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Decision Support

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Table of contents, figures, and tables

NON-TECHNICAL EXECUTIVE SUMMARY 6
1. Context 6
2. The 2021 Bill 6
3. The SEA Process and Scope 7
4. Other plans and programmes 7
5. Baseline 8
6. Main environmental impacts and reasonable alternative 12
7. Mitigation measures 16
8. Monitoring and governance 17
9. Conclusion 17

1. INTRODUCTION 18

1.1 Context - Climate Change and Ireland 18

1.2 Context - Policy Developments in Ireland 18

1.3 Proposals for an Amendment to the Climate Action Act 21

1.4 The Strategic Environmental Assessment Approach 27

1.5 Structure of this report 30

2. RELATIONSHIP WITH OTHER RELEVANT PLANS, PROGRAMMES AND STRATEGIES 32

2.2 Climate 32

2.3 Infrastructure and Planning 34

2.4 Agriculture, Land Use and Forestry 35

2.5 Energy generation and Built environment 37

2.6 Transport 38

2.7 Waste 39

2.8 Biodiversity 40

2.9 Air Quality 41

2.10 Water Quality 43

2.11 Landscape, seascape, and cultural heritage 43

3. BASELINE – THE STATE OF THE ENVIRONMENT IN IRELAND 44

3.1 Biodiversity 44
3.1.1 Biodiversity: Baseline 44
3.1.2 Biodiversity: Environmental protection objectives 46

3.2 Population & human health 46
3.2.1 Population and human health: Baseline 46
3.2.2 Population and Human Health: Environmental protection objectives 47

3.1 Soil 48
3.1.1 Soil: Baseline 48
3.1.2 Soil: Environmental Protection Objectives 49

3.2 Water 49
3.2.1 Water: Baseline 49
3.2.2 Water: Environmental protection objectives 52

3.3 Air 52
3.3.1 Air: Baseline 52
3.3.2 Air: Environmental Protection Objectives 54

3.4 Climate 54
3.4.1 Climate: Baseline 54
3.4.2 Climate: Environmental Protection Objectives 56

3.5 Cultural heritage & landscape 56
3.5.1 Cultural heritage, landscape, and material assets: Baseline 56
3.5.2 Heritage and landscape: Environmental Protection Objectives 57

3.6 Material Assets 57
3.6.1 Material Assets: Baseline 57
3.6.2 Material Assets: Environmental Protection Objectives 60

3.7 Interactions between elements of environmental baseline 60

3.8 Development of the baseline without the 2021 Act 62

4. ASSESSMENT APPROACH IN THIS CASE 66

4.1 Scope of the Assessment 66
4.1.7 Biodiversity, Flora and Fauna 67
4.1.8 Air 68
4.1.9 Population and Human Health 68
4.1.10 Soil 69
4.1.11 Water 69
4.1.12 Climatic Factors 70
4.1.13 Cultural heritage and the historic environment 70
4.1.14 Material Assets 71
4.1.15 Landscape, seascape, and visual amenity 71

4.2 Temporal Scope of SEA....72

4.3 Geographical Scope of SEA and Transboundary Consultation....72
4.4 Approach to this Assessment....72
4.5 Consideration of Reasonable Alternative....74

5. ASSESSMENT FINDINGS....74

5.1 Overview of impacts and Review of Previous SEAs....74
5.1.1 High-Level Overview of Evidence....78
5.1.2 Climatic factors....79
5.1.3 Biodiversity....79
5.1.4 Population and Human Health....80
5.1.5 Soil....80
5.1.6 Air....80
5.1.7 Water....81
5.1.8 Material Assets....81

5.2 Review of proposals in the 2021 Bill....82
5.2.1 The new National Climate Action Objective....82
5.2.2 Carbon Budgets....83
5.2.3 Governance and Process change....84
5.2.4 Changes to NORA Act 2007....85
5.2.5 Landscape, Culture and Heritage....86

5.3 Consideration of Reasonable Alternative....86

6. MITIGATION MEASURES AND ENHANCEMENT OPPORTUNITIES....88

6.1 Overview....88

6.2 Planning Framework....89

6.3 Environmental Impact Assessment....90

6.4 Specific Licensing Regimes....90

7. MONITORING AND GOVERNANCE....90

8. CONCLUSIONS AND RECOMMENDATIONS (SEA STATEMENT)....91

9. NEXT STEPS....92

APPENDIX A - GLOSSARY AND DEFINITIONS....94

APPENDIX B – LIST OF RELEVANT PLANS, PROGRAMMES, LEGISLATION, AND POLICY....95

APPENDIX C ..... SCOPING REPORT 101

Figures

Figure 1 – Overview of the SEA Process 28
Figure 2 - Overview of the SEA Report Structure 32
Figure 3 – Policy Context and Recent Climate Policy in Ireland 33
Figure 4 - Sites designated under Natura 2000 in Ireland for protected birds, habitats and species 40
Figure 5 - Overall Assessment Results for the Status and Trends in Habitats Protected Under the EU Habitats Directive in Ireland, 2013-2019: Status and Trends 45
Figure 6 - Proportion of habitats impacted by key environmental pressures and threats 45
Figure 7 - CORINE Land cover map 2018 for Ireland 48
Figure 8 - Soil water erosion rate by EU Member state, 2016 49
Figure 9 - Change in percentage of water bodies in water framework directive quality bands, 2007-2019 50
Figure 10 - Status of waterbodies in Ireland 51
Figure 11 - Significant pressures on Ireland's aquatic environment 51
Figure 12 - Annual average PM2.5 modelled concentration estimates for 2015 53
Figure 13 - Ireland's Greenhouse Gas Emissions by Sector, 1990-2018 55
Figure 14 - Ireland's greenhouse gas emissions projections, 2018-2030 – With Existing Measures (WEM) and With Additional Measures contained in 2019 Climate Action Plan (WAM) 55
Figure 15- Population density in Ireland at small area scale from Census 2016 data 59
Figure 16 - Simplified interrelationships between environmental impacts 61
Figure 17- Summary Impact of the Climate Action (amendment) Bill on major impact categories 88

Tables

Table 1 - Impact categories, trends in status and major pressures 62
Table 2 - Overview of potential impacts of climate action 75

Non-technical Executive Summary

1. Context

Climate change is one of the most pressing threats to human society and the environment in the twenty-first century. On the international stage, the Paris Agreement of 2015 established a legally binding international treaty on climate change, with an objective to limit global warming to well below 2 degrees Celsius, and preferably to 1.5 degrees Celsius. To achieve this, the agreement requires all countries to adopt ambitious measures to fight climate change and its impacts, with the goal of realising a climate neutral world by mid-century.

Ireland legislated for more ambitious emissions reductions in 2015 with the Climate Action and Low Carbon Development Act. This set a 'national transitional objective' in law of reducing emissions by 80% by 2050 in key sectors. The Climate Action and Low Carbon Development (Amendment) Bill 2021[1] raises the level of ambition for emissions abatement, such that carbon neutrality is achieved by 2050, with a more ambitious interim target for 2030 also set in place. Beyond the upgraded ambition, the 2021 Bill establishes an enhanced set of governance arrangements to support the monitoring and management of the new targets. The Irish Government is committed to keeping Ireland at the forefront of global climate action by introducing this 2021 Bill.

