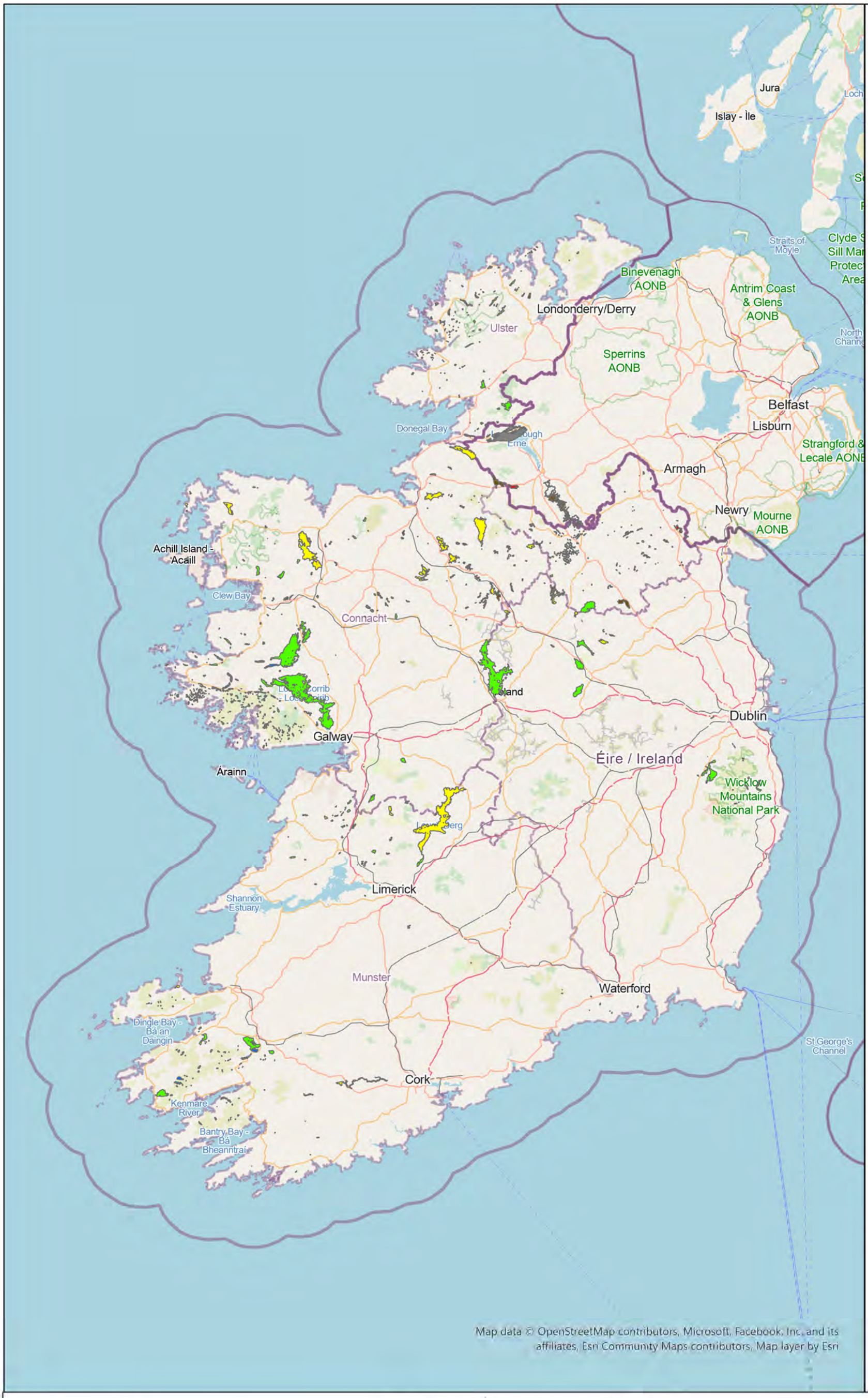
Date
September 2023

Drawing Title
River Quality Status

Drawing Status
Final

Figure No.
Fig A9

Project Number
293883-12



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Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

Date
September 2023

Drawing Title
Lake Quality Status

Drawing Status
Final

Figure No.
Fig A10

Project Number
293883-12

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Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