2. The 2021 Bill

The Climate Action Plan of 2019 defined several new provisions to be included within an amended Climate Action Bill. The key elements have been summarised by the Climate Governance, Planning and Coordination Division of the Department of Environment, Climate and Communications (DECC) as follows:

- Establishing a 2050 emissions reduction target in law;
- Making the adoption of carbon budgets a legal requirement;
- Requiring the Government to set a decarbonisation target range for each sector, with the Minister with primary responsibility for the sector being accountable for delivering the relevant actions to meet the sectoral target;
- Establishing the Climate Action Council as a successor organisation to the Climate Change Advisory Council;
- Establishing that the Climate Action Plan shall be updated annually;

[1] Hereafter often referred to as the 2021 Bill or 2021 Act dependent on the context.

- Establishing that a Long-Term Climate Strategy, to match the period covered by three five-year carbon budgets, shall be published – the first Strategy is to be published for the period 2021 to 2035, and will also include a longer-term perspective to 2050; and
- Ensuring that the proposed governance arrangements retain sufficient flexibility to allow necessary reorientation of policy in light of changing technologies, circumstances, challenges, and opportunities over the period to 2030 and beyond.

3. The SEA Process and Scope

Core elements of the SEA process include the following:

i.	**Screening**	Determining if there is a requirement to conduct an SEA.
ii.	**Scoping**	Defining the environmental issues, method and focus of the SEA.
iii.	**Reporting**	Preparing a draft SEA Environmental Report. *This report is the draft SEA report.*
iv.	**Consulting**	Engagement and consultation on the draft SEA report.
v.	**Integration**	Consideration and incorporation of input. Creation of an SEA statement.
vi.	**Publication**	Formal release of the SEA and decision into the public domain.

The scope of the SEA was determined through consultations between the competent authority (DECC) and the defined environmental and statutory authorities based on a scoping report. The scoping report provided information for consideration in respect of the requisite content of the SEA. This included defining the various sections, and describing the data, methods and processes that would be utilised in the full draft SEA report. It is obligatory to conduct the scoping stage of an SEA such that the content and boundaries for the SEA are considered prior to commencement of the SEA report. The requisite SEA scoping report has been conducted and feedback has been considered. The scope, content and boundaries for this SEA report have then been agreed with the competent authority and applied in this draft report. The scoping report is attached as an Appendix.

4. Other plans and programmes

The Strategic Environmental Assessment Directive requires an SEA to set out, alongside the contents of the main objectives of the plan or programme in question, its relationship to other relevant plans and programmes. Key plans and programmes of relevance to 2021 Bill include:

- The National Mitigation Plan (2017)

- Climate Action Plans (2019/2021 pending)
- National Adaptation Framework (2018)
- National Planning Framework and 'Project Ireland 2040' (2018)
- National Energy and Climate Plan (2019)
- Offshore Renewable Energy Development Plan Interim Review (2018)
- The White Paper: Ireland's Transition to a Low Carbon Energy Future (2015)
- Waste Action Plan for a Circular Economy (2020)
- Forestry Strategy (Multiple Reports)
- National Biodiversity Action Plan (2017)
- National Peatland Strategy (2015)
- Ag-Climatise (2020)
- National Air Pollution Control Plan (2021)

5. Baseline

As part of the strategic environmental assessment process, it is important to establish the current baseline and trajectory of the environmental factors that may be impacted. The areas, and a high-level overview of the trends and pressures are given in the table below:

Table 1 - Impact categories, trends in status and major pressures

Area	Trend	Main pressures
Biodiversity, Flora, Fauna	**Disimproving:** Whilst protected species, according to the most recent NPWS data, are on a broadly stable trend (15% declining, 17% improving), protected habitats are dramatically declining (46% declining, 2% improving).	Land-use changes through agriculture and development activities negatively impact biodiversity. Further to this, negative impacts can also arise from mitigation measures, such as large-scale biomass planting and harvesting operations. Specific to climate change, pressure on biodiversity in Ireland includes declining populations, reduced food availability and habitat loss. The most vulnerable habitats being at higher risk. These include upland

		habitats, peatlands, and coastal habitats. Plant communities are also likely to experience changes in their composition with species moving in and out, and an increased risk of invasive plant species.
Population and Human Health	**Neutral/Disimproving:** Indicators of water safety have been relatively stable since 2014, and the number of supplies on the remedial list has consistently decreased. However, there has been a worrying increase in the number of boil water notices issued, and in the detection of cryptosporidium (EPA, 2019). Reliable time-series indicators for other relevant issues such as noise, odour, energy poverty and green space access are not available. Air quality is a key factor and the trend in that regard is positive for human health, though challenges remain. Air is covered separately.	Factors such as location, age, and level of deprivation can impact an individual's vulnerability to health risks. For example, coastal communities are at risk of rising sea levels, changes in wave heights and increasing extreme weather events. Likewise, densely populated urban areas are at a higher risk of summer heat stress and surface flooding. While new building and housing developments show improvements in energy efficiency, there is a significant stock of old buildings and houses in Ireland that have very poor energy efficiency that can be linked to health issues, particularly in the winter. Additionally, well known issues such as poor air and water quality can also lead to health issues.
Soils	**Neutral/Mixed:** No reliable national-level time series is available for soil, though the Irish Soil Information System setup by Teagasc offers a useful national baseline. Currently, soils appear to be in relatively good condition. However, relevant concerns have been raised in the past regarding the impact of	Changes in soil water content and temperature increases probability of drought or flooding. This can increase the likelihood of soil carbon loss (particularly for carbon-rich peat soils), threaten soil viability, and increase greenhouse gas emissions. Existing issues such as soil erosion and changes in soil biodiversity could

	future agricultural intensification (Kiely, et al., 2014).	also be worsened by climate change.
Air	**Neutral/Improving:** Between 1990 and 2018, substantial reductions were achieved in many pollutants: SO_2 by 93%, $PM_{2.5}$ by 63%, and NO_x by 38%. However, NH_3 emissions have increased. Shifts to less polluting transport and domestic heating methods should support improved air quality from energy using sectors (EPA, 2020). Other actions are required for agriculture primarily related to fertiliser use and spreading techniques.	Main pressure points for air quality include transport, the built environment, and agricultural practices. Greater improvements in public transport systems and encouraging mode shift, as well as the electrification of transport and heating will present potential positive impacts for air quality. Further implementation of farm efficiency measures will also play a role in reducing emission of harmful pollutants such as ammonia. Moreover, emissions from biomass boilers are generally lower than coal, but the burning of biomass feedstock still emits air pollutants such as particulates. Seasonal variations in air quality are predicted to change; for example, weather conditions that produce summertime smog becoming more common.
Water	**Disimproving:** EPA monitoring shows an ongoing decline in the number of waterbodies at satisfactory status (Good or high); between the assessment periods 2010-15 and 2013-18, there was a net decline in status of 4.4% of waterbodies, with particular concern about the number of 'high' status rivers (EPA, 2019b). The River Basin Management Plan is intended to reverse this trend.	Marine and coastal environments are at risk from rising sea levels and temperatures, erosion of coastline, changes in acidity and salinity, and invasive non-native species, increasing flooding and salinisation. Climate change is likely to impact annual rainfall patterns and could therefore affect rivers, water flows and the breakdown of pollutants. Indirect impacts could also result from changes to the growing season, which could