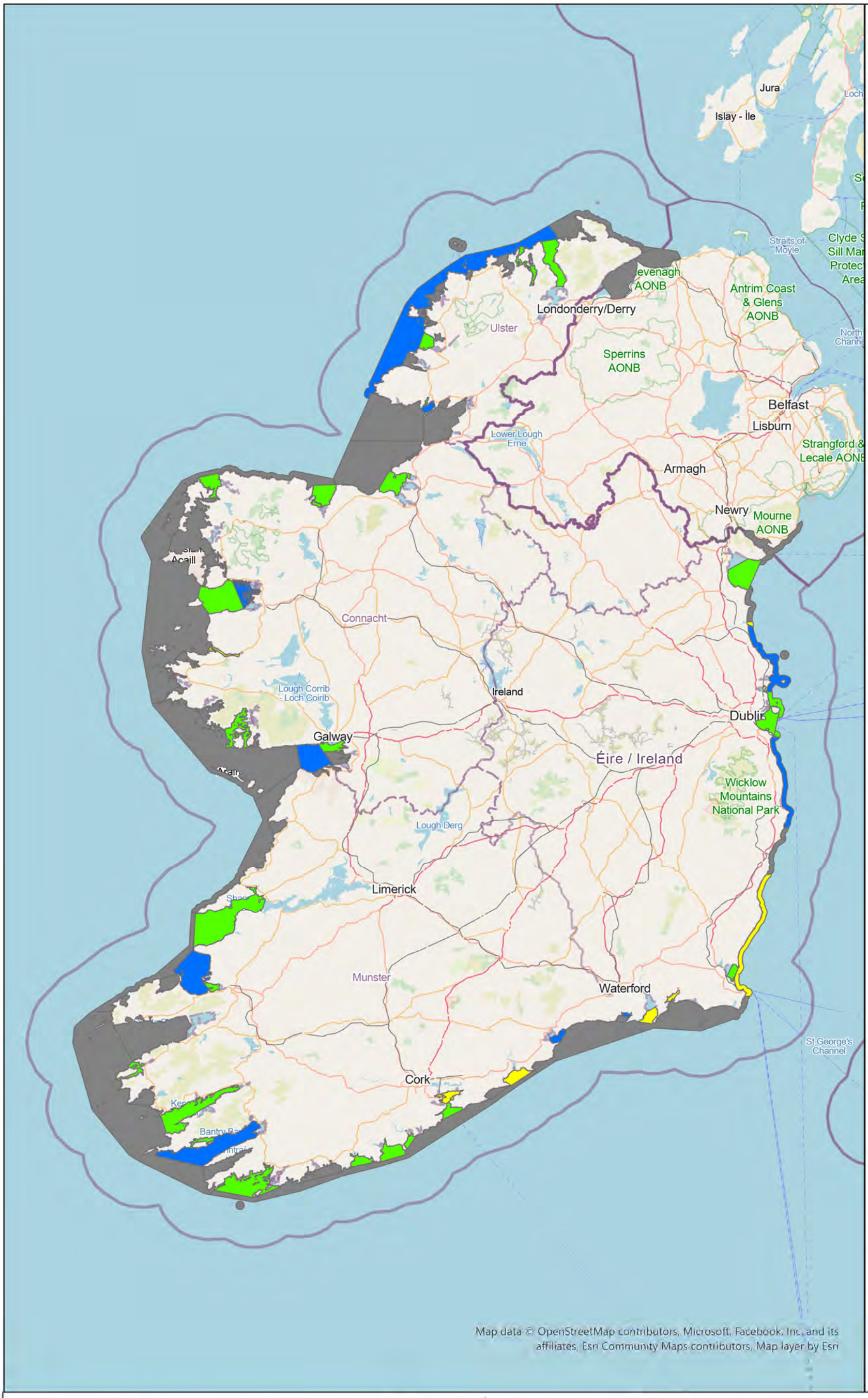
Date
September 2023

Drawing Title
Transitional Quality Status

Drawing Status
Final

Figure No.
Fig A11

Project Number
293883-12



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Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

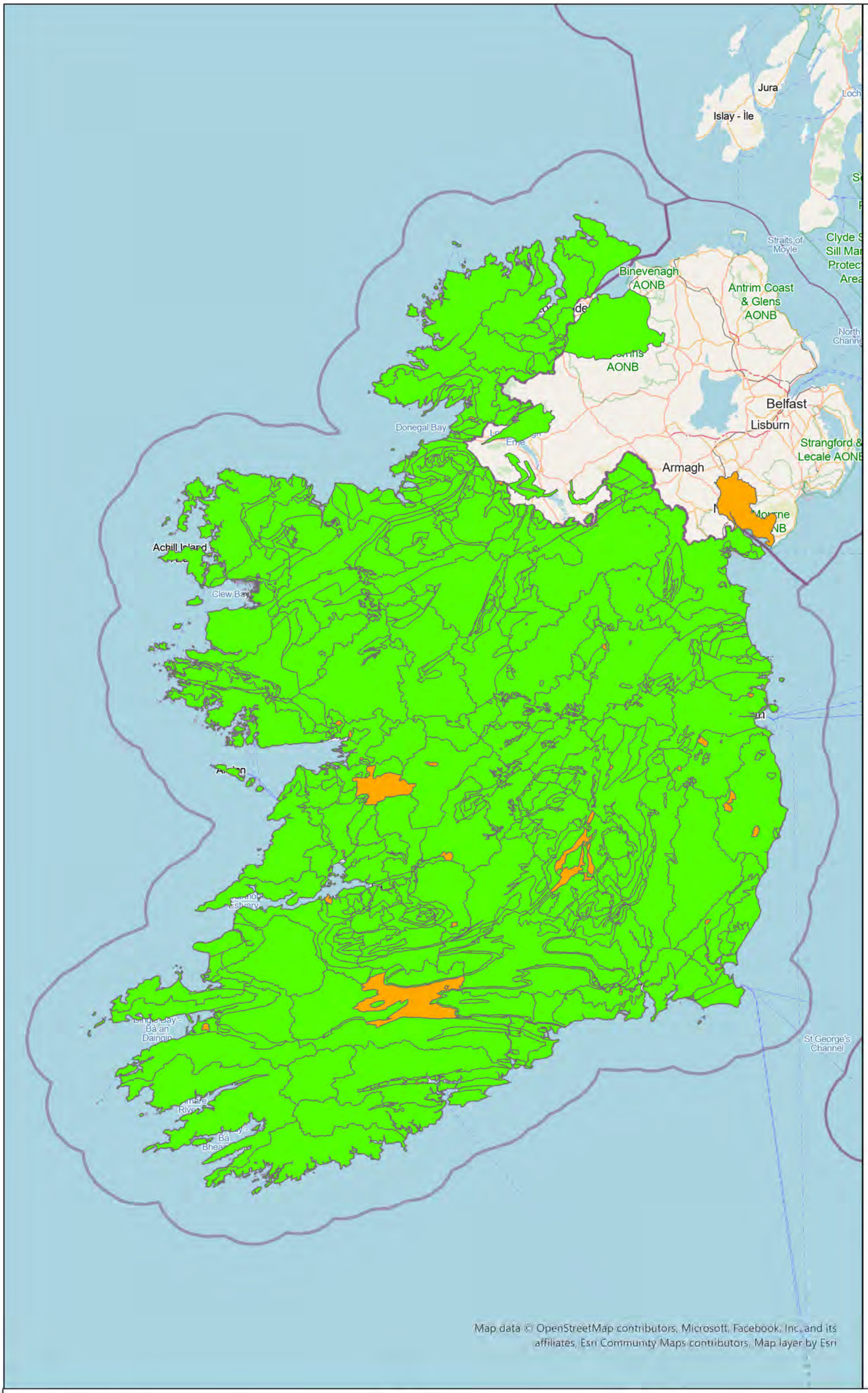
Date
September 2023

Drawing Title
Coastal Waterbody Status

Drawing Status
Final

Figure No.
Fig A12

Project Number
293883-12



Legend

Status (2013 - 2018)

- Good
- Poor (GW)

Source: Environmental Protection Agency

Kilometers

0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

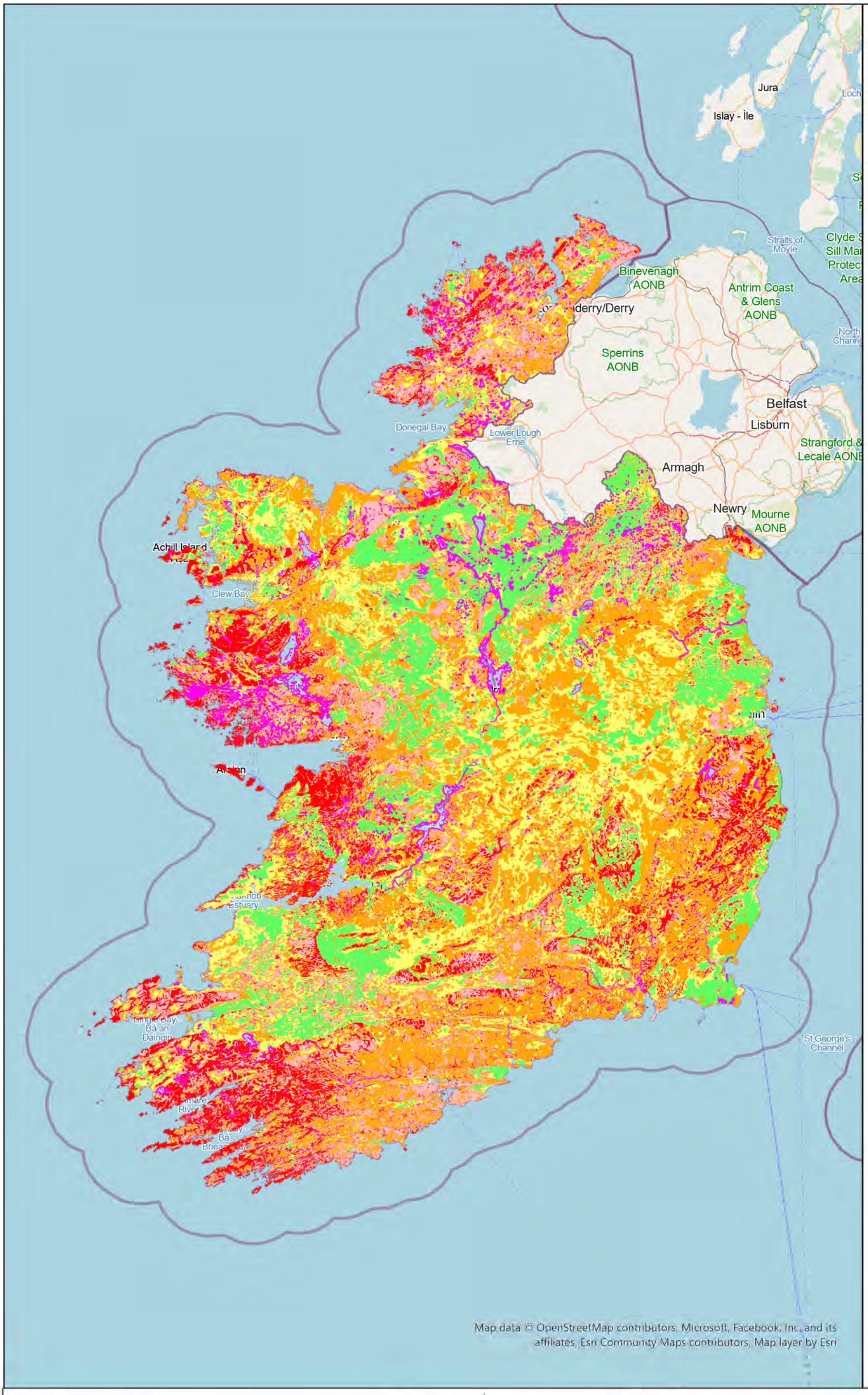
Date
September 2023

Drawing Title
Groundwater Body Quality

Drawing Status
Final

Figure No.
Fig A13

Project Number
293883-12



Legend

Groundwater Vulnerability (GSI)

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

Source: Geological Survey Ireland

Kilometers
0 12.5 25 50

Irish Transverse Mercator
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P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