		increase the number of pollutants entering water from agricultural run-off.
Climatic Factors	**Neutral/Disimproving:** Irish greenhouse gas emissions increased slightly overall over the last three decades, from 55.5 mt in 1990 to 60.9 mt in 2018, peaking at 69.7 mt in 2004 (EPA, 2020b). Whilst it is expected that COVID will result in reduced emissions, the longer-term 'with measures' trend is inadequate. Stronger ambition and definitive actions are required and anticipated in this context. The proposed bill representing a key development in this context.	The potential impact of Climate change over the course of the century is such that it would impact on every facet of the environment. Every major sector of the economy presents emissions pressure, and action will require a comprehensive, cross-sectoral, all of government effort in order to limit the dangerous effects of climate change and improve the overall level of resilience and sustainability within our society. This will involve mitigation measures across all core sectors of the economy – agriculture, transport, built environment, industry, waste, and energy generation. However, impacts can also result from mitigation and adaptation measures, such as renewable energy installations producing negative visual effects and changes in landscape.
Heritage, Landscape, Seascape and Visual Amenity	**Neutral:** There is limited meaningful data that offers a quantitative sense of landscape and heritage status over time in Ireland. However, Ireland is generally recognised as having a strong endowment in the context of	Pressures from development, economic activity, and increasing extreme weather events may present challenges for cultural heritage. Pressure points as a result of climate change include the potential degradation of buildings and historical monuments. These amenities are important aspects of the Irish economy as it relates to tourism and citizen amenity. Additionally, there may be impacts

	natural environment, heritage, and visual amenity.	to archaeology due to the planting and harvesting of energy crops and retrofitting of old buildings. Furthermore, climate change could change landscapes due to coastal erosion and increased flooding. Indirect impacts could also stem from mitigation measures such as the development of flood defences.
Material Assets	**Improving:** Given the broad scope of material assets, it is difficult to establish a baseline trajectory. Ireland possesses substantial and growing infrastructure in the context of transport, renewable energy, natural resources, and forestry. Broadly these could be considered as growing.	Material assets such as transport infrastructure, natural resources and other buildings are at risk of damage due to increasing extreme weather events. A further pressure will also be the projected increase in population of an additional 1 million people by 2040.

6. Main environmental impacts and reasonable alternative

Our assessment approach took place in two stages:

- Stage 1 consisted of a review of existing strategic environmental assessments of plans and programmes focused on climate action. This had the objective of giving a broad sense of the general impacts coming from climate action, that would be relevant in Ireland. Given the nature of the legislation, which is focused on governance and objective setting, this was necessary to give a sense of the direction of environmental impacts that may come from the more specific and concrete plans that are to be subsequently introduced to deliver on the targets that have been articulated in the 2021 Bill.

- Stage 2 examined in more detail the provisions of the legislation itself and sought to identify direct and indirect environmental impacts that might be reasonably and credibly connected to those provisions.

In the context of Stage 1, an overview of the potential impacts of climate action are presented in Table 2. This is not an exhaustive list. The major reason for this is simply that the scope and range of potential 'climate' actions are myriad and substantial. In practice the explicit positives and negatives that may be associated with a very specific climate policy in a given context can then only be reasonably and credibly delivered where that detail is available.

Table 2: Overview of potential impacts of climate action generally

Area	Positives	Negatives
Climatic Factors	There should be a positive long-term impact across all sectors due to a reduction in GHG emissions. Overall economic and societal resilience will improve due to efficiencies and fuel switching, specifically in sectors involving energy use and production. A reduction in emissions and air and water pollution will offer benefits to human and environmental health. Furthermore, broad investment in energy efficiency, infrastructure improvements, housing stock improvements and a more sustainable society can provide many benefits across Ireland.	Competing land uses demands, and changes in land use are potentially a negative impact. Additionally, biomass and biofuel production may present challenges. Furthermore, there is a concern that rapid development and investment needs may put pressures on citizens and the environment.
Biodiversity, Flora, Fauna	Positive impacts include the protection of habitats under agri-environment schemes, increased carbon sequestration through the restoration of peatlands and woodlands, and the creation of woodland habitats under forestry schemes. Additionally, protecting and supporting the provision of ecosystem services through the rehabilitation of degraded land and improving land management	Construction and infrastructure development presents negative impacts to biodiversity through habitat disturbance. There are also potential impacts on marine ecology resulting from offshore renewable energy development and undersea interconnectors. Furthermore, agriculture presents several negative impacts such as land-use change to support biomass cultivation and farming intensification and modernization through new technology and changing

	practices will present many benefits to biodiversity.	practices. There is also potential for biodiversity loss in connection with afforestation.
Heritage, Landscape, Seascape and Visual Amenity	Retention of agricultural landscape features such as hedgerows under agri-environment schemes and the creation of woodland habitats under forestry schemes are positive impacts on landscape.	Infrastructure development, including renewables generation, pylons and offshore, and transport infrastructure can affect the setting of historic buildings and energy efficiency measures could change the fabric of buildings with historic and cultural significance. Furthermore, if designed and managed poorly, there is potential for disruption of landscape and seascape through renewable energy onshore and offshore installation.
Soils	Increased soil carbon retention may result from agri-environmental measures. Additionally, better land management, land restoration and expanding woodland may increase carbon sequestration capacity.	Increased demand for feedstocks and bioenergy may result in soil erosion, significant land use change and other adverse environmental effects. Moreover, forestry operations may potentially lead to soil acidification and other kinds of soil damage. There are also potential negatives which may result from inappropriate development or step-up in biofuel production.
	Improvements in air quality will result from a reduction in ammonia	The development of new infrastructure projects will

Air	emissions due to targeted nitrate usage in agricultural practices, reduced tailpipe emissions resulting from the transition to higher electric vehicle uptake and encourage modal shift and reduced fossil fuel emissions from improved energy efficiency measures in the residential sector.	increase emissions in this sector, affecting air quality. There are also potential rebound effects of farming intensification and changing traditional practices with improved technology or modernization. Air pollution from biomass burning and bioenergy may also increase.
Water	Improved water status through reduction in nitrates use in agriculture.	Water pollution from the leaking of antifreeze from water-to-water heat pumps and conifer afforestation may increase. Moreover, reduced water quality and disruption of bathing areas and other water-based recreation may be an impact of offshore renewable energy infrastructure development.
Population and Human Health	Increases in fuel efficiency and transport electrification will improve air quality, reducing health complications such as asthma. Mental and physical health benefits may arise from sustainable transport mode shift that increases walking and cycling. Additionally, warmer and more energy efficient homes will improve health and well-being.	Increased construction activity because of new infrastructure projects, which can create dust, noise, vibration, and visual impacts, affecting health and well-being. Additionally, there may be a disruption of bathing areas and other water-based recreation by offshore renewables development.

Stage 2 considered the specific provisions of the Bill itself and found that the setting of a new national climate objective of carbon neutrality by 2050 should clearly have positive climate impacts and would logically be expected to have the potential to accentuate both positive and negative impacts that may be associated with

climate action generally. However, it is also expected that existing regulatory structures and provisions (e.g., planning laws) and careful integrated policy design, as should be articulated in the iterative Climate Action Plans and Long-Term Strategy, will serve to any mitigate negative impacts, manage effective policy design and deployment, and enhance the potential positive outcomes from the associated policies and measures.

In brief the processes and governance measures contained in the 2021 Bill cannot be directly connected to specific substantive environmental impacts. However, it is noted that their introduction should improve the management, monitoring and overall governance in the context of Irish climate policymaking. The more ambitious targets should result in improved environmental outcomes, and provisions such as the expansion of the Climate Action Fund to allow for financing of carbon sequestration projects, could potentially increase the co-benefits of climate action with respect to biodiversity and landscape. However, ultimately, the detail of specific policies and measures, as will be contained in the Climate Action Plans, Long Term Strategy and updated National Energy and Climate Plan will be the more relevant in terms of evaluating impact in an SEA process.

7. Mitigation measures

Given the high-level nature of the legislation, all environmental impacts are in effect indirect rather than direct. This is simply due to the fact that the actions to deliver on the 2021 Bill will only be articulated in the Climate Action Plans, Long Term Strategy and updated National Energy and Climate Plan. Specific environmental mitigation measures are not a feature of this 2021 Bill, and an SEA is already planned for the updated National Energy and Climate Plan. In that case it will of course also be important that the appropriate project or programme-level management frameworks are applied to measures put in place to deliver climate action as required in the Bill. These frameworks include:

- Planning guidelines under the Planning and Development Act 2000, National Planning Framework, National Marine Planning Framework and so on, which establish processes for assessing the suitability of developments.
- The Environmental Impact Assessment Directive (85/337/EEC) requires all projects above a certain threshold to undergo a process of assessment which follows similar steps to SEA but at the project level, assessing impacts and potential mitigations. This Impact Assessment must then be considered by decision makers when giving or refusing planning consent.
- Additionally, projects or plans that have a potential impact on species or habitats protected under the Natura 2000 Directives (the Habitats and Birds Directives) must undergo a process of 'appropriate assessment' to identify and offer mitigation for these impacts.

- Specific types of projects may then be subject to other controls. For example, offshore wind energy development will have to obtain a foreshore lease or license, and forestry development or felling operations require licensing by the Department for Agriculture, Food, and the Marine.

8. Monitoring and governance

- The 2021 Bill contains provisions for the monitoring of progress against Climate Action targets themselves through an 'annual transition statement', made by the responsible Ministers to the Oireachtas. Furthermore, the 2021 Bill provides for the annual update of the Climate Action Plan as an iterative and dynamic strategy to managing performance towards the defined goals.
- The monitoring of environmental impacts should also take place through existing and well-established mechanisms to gather and report data on key outcomes such as biodiversity, water quality and air quality.

9. Conclusion

- The 2021 Bill defines an increase in Ireland's ambition on climate action, with a more demanding time-based emissions reductions target to meet, as well as additional enhanced processes and governance structures that have been added to support the delivery of that target.
- The ambition of the 2021 Bill sets Ireland amongst the front runners of international climate policy.
- The extensive menu of actions that may be categorised or connected to 'climate action' may be associated with a variety of environmental impacts that are generally positive, but which may present risks for some negative outcomes. The greatest positive impacts and synergies can be expected in the areas of climate and air quality, with negative impacts risks arguably more likely for biodiversity and landscape. The 2021 Bill does not however contain any specific climate action measures to assess.
- The SEA process will be more meaningful when considering the specific actions that are articulated to deliver on the greater levels of ambition in the 2021 Bill, and this will relate to the relevant actions to be defined in the updated National Energy and Climate Plan and Climate Action Plan processes.
- As actions are introduced and accelerated it will be important that the appropriate risk mitigation processes e.g., assessment, licensing, planning are implemented at project level for those measures. These processes should afford reasonable protections for SEA relevant impact categories as the ambitions set out in the 2021 Bill are realised through specific climate actions and policy interventions.

1. Introduction

1.1 Context - Climate Change and Ireland

1.1.1 Climate change is generally regarded as one of the most serious and persistent threats to human wellbeing and prosperity in the 21st century. The evidence has been clear for some time that the climate is warming at an unprecedented speed and that human activity is driving this change (IPCC, 2014). Global average temperatures have already risen by at least 1°C since the pre-industrial era. The impacts of this change are already being felt across the world in the form of more frequent and more severe extreme weather events, extinctions of animal and plant species, and natural disasters such as wildfires. Despite this, global emissions have continued to rise. Between 1990 and 2018, global CO_2 emissions rose from 22.88 to 36.58 billion tonnes (Ritchie & Roser, 2020).

1.1.2 In 2018, Ireland's emissions of greenhouse gases (excluding land use change) were approximately 60.1 million tonnes of CO_2 equivalent. This represents a 10% increase on emissions reported in 1990. Ireland is distinctive amongst developed economies in that agriculture makes up a particularly large proportion of its total greenhouse gas emissions, representing just over a third of national GHG emissions in 2018 (EPA, 2020c).

1.1.3 Ireland's GHG emissions trajectory will present a compliance challenge regarding the targets set under the EU Effort Sharing Decision (ESD) No. 406/2009/EC to 2020, with ongoing challenges to 2030 anticipated in respect of the subsequent GHG abatement requirements under the Effort Sharing Regulation (ESR) that was adopted by Member States in 2018. Imminent upward shifts in EU ambition will add to this challenge.

1.1.4 Many of the impacts of climate change can already be observed in Ireland. Average temperature has increased roughly in line with global temperatures, at around 0.8°C higher in 2017 than in 1900. Rainfall has increased, as has the associated average river flow. In the future, these impacts are expected to become more pronounced, and to require greater levels of national adaptation. Sea level rise, alongside heavier rainfall, and a general intensification of the hydrological cycle, may lead to worsening impacts from flooding, particularly for coastal communities. Changes in climatic conditions may also create severe challenges for agriculture and forestry, as well as presenting threats to Ireland's biodiversity (DCCAE, 2017).

1.2 Context - Policy Developments in Ireland

1.2.1 In 2014, the Irish Government set out a National Policy Position on Climate Action and Low Carbon Development, which set the national objective of transition to a 'competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050'. Specifically, the objective envisioned:

By 2050, a reduction in CO_2 emissions of 80% from 1990 levels in the electricity generation, built environment and transport sectors. In parallel, an approach to carbon neutrality in the agriculture and land use sectors that does not imperil sustainable food production[2].

1.2.2 This was followed by the Climate Action and Low Carbon Development Act 2015, which gave a legal basis to this objective, requiring the publication of a National Mitigation Plan and National Adaptation Framework. The Act also established the Climate Change Advisory Council, and the submission of annual transition statements to the Oireachtas reporting on progress[3].

1.2.3 The National Mitigation Plan was published in 2017, setting out a range of mitigation measures across the sectors and government departments[4]. This was followed in 2019 by the Government's Climate Action Plan 2019, which built on the National Mitigation Plan, providing 183 actions (split into 619 individual measures) required to meet the European 2030 targets and to work towards the defined national transitional objective by 2050[5].

1.2.4 One of the key actions defined in the 2019 Climate Action Plan was to bring into law an amendment to the 2015 Climate Action and Low Carbon Development Act which would strengthen the statutory measures therein – specifically, through the introduction of five-year carbon budgets, sectoral emissions reductions targets, a strengthened role for the Advisory Council, a Long-Term Climate Strategy, and annual revisions to the Climate Action Plan. In the Programme for Government, 'Our Shared Future', the Government formed after the General Election in February 2020 recognised that the next ten years are critical if we are to address the climate and biodiversity crisis and committed to an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 and to achieving net zero emissions by 2050. The Programme for Government also announced that a Climate Action Bill (the subject of this SEA) would form part of its legislative programme.