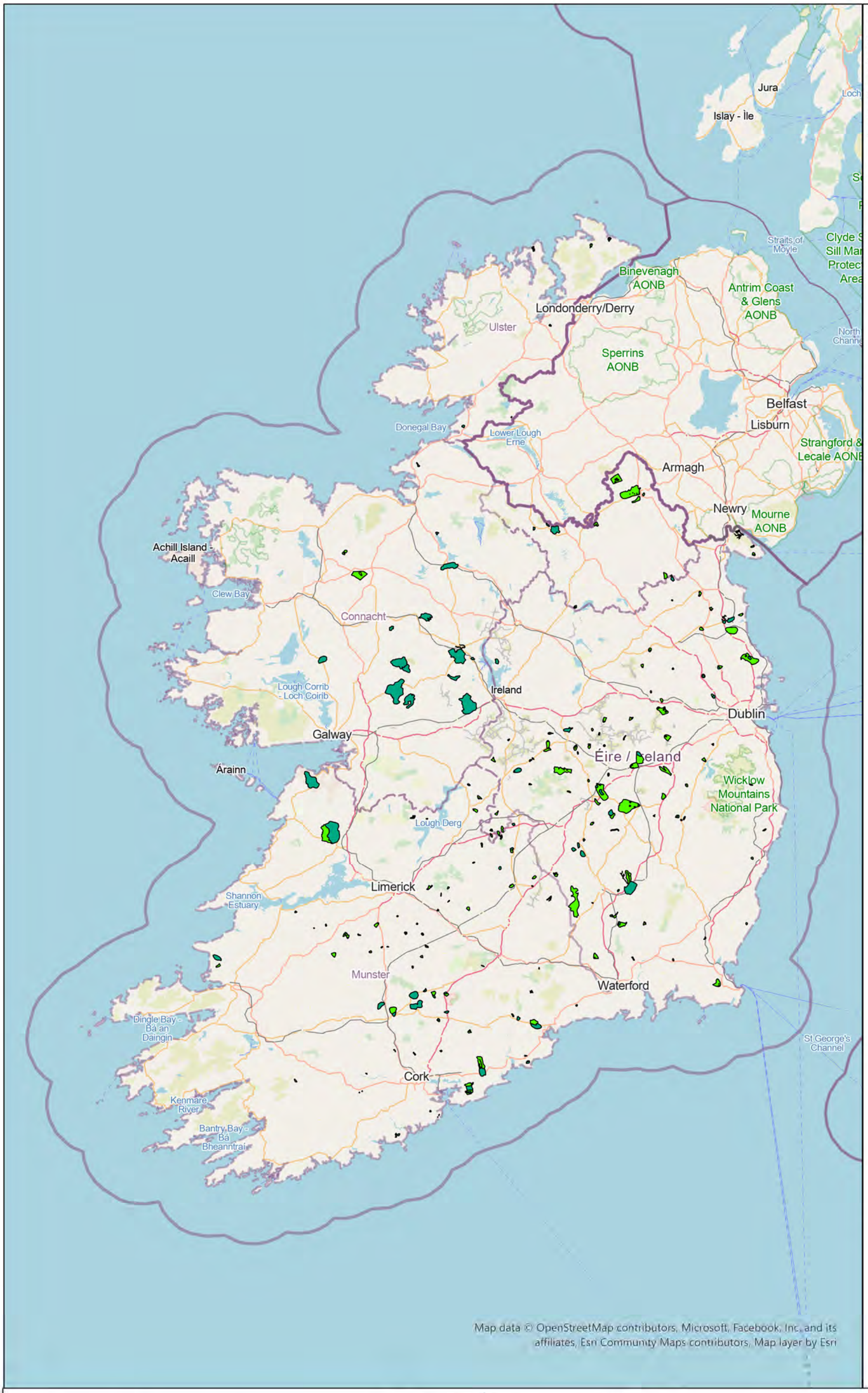
Date
September 2023

Drawing Title
Groundwater Vulnerability

Drawing Status
Final

Figure No.
Fig A14

Project Number
293883-12



Legend

Groundwater Source Protection Areas ROI

- Free Representation
- SI-Inner Protection Area
- SO-Outer Protection Area

Source: Geological Survey Ireland

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

Date
September 2023

Drawing Title
Source Protection Zones

Drawing Status
Final

Figure No.
Fig A15

Project Number
293883-12

Legend

- Fluvial Flood Depth Annual Exceedance Probability 10%
- Fluvial Flood Depth Annual Exceedance Probability 1%
- Fluvial Flood Depth Annual Exceedance Probability 0.1%

Source: Office of Public Works

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

Date
September 2023

Drawing Title
Flood Risk

Drawing Status
Final

Figure No.
Fig A16

Project Number
293883-12

Legend

- Recorded Monuments

Source: Archaeological Survey of Ireland

Kilometers
0 12.5 25 50

Irish Transverse Mercator
EPSG: 2157

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Project Title
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Scale
1:1750000

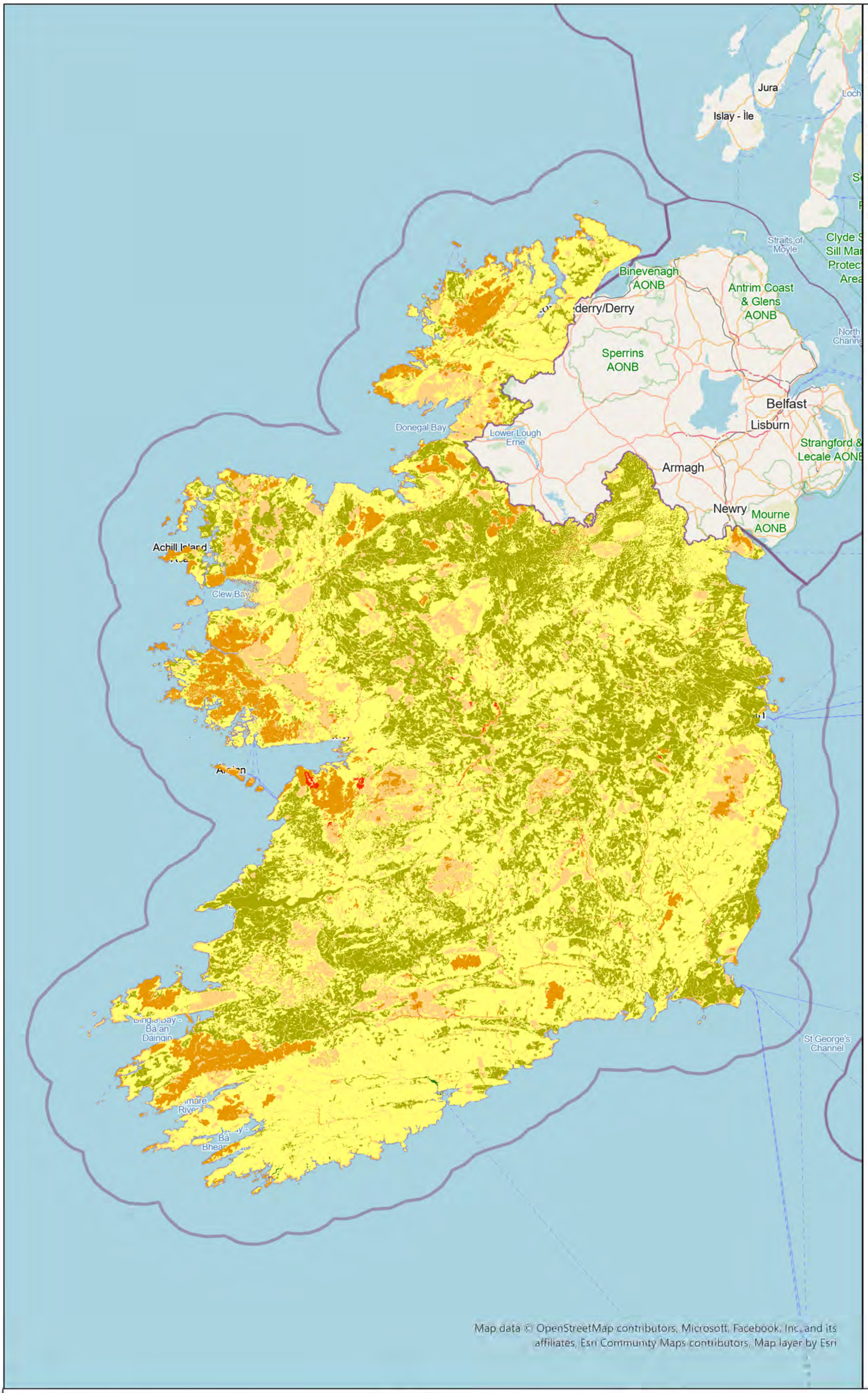
Date
September 2023

Drawing Title
Recorded Monuments

Drawing Status
Final

Figure No.
Fig A17

Project Number
293883-12



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P01	18/09/2023	SW	SC	SW

Project Title
National En-Route EV Charging Network Plan (NEEVCNP)

Scale
1:1750000

Date
September 2023

Drawing Title
Environmental Sensitivity Rating

Drawing Status
Final

Figure No.
Fig A18

Project Number
293883-12

Appendix B

Relationship with Other Relevant Plans, Programmes, Policy or Legislation

Plan, Programme, Policy, or Legislation	Relevant Aims and Objectives	Relevance of Plan, Programme, Policy or Legislation to the NRNEVCP
International Level		
ESPOO Convention and Kyiv (SEA) Protocol	The Espoo (EIA) Convention sets out the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of States to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries. The Kyiv Protocol was the first legally binding international instrument on pollutant release and transfer registers. Its objective is '*to enhance public access to information through the establishment of coherent, nationwide pollutant release and transfer registers (PRTRs)*'.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
OSPAR Convention	An international co-operation to protect the marine environment of the north-east Atlantic is achieved through the OSPAR Convention. It aims to provide a comprehensive and simplified approach to addressing all sources of pollution which might affect the maritime area, and all matters relating to the protection of the marine environment.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
World Health Organisation (WHO) Global Air Quality Guidelines 2021	The World Health Organisation (WHO) periodically issues health-based air quality guidelines to assist governments and civil society to reduce human exposure to air pollution and its adverse effects. The updated guidelines include updated recommendations on Air Quality Guideline (AQG) levels and interim targets for PM2.5, PM10, ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide. Thes guidelines provide insight on the impacts of air pollution for health / environmental impact assessment practitioners.	Implementation of the NRNEVCP will incorporate all relevant environmental guidelines.
European Union Level		
Trans European Transport Network (TEN-T) Policy – (European Parliament) 2013	A policy to address the implementation and development of a Europe-wide network of railway lines, roads, inland waterways, maritime shipping routes, ports, airports, and railroad terminals. Aim: '*To close gaps, remove bottlenecks and technical barriers, as well as to strengthen social, economic and territorial cohesion in the EU.*'	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is specifically focused on upgrading and developing new EV charging infrastructure along the National Roads Network in Ireland, which includes the TEN-T network (Core network and Comprehensive network), as well as all other national primary and secondary roads.

Plan, Programme, Policy, or Legislation	Relevant Aims and Objectives	Relevance of Plan, Programme, Policy or Legislation to the NRNEVCP
Sustainable and Smart Mobility Strategy (European Commission's Directorate-General for Mobility and Transport 2021)	A strategy setting out a roadmap for a sustainable and smart transport future. It includes 10 focus areas and an action plan, aiming for a 90% reduction in the transport sector's emissions by 2050.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
European Green Deal (EGD) (European Commission) 2020	A strategy to oversee Europe's transformation to a climate-neutral, fair and prosperous society, with a modern, resource-efficient and competitive economy. The strategy will be supported by climate, energy and transport-related legislation under the 'Fit for 55 Package' to meet the 2030 and 2050 ambitions. Target: '*Net-zero greenhouse gas emissions at EU level by 2050, and an emissions reduction target of at least 55% for 2030 to limit warming to 1.5 degrees Celsius and align with the goal of the Paris Agreement*.' Under the EGD, the European Commission has adopted a set of policy proposals with a view to realising its aim. These include, among others: The European Climate Law, making the EU's 2050 climate neutrality target legally binding; ensuring that all EU policies contribute to climate neutrality by mid-century and that all sectors play their part. To place the EU firmly on the pathway to climate neutrality by mid-century, it also establishes a legally binding, more ambitious intermediate emissions reductions target for 2030 of at least 55% relative to 1990 levels. The 'Fit for 55' Package, to deliver wide-ranging legislative and policy changes needed to support the achievement of the EU's emissions reductions targets for 2030 and 2050.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets.
Alternative Fuel Infrastructure Regulation (AFIR) (European Commission) 2023	The European Commission's new Alternative Fuel Infrastructure Regulation (AFIR) is part of the 'Fit for 55' package. Agreed in March 2023, AFIR establishes mandatory deployment targets for EV and hydrogen refuelling infrastructure for the roads, shipping and aviation sectors across the trans-European Transport Network (TEN-T). AFIR sets locational/ distance-based charging infrastructure targets for member states to achieve by 2025 and 2027 with a view to deliver the following key requirements by 2030/2035: By 2035, 600 kW of EV charging infrastructure for passenger cars and LGVs on every 60 km of the entire TEN-T; and	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is specifically focused on the delivery of the AFIR targets.

Plan, Programme, Policy, or Legislation	Relevant Aims and Objectives	Relevance of Plan, Programme, Policy or Legislation to the NRNEVCP
	By 2030, 3,800 kW of EV charging infrastructure for HDVs (including buses) on every 60 km of the TEN-T Core road network; and By 2030, 1,500 kW of EV charging infrastructure for dedicated to HDVs on every 100 km of the TEN-T Comprehensive road network; and By 2030, 1,800 kW of EV charging infrastructure for dedicated to HDVs at each Urban Node. In addition, AFIR sets a fleet based target for EV charging infrastructure commensurate with the level of take up of EVs as follows: EV charging infrastructure capacity is proportionate to EV uptake; i.e., provision of charging infrastructure power output of 1.3 kW per battery EV, and 0.8 kW per plug-in hybrid vehicle, until battery EVs reach at least 15% market share of all passenger cars and LGVs.	
EU Effort Sharing Regulation (ESR) (European Commission) 2018, as amended 2023	The ESR establishes legally binding annual greenhouse gas emission reduction targets for EU Member States, including Ireland. The ESR targets emission reductions in most sectors not covered by the EU Emissions Trading System (ETS), including transport. Under the ESR, Ireland is required to reduce its emissions from non-ETS sectors by 42% by 2030, relative to 2005 levels.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets.
National Emissions Ceiling Directive (2016/2284)	The National Emissions Ceilings Directive (NEC Directive) establishes emission ceilings for 2020 and 2030 for five specified pollutants: nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOCs), sulphur dioxide (SO2), ammonia (NH3) and fine particulate matter (PM2.5). The directive transposes the reduction commitments for 2020 agreed by the EU and its Member States under the 2012 revised Gothenburg Protocol under the Convention on Long-range Transboundary Air Pollution (LRTAP Convention). The more ambitious reduction commitments agreed for 2030 are designed to reduce the health impacts of air pollution by half compared with 2005. Further, the Directive requires that the Member States draw up National Air Pollution Control Programmes that should contribute to the successful implementation of air quality plans established under the EU's Air Quality Directive.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets.

Plan, Programme, Policy, or Legislation	Relevant Aims and Objectives	Relevance of Plan, Programme, Policy or Legislation to the NRNEVCP
8th Environmental Action Programme	8th Environmental Action Programme (EAP) to 2030 entered into force in May 2022 and guides European environmental policy until 2030, supporting the climate action objectives of the European Green Deal. The long-term priority objective is that, by 2050 at the latest, Europeans live well, within planetary boundaries, in a well-being economy where nothing is wasted. Growth will be regenerative, climate neutrality will be a reality, and inequalities will have been significantly reduced. Its six priority objectives to 2030 include achieving the 2030 greenhouse gas emissions reduction target and climate neutrality by 2050, enhancing adaptive capacity to climate change, accelerating transition to circular economy, pursing zero-pollution ambition, enhancing natural capital and reducing environmental and climate pressures.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP will help contribute towards the six priority objectives to 2030 through the deployment of EV charging infrastructure and transition towards EVs.
The EU Zero Pollution Action Plan	The action plan requires among other commitments, that by 2030, the EU should reduce: by 25% the EU ecosystems where air pollution threatens biodiversity; by 50% nutrient losses, the use and risk of chemical pesticides, the use of the more hazardous ones, and the sale of antimicrobials for farmed animals and in aquaculture; by 50% plastic litter at sea and by 30% microplastics released into the environment	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets.
Proposal for a Regulation of the European Parliament and of the Council on nature restoration	Under the EU Biodiversity Strategy for 2030, as part of the European Green Deal, the European Commission committed to put forward a proposal for legally binding EU nature restoration targets to restore degraded ecosystems. In June 2022, the European Commission tabled a proposal for a regulation on nature restoration, which sets multiple binding restoration targets and obligations across a broad range of ecosystems, from forests and agricultural land to urban areas, rivers and marine habitats, complementing existing legislation. The nature restoration measures should cover at least 20 % of the EU's land and sea areas by 2030, and all ecosystems in need of restoration by 2050. To implement the proposed regulation, Member States are required to develop nature restoration plans, to be assessed by the Commission. The proposed nature restoration law also entails a specific objective to reverse the decline of pollinator populations by 2030.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