1.2.5 Ireland is subject to EU law on climate change. In 2014, the EU adopted its 2030 Climate and Energy Framework[6]. This set targets for the EU to, by 2030, cut greenhouse gas emissions by 40% on 1990 levels, to have 32% of energy generated from renewables, and to improve energy efficiency by 32.5%. The sectoral abatement aspects are underpinned by two primary pieces of European legislation: The Emissions Trading Scheme (ETS) and the Effort Sharing Regulation (ESR) which has followed the Effort Sharing Decision (ESD).

[2] The 2014 National Policy Position on Climate Action and Low Carbon Development
[3] The Climate Action and Low Carbon Development Act 2015
[4] The 2017 National Mitigation Plan
[5] The 2019 Climate Action Plan to Tackle Climate Breakdown
[6] The EU Climate and Energy Framework

1.2.6 The EU ETS is a cap-and-trade system covering power generation and heavy industrial sectors. The EU ETS will require these sectors, on a pan European basis, to reduce GHG emissions by 43% by 2030. The Effort Sharing Regulation sets member state targets for GHG reductions across other sectors (such as agriculture, transport, waste, and the built environment). For Ireland, a target of a 30% reduction against 2005 GHG emissions levels by 2030 has been set under the ESR. In this context member states are also required to submit a National Energy and Climate Plan to the EU, setting out their plan to comply with these targets. Ireland submitted a NECP in 2019[7]. However, it should be noted that the 2019 NECP will be updated to account for updated ambition – specifically a 7% annual average reduction in greenhouse gas emissions between 2021 and 2030. It is also relevant to note that the updated NECP will have an SEA conducted on its measures and actions.

1.2.7 EU climate policy is dynamic. On 11 December 2019, the European Commission published a Communication on the European 'Green Deal', the centerpiece of the new Commission's increased ambition on climate action. Underpinned by the objective of the EU becoming the world's first climate neutral continent by 2050, the European Green Deal sets out the policy and legislative agenda for climate and environment in the new Commission's term. The European Green Deal includes several legislative proposals, new strategies and action plans, financing instruments and non-legislative initiatives, which span all sectors. Key elements include: the European 'Climate Law', published in March 2020, which aims to enshrine the 2050 climate neutrality objective; and the 2030 Target Plan, in which the Commission proposes to raise the EU's ambition on reducing greenhouse gas emissions to at least 55% below 1990 levels by 2030 (up from 40% as previously agreed).

1.2.8 Further EU legislative proposals are expected to follow on how this target and additional emission reductions will be achieved, and these will be published later in 2021. These may include revisions to the European Emissions Trading System (EU-ETS) Directive; Energy Taxation Directive; Effort Sharing Regulation; Land Use, Land Use Change and Forestry (LULUCF) Regulation; Energy Efficiency Directive; Renewable Energy Directive; and CO_2 emission performance standards for cars and vans.

1.2.9 Internationally, Ireland is also a party to the UN Framework Convention on Climate Change and to the Paris Agreement, which entered into force in 2016[8]. The Paris Agreement seeks to limit climate change to 'well below' 2°C above pre-industrial levels and to make efforts to limit any temperature rise to 1.5°C. Each country that is party to the agreement has made a Nationally Determined Contribution (NDC). Ireland is part of the EU's NDC, which commits to reaching the objectives set by the 2030 Climate and Energy Framework as above.

[7] Ireland's Draft National Energy & Climate Plan (NECP) 2021-2030
[8] The UNFCC Paris Agreement

1.3 Proposals for an Amendment to the Climate Action Act

1.3.1 The Climate Action Plan of 2019 defined several new provisions to be included within an amended Climate Action Bill. The key elements have been summarised by the Climate Governance, Planning and Coordination Division of DECC as follows:

- Establishing the 2050 emissions reduction target in law.
- Making the adoption of carbon budgets a legal requirement.
- Requiring the Government to set a decarbonisation target range for each sector, with the Minister with primary responsibility for each sector identified being accountable for delivering the relevant actions to meet the sectoral target and reporting annually on the delivery of their actions and progress in achieving sectoral emission targets.
- Establishing the Climate Action Council as a successor organisation to the Climate Change Advisory Council with implications for revised governance and remit.
- Establishing that the Climate Action Plan shall be updated annually.
- Establishing that a Long-Term Climate Strategy, to match the period covered by three five-year carbon budgets, shall be published.
- Ensuring that the proposed governance arrangements retain sufficient flexibility to allow necessary reorientation of policy in light of changing technologies, circumstances, challenges, and opportunities over the period to 2030 and beyond.

1.3.2 The Climate Action and Low Carbon Development (Amendment) Bill 2021 therefore alters the existing Climate Action and Low Carbon Development Act 2015, in line with the provisions made in the Climate Action Plan of 2019. The approach taken in regard to these amendments has been to blend the new provisions into the existing 2015 Act in so far as possible, but also providing for new Heads of Bill where necessary. Overall, the intention for the Climate Action and Low Carbon Development (Amendment) Bill 2021 is to provide a strengthened statutory framework for effective governance of more ambitious national climate action in Ireland.

1.3.3 The amendments in the Climate Action and Low Carbon Development (Amendment) Bill 2021 have been informed by the Report of the Citizens' Assembly on How the State Can Make Ireland a Leader in Tackling Climate Change; the Oireachtas Joint Committee on Climate Action Report 2019; the provisions set out in the 2019 Climate Action Plan; and the latest Programme for Government.

1.3.4 The full range of these consultations has been summarised by DECC as follows:

The Bill has been informed by, and strongly reflects the recommendations as set out in the Report of the Citizens' Assembly on 'How the State Can Make Ireland a Leader in Tackling Climate Change'; the Oireachtas Joint Committee on Climate Action Report 2019; the provisions set out in the 2019 Climate Action Plan; the Programme for Government – Our Shared Future, and the Joint Committee on Climate Action's Report on the Pre-Legislative Scrutiny of the Climate Action and Low Carbon Development (Amendment) Bill published on 18 December 2020. The Government has accepted the majority of the 78 recommendations made by the Joint Committee.

Key elements of the Bill have been established into law, such as the 2050 target. Economy-wide carbon budgets including all greenhouse gases and a greater role for the Climate Change Advisory Council to propose carbon budgets reflect the recommendations of the Citizen's Assembly and also that of the Joint Oireachtas Committee report. The first recommendation of the Citizen's Assembly (approved by 97% of members) was to ensure climate change is at the centre of policy-making in Ireland, and that as a matter of urgency a new or existing independent body should be resourced appropriately, to operate in an open and transparent manner, and to be granted functions and powers to urgently address climate change. The Joint Committee on Climate Action recommended that a new climate action governance framework should be established via legislation. Key elements the Committee suggested were:

- A target of net zero economy-wide emissions by 2050;
- Provision for a 2030 emissions target, consistent with an emissions reduction pathway to the 2050 target, following receipt of advice from a newly mandated and renamed Advisory Council;
- Provision for five-yearly carbon budgets, consistent with the emissions reduction pathway to 2030 and 2050 targets, following receipt of advice from the Advisory Council;
- Provision for a stronger mandate, expanded secretariat and budget should be given to the Climate Action Council; and that the mandate would include responsibility for developing and proposing five-yearly carbon budgets; and
- Strengthening the statutory obligation on public bodies to require that they perform their functions in a manner consistent with the 2050 target and interim targets.