Plan, Programme, Policy, or Legislation	Relevant Aims and Objectives	Relevance of Plan, Programme, Policy or Legislation to the NRNEVCP
Convention for the Protection of the Architectural Heritage of Europe (Granada, 1985)	The Grenada Convention was adopted on October 1985 in Granada, Spain, which was the first time an international treaty had included the principles for integrated conservation. 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.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. All developments arising from the Plan will adhere to appropriate measures for protected structures.
Convention for the Protection of the Archaeological Heritage of Europe (revised) (Valletta, 1992)	The Valletta Convention was adopted on 16th January 1992 in Valletta, Malta, and replaced and updated the original London Convention of 1969 to reflect the change in the nature of threats to the archaeological heritage as a result of major construction projects carried out all over Europe from 1980 onwards. The Convention established a body of new basic legal standards for Europe, to be met by national policies for the protection of archaeological assets as sources of scientific and documentary evidence, in line with the principles of integrated conservation. The revised text makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. It is concerned in particular with arrangements to be made for co-operation among archaeologists and town and regional planners in order to ensure optimum conservation of archaeological heritage. The Convention sets guidelines for the funding of excavation and research work and publication of research findings. It also deals with public access, in particular to archaeological sites, and educational actions to be undertaken to develop public awareness of the value of the archaeological heritage. Finally, the Convention constitutes an institutional framework for pan-European co-operation on the archaeological heritage, entailing a systematic exchange of experience and experts among the various States.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. All developments arising from the Plan will adhere to appropriate measures for protected structures.
Transboundary Level		
Planning Act (Northern Ireland) 2011	The Planning Act (Northern Ireland) 2011 (Planning Act) is the principal piece of planning legislation in Northern Ireland. Outlines listed buildings and conservation areas, including areas of special architectural or historic interest.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

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		All developments arising from the Plan will adhere to appropriate measures for protected structures within areas of transboundary impact potential.
Marine Act (NI) 2013	The Marine Act provides for marine plans in relation to the Northern Ireland inshore region and for the designation of marine conservation zones (MCZs) in that region. It also makes further provision in relation to marine licensing for certain electricity works. Special procedures are laid down for applications relating to generating stations.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. All developments arising from the Plan will adhere to appropriate measures for marine environment within areas of transboundary impact potential.
UK Marine Policy Statement	The Marine Policy Statement (MPS) is the framework for preparing Marine Plans and taking decisions affecting the marine environment within the UK. The Marine Policy Statement will contribute to the achievement of sustainable development in the United Kingdom marine area. The MPS will facilitate and support the formulation of Marine Plans, ensuring that marine resources are used in a sustainable way in line with the high level marine objectives and thereby: • Promote sustainable economic development; • Enable the UK's move towards a low-carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapt to their effects; • Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets; and • Contribute to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. All developments arising from the Plan will adhere to appropriate measures for marine environment within areas of transboundary impact potential.
Draft Marine Plan for Northern Ireland	The Marine and Coastal Access Act 2009 (MCAA) and the Marine Act (Northern Ireland) 2013 (The Marine Act), require the Department of Agriculture, Environment and Rural Affairs (DAERA) as the Marine Plan Authority (MPA), to prepare marine plans. The Marine Plan has been developed within the framework of the UK Marine Policy Statement (UK MPS). This will facilitate the sustainable development of the marine area.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. All developments arising from the Plan will adhere to appropriate measures for marine environment within areas of transboundary impact potential.

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	The Marine Plan for Northern Ireland will inform and guide the regulation, management, use and protection of our marine area. It is a single document made up of two plans, one for the inshore region and one for the offshore region.	
Marine and Coastal Access Act 2009	Marine and Coastal Access Act makes provision in relation to marine functions and activities and migratory and freshwater fish. The Act sets out the establishment and functions of the Marine Management Organisation and covers the topics of sea fish conservation, nature conservation and marine planning and licensing.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. All developments arising from the Plan will adhere to appropriate measures for marine environment within areas of transboundary impact potential.
Northern Ireland Environmental Statistics Report (DAERA)	Northern Ireland Environmental Statistics Report is updated annually and reports on a range of environmental indicators covering the seven key themes of Public Attitudes; Climate Change; Air; Water and Marine; Biodiversity; and Land, Waste and Historic Environment. This National Statistics report is intended to be the first reference point for a range of environmental indicators and will provide, where available, annual updates on the indicators contained within it. It is of both public and academic interest and provides a valuable resource across government in providing links to government strategies.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. All developments arising from the Plan will adhere to appropriate measures for marine environment within areas of transboundary impact potential with reference to the baseline environment.
National Level		
National Planning Framework (Project Ireland 2040) – (Government of Ireland) 2019	A planning framework to guide growth, development and investment over the period to 2040. Vision: A shared set of goals for every community across the country, expressed as the National Strategic Outcomes.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP will help contribute towards the Planning Framework's commitments to EVs and EV charging infrastructure.
National Development Plan 2021- 2030 (Project Ireland 2040) (Department of Public Expenditure and Reform, 2021)	The Irish Government's over-arching investment strategy and budget for the period 2021-2030, balancing the demand for public investment across all sectors and regions of Ireland, with a major focus on improving infrastructure projects.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP will help contribute towards the Plan's commitments to EVs and EV charging infrastructure.

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Climate Action and Low Carbon Development (Amendment) Act 2021	In July 2021, the Climate Action and Low Carbon Development (Amendment) Act 2021 ('the Climate Act') was signed into Irish law. The Climate Act establishes a statutory national climate objective to pursue and achieve, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy. It enshrines in Irish legislation a national target of achieving net zero emissions by 2050, and an interim 2030 target of reducing greenhouse gas emissions by 51% relative to 2018 levels – the most ambitious legally binding emissions reduction target to which Ireland is bound. The Act also provides for the establishment of five-year carbon budgets, sectoral emissions ceilings and statutory Government and Local Authority Climate Action Plans, establishing national and regional roadmaps to ensure compliance with same.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets.
Climate Action Plan 2024	The Climate Action Plan 2024 (CAP 2024) is the third annual update to the Republic of Ireland's Climate Action Plan 2019. This plan is the first to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings. The CAP 2024 implements the carbon budgets and sectoral emissions ceilings and sets out a roadmap for taking decisive action to halve our emissions by 2030 and reach net zero no later than 2050, as committed to in the Programme for Government. The CAP 2024 also sets out how Ireland can accelerate the actions that are required to respond to the climate crisis, putting climate solutions at the centre of Ireland's social and economic development. In relation to the transport sector, the CAP details a 50% reduction in emissions by transforming how we travel. It aims to drive policies to reduce transport emissions by improving town, city and rural planning, and by adopting the Avoid-Shift-Improve approach: reducing or avoiding the need for travel, shifting to public transport, walking and cycling and improving the energy efficiency of vehicles.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets. Specifically, the Plan aims to achieve the CAP24 targets. At a national level, accelerating the transition to electric vehicles and vehicle technology improvements is a critical part of the transport decarbonisation pathway set out in Ireland's CAP24.
Ireland's Climate Change Assessment (EPA, 2024)	Ireland's Climate Change Assessment (ICCA) provides a comprehensive and authoritative assessment of the state of knowledge around all key aspects of climate change, with a central focus on Ireland. The following objectives of the ICCA include:	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the

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	• To deliver a comprehensive report on our understanding of climate change. • The option to respond to the challenges it poses. • To identify opportunities that may arise from the planned transition to a climate neutral, biodiversity-rich, environmentally sustainable and climate resilient economy and society. The report provides an assessment of our understanding of climate change, tying together all available lines of evidence to provide actionable information, based on scientific research and systematic observations in Ireland, linked to EU and global analysis.	regulatory framework for environmental protection and management. All developments arising from the Plan will adhere to appropriate measures for air quality and climate with reference to the baseline environment.
Draft Connecting Ireland (National Transport Authority) 2021	A public transport plan to improve mobility in Ireland's rural areas, by providing better connections between villages and towns, and by linking these areas with an enhanced regional network connecting cities and regional centres. The draft plan will be updated with feedback from the public consultation that occurred in late 2021.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The Plan includes measures to accommodate both rural and urban areas across the Irish road network.
National Investment Framework for Transport in Ireland (Department of Transport) 2021	The DoT prepared the National Investment Framework for Transport in Ireland (NIFTI) as a high-level strategic framework to support the consideration and prioritisation of future investment in land transport. It represents the Department's contribution to Project Ireland 2040, Government's long-term, overarching strategy to make Ireland a better country for all and to build a more sustainable future. NIFTI has been developed to ensure sectoral investment is aligned with the National Planning Framework (NPF) and supports the delivery of the ten National Strategic Outcomes (NSOs). NIFTI establishes a common lens through which to consider potential investment. In doing so, NIFTI sits alongside other Government priorities and policy objectives, such as the Programme for Government and Climate Action Plan.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP will contribute towards sustainable travel in the deployment of EV charging infrastructure across the Irish road network.
Sustainable Mobility Policy (Department of Transport) 2022	The Sustainable Mobility Policy (SMP) was published in April 2022 and includes 91 actions that support behavioural change through a wide range of interventions. These interventions include, among other things, public transport infrastructure and services, active travel promotion and supports, road safety initiatives, legislative measures, research, and public engagement.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

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		The NRNEVCP will contribute towards sustainable travel in the deployment of EV charging infrastructure across the Irish road network.
Urban Transport Related Air Pollution (UTRAP Working Group) Final Report (January 2023)	The UTRAP Working Group was formed in 2019 to address rising concerns about the transport-generated air pollution and includes representatives from government departments, agencies and stakeholders. This report addresses the transport-related air pollution and consequent effects on human health. As part of their report, a review of traffic demand management studies across Ireland's five major cities was undertaken (Dublin, Cork, Galway, Limerick and Waterford), which identified that interactions between different traffic measures are complex, have a cumulative impact, and most importantly, there is no one measure that will address each issue with the cities.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets, including reduction in traffic-related emissions.
Electric Vehicle Charging Infrastructure Strategy 2022 – 2025 and accompanying Implementation Plan (Department of Transport and ZEVI) 2023	In January 2023, the Department of Transport and ZEVI launched a national Electric Vehicle Charging Infrastructure Strategy 2022 – 2025 and accompanying Implementation Plan. Together, they provide a strategy and practical action plan for the development of Ireland's EV charging network to 2025, in accordance with targets and requirements in the above-mentioned national and EU legislation and policies.	The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets.
National Air Pollution Control Programme	The National Air Pollution Control Programme (NAPCP) is a technical document which outlines the pathway Ireland will follow to achieve compliance with its commitments under the National Emission Ceilings Directive (NEC Directive). The NAPCP includes: An overview of sectors and national policy frameworks in Ireland that impact on emissions of the five NEC pollutants (NOx, NMVOCs, SO_2, NH_3 and $PM_{2.5}$); An overview of the current outlook for compliance with NEC targets for each pollutant; Projections of relevant pollutant emissions to 2030; Policy options, measures and actions across sectors but in particular in the residential, transport agricultural and energy sectors aimed at reducing emissions of the five specified air pollutants.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets.

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Grid 25 Implementation Plan (Eirgrid)	EirGrid is the national electricity Transmission System Operator (TSO) in Ireland and operates and maintains a safe, secure, reliable, economical and efficient transmission system. The Plan defines three aspects: Onshore development of the grid network; Offshore development of the grid network; and Temporary emergency generation development. EirGrid is reviewing the existing Grid Implementation Plan (IP) 2017-2022 for the Electricity Transmission System in Ireland and will prepare a new Grid Implementation Plan for 2023-2028 (Draft IP).	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. Deployment works may include upgrades to the Grid network and will require access to the Grid network for charging EVs.
State of Global Climate 2022 (World Meteorological Society)	This report focuses on key climate indicators – greenhouse gases, temperatures, sea level rise, ocean heat and acidification, sea ice and glaciers. The State of the Global Climate 2022 shows the planetary scale changes on land, in the ocean and in the atmosphere caused by record levels of heat-trapping greenhouse gases. It does not include the development of plans, policies, programmes or legislation.	On review of the report, it was not deemed relevant to include under the review of plans, policies, programmes or legislation, as the report includes baseline elements. Due to the global nature of the of the report, it was not deemed relevant to include in the baseline assessment in Section 5.
Prioritised Action Framework 2021-2027 (NPWS)	This plan identifies the range of actions needed to help improve the status of Ireland's habitats and wildlife within the Natura 2000 site network.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
Management plans for Natura 2000 sites	Member States need to designate these sites as Special Areas of Conservation (SACs) and adopt conservation measures involving, if need be, appropriate management plans and other measures which correspond to the ecological requirements of the natural habitat types and the species of Community interest. Special Protection Areas designated under the Birds Directive need to be managed in accordance with the ecological needs of habitats of birds. The Directives make it clear that conservation objectives should be met while taking account of economic, social, cultural, regional and recreational requirements. It is for Member States to establish the most appropriate methods and instruments for implementing the Directives and for achieving the conservation objectives of Natura 2000 sites.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