The Climate Action Plan 2019 itself was the subject of a High-Level Stakeholder Forum in January 2019 at which over 200 attendees from a range of sectors and representative groups provided their views to the Minister. The outcomes of the Forum informed the development of the Plan which included an action to bring forward the amending legislation. The 2021 Bill is now also currently undergoing a Strategic Environmental Assessment (SEA) which also involves a public consultation.

1.3.5 The Climate Governance, Planning and Coordination Division of DECC have also summarised the key changes across the Bill as below. The full text of the 2021 Bill is available for consideration via the DECC website :

1.3.6 Title and Definition

This amendment was not made to address any specific deficiency in the 2015 Act. This is a standard drafting provision to define/reference to the Principal Act. When an existing Act is being altered the original Act is known as the Principal Act.

1.3.7 Amendment of section 1 of Principal Act

The amendment was made to provide for new definitions and terms provided in the Bill, and to improve the clarity of existing terms where appropriate.

1.3.8 National 2050 climate objective

This amendment seeks to address concerns that the 2015 Act did not contain a clear long-term emissions reduction target, and also fulfils key recommendations from the Joint Oireachtas Committee report and Climate Action Plan to legislate a 2050 target. A clear and quantifiable long-term target provides certainty on Ireland's long-term climate goal. It provides for a 2050 climate objective of a 'climate neutral economy' which is also defined in section 2, to replace the existing national transition objective.

Subsection 3 sets out the overarching principles and matters the Minister and Government will have regard to when preparing and approving any of the carbon budgets, plans and strategies, and builds on principles in the 2015 Act. Some match those included in Section 4 of the Principal Act. Others are supplemented or new, and reflect additional matters considered prudent for consideration in view of Ireland's increased ambition and to ensure consistency between the 2050 target and the carbon budget process. For example, regard to the carbon budget is now included. The role of societal individual behavioural change to achieve the targets and consideration of the risk of carbon leakage are provided. It also explicitly recognises that not all measures to realise the State's climate ambitions can yet be identified, but such measures will be delivered at the best possible value for money, maximising the net benefits to society as far as practicable. It also fully reflects the commitment in the Programme for Government to have regard to the special economic and social role of agriculture, and the distinct characteristics of biogenic methane, as described by the Intergovernmental Panel on Climate Change.

1.3.9 Climate action plans and strategies

Section 4 of the Principal Act is replaced by this section. It sets out that the former National Mitigation Plan, produced every five years, will be replaced by the preparation of annual revisions to the Climate Action Plan and a series of National Long-Term Climate Action Strategies. Therefore, short to medium term policy will be provided under the Climate Action Plan, and the long-term pathways developed under the National Long-Term Climate Action Strategies. Together these provide a complementary and significantly enhanced climate policy planning and development process towards carbon budgets and 2050 objective than previously provided.

This amendment provides a statutory basis for the Climate Action Plan which was initially developed on an administrative basis. Annual revisions of the Climate Action Plan will provide a roadmap of actions, including sectoral actions, that Government consider are needed to pursue the adopted series of three, consecutive, five-year carbon budgets. It will provide basis for regular monitoring and reporting ensuring Ireland remains on course to achieve EU climate targets and national carbon budgets. The roadmap will include specific actions that in the Minister's opinion are required for the next 5 years; it will set out an overview of policies and to the extent feasible, measures (in the Minister's opinion) required over the following 5-year period; and it will outline potential policies that may be required for a further 5-year period. The National Long-Term Climate Action Strategies will outline the range of opportunities and indicative pathways towards achieving the national 2050 climate objective and will have a perspective of at least 30 years.

The amendment will further introduce the development of a National Long-Term Climate Strategy which will focus outward to at least 2050 and explore long term pathways.

1.3.10 Amendment of section 6 of Principal Act

This primary objective in amending section 6 was to address a gap in the 2015 Act, identified in the development of the first set of Sectoral Adaptation Plans (SAPs) in 2018 and 2019. This process demonstrated that the 2015 Act did not provide for a situation where a function or 'matter' is shared across more than one Department. The amendment will provide more flexibility in preparing future SAPs.

1.3.11 Insertion of new section on Carbon budgets

This amendment puts into legislation a system of successive five-year economy-wide carbon budgets which was a commitment in both the Programme for Government and 2019 Climate Action Plan and informed by recommendation of the Joint Oireachtas Committee on Climate Action's report to legislate for economy-wide multiannual budgets, that the Climate Change Advisory Council would propose budgets to Government. It introduces a 'comply or explain' clause if Government choose to vary the proposed Climate Change Advisory Council budget. Developing a consensus approach for adopting carbon budgets, the new section provides a central role for the Houses of the Oireachtas in the development and adoption of the carbon budgets.

The development of successive five-year carbon budgets defines a process for setting intermediate quantitative targets and related decarbonisation target ranges not provided under the 2015 Act and serves as a further measure in strengthening overall revised climate governance framework.

1.3.12 Amendment of section 9 of Principal Act

This amendment seeks to address concerns that the existing Climate Change Advisory Council needed members with a broader range of expertise than the current Council; and that it needs greater gender balance. It was informed by recommendations of the Joint Oireachtas Committee on Climate Action's report which called for greater gender balance.

The new Climate Change Advisory Council will have three ex-officio ordinary members: The Director General of the Environmental Protection Agency; the Director of Teagasc, the Food Development Authority and the Director of the Irish National Meteorological Service, Met Éireann. Ex-officio membership has been revised to ensure that the Government can ensure a broad skillset and experience is included in the future composition of the Climate Change Advisory Council. This is also evident in the list of experience/competence referred to in the Bill.

It also provides that the Adaptation Committee is enacted as permanent sub-Committee of the Council given its importance to address adaptation issues.

1.3.13 Amendment of section 11 of Principal Act

This amendment informed by recommendations from the report of the Oireachtas Joint Committee on Climate Action that the Climate Change Advisory Council would as part of a new mandate, develop carbon budgets independent of Government. Modelled broadly on the UK Climate Act and the role of the UK Climate Change

Committee, the Climate Change Advisory Council will continue to operate independent of Government but would now also provide expert advice on the preparation of new policy instruments set out in the Bill – annual revisions to the Climate Action Plan, the development of National Long Term Climate Action Strategies and the development of carbon budgets. Recommended carbon budgets would be publicly available.

1.3.14 Amendment of section 12 of Principal Act

This amendment was not included to rectify any particular weakness in the 2015 Act but necessary to streamline the annual review responsibilities of the Climate Change Advisory Council to include new functions in respect of adherence against carbon budgets and assessing the State's performance in pursuing the new national 2050 climate objective. These can now be included in any future annual reviews the Advisory Council undertake.

1.3.15 Amendment of section 13 of Principal Act

This amendment was not included to rectify any particular weakness in the 2015 Act but to ensure that the new function of the Climate Change Advisory Council, proposing carbon budgets, will be referred to in any future periodic reviews the Climate Change Advisory Council undertake.