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Just Transition First Progress Report (2021)	The report notes the importance of effective governance in the Midlands to deliver a just transition. The report makes recommendations across a number of areas including Electric Vehicle Charging. The eight Midlands counties are currently served by 98 public Electric Vehicle (EV) charging points provided by ESB. The report asks for an evaluation study on the potential to further expand the EV charging infrastructure nationally, including the enhancement of the charging network in the Midlands region, to commence immediately.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP will include a roadmap towards the implementation of EV charging infrastructure across the National Roads Network.
Healthy Cities Project (WHO)	A healthy city is one that continually creates and improves its physical and social environments and expands the community resources that enable people to mutually support each other in performing all the functions of life and developing to their maximum potential. The Healthy Cities Project begin in 1987 with eleven cities. The concept is based on the importance of local action and the key role of local governments and Local Authorities in health and sustainable development. In Ireland, 31 Local Authorities are committed to developing a structure to support Health Cities across Irish counties.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.
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.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The NRNEVCP is focused on the deployment of EV charging infrastructure to accommodate use of EVs in Ireland. This will contribute towards greenhouse gas emissions reduction targets.
River Basin Management Plan (RBMP)	River Basin Management Plan sets out the measures that are necessary to protect and restore water quality in Ireland. The Plan sets out the actions that Ireland will take to improve water quality and achieve 'good' ecological status in water bodies (rivers, lakes, estuaries and coastal waters) by 2027. The overall aim of the RBMP is to ensure that natural waters are sustainably managed and that freshwater resources are protected so as to maintain and improve Ireland's water environment. The plan includes assessments of water quality across Ireland's rivers, lakes, canals,	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management.

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	coastal & transitional waters, and groundwater water bodies and the overall objective of achieving "good" status across Ireland's waterbodies. The total number of water bodies included in the 3rd cycle RBMP 2022-2027 was 4,842. Of these, 53% rivers, 50% lakes, 88% canals, 52% coastal & transitional, and 92% groundwater achieved "good" status or better in the 2nd Cycle of the RBMP from 2016-2021.	
Regional and Municipal Level		
Eastern and Midland Regional Spatial and Economic Strategy 2019- 2031 (Eastern and Midland Regional Assembly) 2019	A strategic plan and investment framework to shape the future development of the Region to 2031 and beyond. Vision: '*To create a sustainable and competitive Region that supports the health and wellbeing of our people and places, from urban to rural, with access to quality housing, travel and employment opportunities for all'*	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The Plan includes measures to accommodate all regions across the Irish road network.
Northern and Western Regional Spatial and Economic Strategy 2020- 2032 - Northern and Western Regional Assembly 2020	A Strategy to support the implementation of Project Ireland 2040, including the economic and climate policies of the Government, by providing a long-term strategic planning and economic framework for the region. Vision: '*To play a leading role in the transformation of this region into a vibrant, connected, natural, inclusive and smart place to work and live*.'	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The Plan includes measures to accommodate all regions across the Irish road network.
Southern Regional Spatial and Economic Strategy (Southern Regional Assembly) 2020	A long-term, strategic development framework for the future physical, economic and social development of the region. Vision: Nurture all our places to realise their full potential; Protect and enhance our environment; Successfully combat climate change; Achieve economic prosperity & improved quality of life for all; Accommodate expanded growth & development in suitable locations; and Make the Southern Region one of Europe's most creative, innovative, greenest, and liveable regions.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The Plan includes measures to accommodate all regions across the Irish road network.
Rural Development Policy (Department of Rural and Community Development) 2021	A policy framework for the development of rural Ireland over the next five years	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the

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	Vision: '*A thriving rural Ireland which is integral to our national economic, social, cultural, and environmental wellbeing and development. An Ireland which is built on the interdependence of urban and rural areas. An Ireland which recognises the centrality of people, the importance of vibrant and lived-in rural places, and the potential to create quality jobs and sustain our shared environment*.'	regulatory framework for environmental protection and management. The Plan includes measures to accommodate rural areas across the Irish road network.
Realising our Rural Potential – Action Plan for Rural – Development 2017 - 2019 (Department of Rural and Community Development)	An action plan to 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.	Implementation of the NRNEVCP will comply with all relevant environmental legislation and will align with, and cumulatively contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management. The Plan includes measures to accommodate rural areas across the Irish road network.
Regional Tourism Strategies (Fáilte Ireland)	Ireland has developed four regional development strategies for tourism across the country for the East Region, Heartlands Region, Wild Atlantic Way Region and Dublin Region.	The NRNEVCP will be implemented across the National Road Network in Ireland. The deployment of EV charging infrastructure will consider coverage of tourist / seasonal spots adjacent to the national primary and secondary road network while designing the geographical reach of possible options.
Dublin Action Plan for Nitrogen Dioxide (December 2021) *Dublin Region Air Quality Plan 2021 -Air Quality Plan to improve Nitrogen Dioxide levels in Dublin Region.*	An exceedance of the EU limit value for nitrogen dioxide occurring in the Dublin region in 2019 necessitated the preparation of a *Dublin Region Air Quality Plan 2021 -Air Quality Plan to improve Nitrogen Dioxide levels in Dublin Region.* This air quality plan sets out 14 broad measures and a number of associated actions to address the exceedance of the nitrogen dioxide annual limit value. This includes an EV charging strategy, publication of national clean air strategy, introduction of clean air zones / low emission zones, and behavioural change campaigns. The Plan was prepared by the four Dublin Local Authorities (Dublin City Council, Dún Laoghaire-Rathdown County Council, Fingal County Council and South Dublin County Council).	The NRNEVCP will be implemented across the National Road Network in Ireland and may assist with reductions in nitrogen dioxide levels and an EV charging strategy for the Dublin region.