1.3.16 Climate reporting

This amendment addresses inadequacies in the Annual Transition Statement, the existing accountability mechanism which it was felt did not provide Oireachtas members with a suitable opportunity to examine in detail the Government's performance in lowering emissions. Thus, the new climate reporting provides a much greater role for the Oireachtas, through a Joint Committee to hold Government account annually in the delivery of climate action. It will ensure all Ministers with responsibility for climate action are accountable on their climate action performance through a more effective and transparent 'comply and explain' system. Ministers will have to respond to any Joint Committee report or recommendations within three months.

1.3.17 Role of local authority

The 2015 Act provided a role for local authorities for adaptation measures through the National Adaptation Framework and sectoral plans but not provided in the Act itself. This amendment introduces a clear statutory role for local authorities on climate matters and requirement to develop Climate Action Plans, ensuring meaningful climate action and policy is developed and implemented at both national and local level. It also broadens their role to consider mitigation measures along with adaptation measures in any future Plans. Within 18 months of the enactment of the Bill, the Minister will request each Local Authority to prepare within a 12-

month period individual Local Authority Climate Action Plan, covering both mitigation and adaptation actions, and then subsequently at least once every five years.

1.3.18 Amendment of section 15 of Principal Act

This amends the existing duty imposed on all relevant public sector bodies from the 2015 Act to require them 'to consider' the national climate policy instruments set out in the revised Act, rather than only 'have regard to'. This will require public bodies to consider climate policy as a higher priority in decision-making and development of policy matters.

1.3.19 Miscellaneous amendments

This amendment was not made to rectify any specific weakness in the 2015 Act. It relates to consequential amendments made to update terminology used in the existing Act or to delete certain sections of the 2015 Act that will no longer be relevant once the 2021 Act comes into effect.

1.3.20 Amendment of National Oil Reserves Agency Act 2007

This amendment responds to a perceived gap in the type of projects that the Climate Action Fund (CAF) could provide funding for. It broadens the core types of projects the CAF can support from only looking at energy related projects to include projects that will strengthen climate resilience and improve carbon sequestration looking in particular at nature-based solutions that enhance biodiversity. This responds to requests for such amendments made in the Oireachtas during debate on the NORA legislation.

1.3.21 Short title, commencement, and collective citation

This amendment was not made to address any specific deficiency in the 2015 Act. This section is a standard drafting provision regarding the short title of the Act.

1.4 The Strategic Environmental Assessment Approach

1.4.1 The Strategic Environmental Assessment (SEA) process is a requirement of the SEA Directive 2001/42/EC where a plan or programme – and in this case a bill – are anticipated to have significant effects on the

environment. Materials and guidelines related to the SEA process can be sourced from the European Commission[9] and from the Irish Environmental Protection Agency[10] (EPA).

1.4.2 The overarching objective of the SEA process is defined within Article 1 of the SEA Directive 2001/42/EC as being "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations in the preparation and adoption of plans and programmes with a view to promoting sustainable development". At its core, the Directive is therefore concerned with ensuring that environmental protection is considered and factored into plans and programmes in a transparent and structured way. Where legislation, such as the Climate Action and Low Carbon Development (Amendment) Bill 2021, is itself focused on delivering positive environmental outcomes, the interpretation applied is that the SEA process is not intended to provide a policy critique of those objectives; rather it is to consider and recommend mitigation for potential environmental harms from the plan in question. However, as noted the 2021 Bill does not include specific measures or actions where alternatives or mitigating strategies can be identified and recommended.

1.4.3 Core elements of the SEA process include the following:

i.	**Screening**	Determining if there is a requirement to conduct an SEA.
ii.	**Scoping**	Defining the environmental issues, method and focus of the SEA.
iii.	**Reporting**	Preparing a draft SEA Environmental Report.
iv.	**Consulting**	Engagement and consultation on the draft.
v.	**Integration**	Consideration and incorporation of input. Creation of SEA statement.
vi.	**Publication**	Formal release of the SEA and decision into the public domain.

Figure 1 – Overview of the SEA Process

[9] https://ec.europa.eu/environment/eia/sea-legalcontext.htm
[10] https://www.epa.ie/monitoringassessment/assessment/sea/

1.4.4 The screening and scoping processes for this SEA have been concluded. Following consultation with the Attorney General's office in September 2020 the Department of Environment, Climate and Communications (DECC) proposed to carry out an SEA on the Climate Action and Low Carbon Development (Amendment) Bill 2021. The Attorney General's office noted that based on current case-law, the Heads of Bill of the Climate Action and Low Carbon Development (Amendment) Bill 2021 would constitute a plan or programme setting the framework for development consent, within the meaning of the SEA Directive. As such it was agreed on this basis that the formal SEA process would be undertaken.

1.4.5 The scope of the SEA was determined through consultations between the competent authority (DECC) and the defined environmental and statutory authorities. Guidance on the process is given in Statutory Instrument 435/2004 – European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004[11] and the corresponding 2011 update[12]

1.4.6 The statutory authorities defined in Statutory Instrument 435/2004 in section 9 (5) are:

- The Environmental Protection Agency

1.4.7 And where expected to have significant effects in relation to relevant to architectural or archaeological heritage or to nature conservation, or significant effects on fisheries or the marine environment:

- The Department of Housing, Planning and Local Government (DHPLG)
- The Department of Culture, Heritage, and the Gaeltacht (DCHG)
- The Department Agriculture, Food, and the Marine (DAFM)[13]

1.4.8 The scoping report provided information for consideration in respect of the requisite content of the SEA. This included defining the various sections, and describing the data, methods and processes that will be utilised. It is obligatory to conduct the scoping stage of an SEA such that the content and boundaries for the SEA are agreed prior to commencement of the SEA report. The comments from consultees have been considered and the approach to the SEA has then been agreed with the competent authority. The scoping report is in Appendix C.

1.4.9 The SEA on the Climate Action and Low Carbon Development (Amendment) Bill 2021 is different to an SEA on a national plan or strategy that comes with explicit actions. This is because specific actions (e.g., defined

[11] http://www.irishstatutebook.ie/eli/2004/si/435/made/en/print#article11
[12] http://www.irishstatutebook.ie/eli/2011/si/200/made/en/print
[13] Included as part of the 2011 update.

infrastructure investments or area development plans) have more clearly defined pathways by which they may impact on environmental outcomes. This affords the analysts the potential, in most cases, to assess the individual components of the strategy or plan quantitatively and qualitatively, and to ascertain the expected corresponding impacts on the environmental outcomes covered by the SEA process. In turn this allows for the credible and meaningful redesign of certain elements as appropriate to mitigate or avoid undesirable outcomes.

1.4.10 In the case of this SEA, the changes proposed in the Climate Action and Low Carbon Development (Amendment) Bill 2021, are focused on the establishment of an enhanced framework for managing national activities on Climate Action. These changes are defined in Section 1.3 of this SEA. However, in broad terms the Climate Action and Low Carbon Development (Amendment) Bill 2021 intends to strengthen and add to the existing 2015 Climate Action and Low Carbon Development Act so that it is better equipped to deliver on Ireland's Climate ambitions into the future. The 2021 Bill does not however, include specific climate actions.

1.4.11 The 2021 Bill also establishes a more ambitious 2050 target – specifically a climate neutral economy by the end of 2050 – and sets this target in law. Given the nature and level of detail in the 2021 Bill, this assessment must itself be more qualitative and directional in nature. This specific approach to conducting an SEA on a climate related bill has recent international precedent[14], that has been carefully considered in finalising the SEA scoping report, which has defined the scope of this SEA on the 2021 Bill. As part of the scoping process, comment was raised regarding potential fundamental revisions to the 2021 Bill, such as bringing forward the 2050 target to an earlier date. This was determined as a somewhat overreaching proposal for a strongly pro-environmental legislative proposal that substantially increases national climate ambition in line with the leading edge of international commitments. Such fundamental revisions could serve to undermine the extensive consultation and deliberative processes as described in Section 1.3 that shaped the 2021 Bill. Furthermore, it was deemed impractical to do so in the absence of prescribed actions, measures, or their associated timelines in the 2021 Bill.

1.5 Structure of this report

1.5.1 This report provides a Strategic Environmental Assessment of the Climate Action and Low Carbon Development (Amendment) Bill 2021. The objectives are to consider its potential environmental impacts to inform the broader decision-making process and to fulfil the statutory requirements of the Strategic Environmental Assessment directive. The report takes the following structure:

[14] See for example the SEA on the Climate Change (Emissions Reduction Targets) (Scotland) Bill, that was finalised into an Act of the same name in 2019 - https://www.legislation.gov.uk/asp/2019/15/contents/enacted

- Section 1 **(Introduction)**:

i. The background to this piece of legislation, setting it in the context of climate legislation in Ireland.
ii. A summary of climate change in Ireland, summarizing potential impacts and contribution to climate change.
iii. A summary of the proposed legislation and its anticipated impacts.
iv. A description of the Strategic Environmental Assessment methodology and its requirement in this case.
v. A definition of the scope of this Strategic Environmental Assessment.

- Section 2 **(Relationship with other plans, programmes, and strategies)** describes the wider policy framework in Ireland for tackling issues related to climate change, and how this affects or is affected by the proposed legislation.

- Section 3 **(Baseline)** gives a short summary of the current state of the environment in Ireland, prior to any effects of the proposed legislation.

- Section 4 **(Assessment approach)** describes the way in which this assessment has been carried out.

- Section 5 **(Assessment findings)** describes the potential environmental impacts of the proposed legislation.

- Section 6 **(Mitigation measures and opportunities for enhancement)** gives proposals for how the negative impacts of the proposal might be mitigated and how positive effects could be enhanced.

- Section 7 **(Monitoring)** describes the mechanisms by which the ongoing environmental impacts of the legislation will be monitored.

- Section 8 **(Conclusions and recommendations)** will set out the principal findings of the report and recommended actions after the consultation period.

- Section 9 **(Next steps)** describes the process following the publication of this report.

Figure 2 - Overview of the SEA Report Structure

2. Relationship with other Relevant Plans, Programmes and Strategies

2.1.1 The Strategic Environmental Assessment Directive requires an SEA to set out, alongside the contents of the main objectives of the plan or programme in question, its relationship to other relevant plans and programmes. Given the broad scope of climate action, as determined in the scoping stage of this assessment, several other programmes and policies at Irish, European and International level are deemed relevant. The section below provides a summary under each topic area of the most relevant legislation and policies, followed by an explanation of how each will be expected to relate to the 2021 Act.

2.2 Climate

2.2.1 Policy Context

As set out in section 1, Irish Climate policy has a legislative underpinning in the 2015 Climate Action and Low Carbon Development Act, to which the 2021 Act will be an amendment. The National Mitigation Plan, published in 2017, gave effect to the objectives of the 2015 Act, setting out actions to implement the goals therein; the 2019 Climate Action plan followed this, setting out further actions and governance structures across the whole of government. Alongside these, the National Adaptation Framework gives effect to the adaptation element of the 2015 Act, setting out a framework for the development of sectoral adaptation frameworks and local authority-led local adaptation plans. These plans are intended to be revised on a five-yearly basis[15].

[15] The National Adaptation Framework 2018

These national policies are designed to drive Ireland's compliance with international and European climate law. International mitigation targets, set initially by the Kyoto protocol and more recently by the Paris Agreement required such direct policy responses from all European member states. The EU must currently achieve an emissions reduction of 40% on 1990 levels by 2030, with a proposal to step-up that ambition to a 55% reduction by 2030. The increased ambition also includes a vision of becoming the world's first climate-neutral continent by 2050. The principal EU legal instruments to drive the required emission reductions are the European Emissions Trading Scheme (covering major industrial installations and power generation) and the Effort Sharing Regulation (covering all other sectors of the economy). There are, of course, strong cross-sectoral interactions between the European goals regarding higher renewable shares for energy, broad energy efficiency improvements and these ETS and Non-ETS sectoral emissions abatement actions. However, a particular focus for governments in Europe is in relation to the non-ETS sectors where government-level intervention, support and policy is required; more so than in the cap-and-trade system of the European ETS.

Figure 3 – Policy Context and Recent Climate Policy in Ireland

2.2.2 Relationship with the 2021 Bill

The Climate Action and Low Carbon Development (Amendment) Bill 2021 amends the 2015 Act, making the changes as described in section 1.3. It increases the ambition of the national climate action objective and adds further governance requirements that are intended to strengthen compliance with that objective. The 2021 Bill will make the 2019 Climate Action Plan, to be revised on an annual basis, the statutory successor to the National Mitigation Plan. As of May 2021, the 2021 Climate Action Plan is already well under development. The 2021 Bill also creates a new requirement for long term climate action strategies to be produced and maintained. The national adaptation frameworks and sectoral adaptation plans will remain in place. However, there will be an expansion of the list of factors to which Ministers must have regard in preparing all these plans, principally:

- The need to act quickly in response to economic and environmental occurrences and circumstances.
- The need to promote sustainable development.
- The long-term competitiveness of the state consistent with building a decarbonized economy.
- The need to…(adopt) measures that deliver the best possible value for money and maximise as far as practicable the net benefits to society while fully reflecting social cost of carbon consistent with the sustainable management of the public finances and informed by economic analysis of the options available to the national economy.
- Relevant scientific or technical advice.

2.3 Infrastructure and Planning

2.3.1 Policy context

In 2018, the Government published the National Planning Framework (NPF), which alongside the National Development Strategy comprise what is known as 'Project Ireland 2040'[16]. The NPF sets out high-level objectives for national planning policy in 'National Strategic Outcomes' and 'Strategic Investment Priorities'; these are intended to guide the development of regional and local-level spatial plans. Climate action goals feature substantially in the National Planning Framework, with 'Transition to a Low-Carbon and Climate Resilient Society', 'Compact Growth' and 'Sustainable Mobility' all listed as Strategic Outcomes. Chapter 9 of the NPF, 'Realising our Sustainable Future', sets out specific ways in which planning policy will encourage climate mitigation and adaptation – for example, by requiring the integration of climate policy into local planning processes and decisions, as well as supporting the roll-out of renewable energy and sustainable waste infrastructure[17]. The National Development Plan 2021 is now in the latter stages of development.

[16] Project Ireland 2040 Documentation
[17] The National Planning Framework to 2040

Marine planning is also an area of relevance between climate action and planning policy, given the expectation for offshore wind development to supply further renewable energy capacity. A National Marine Planning Framework was published for consultation in November 2019, as well as a draft Marine Planning and Development Management Bill[18].

2.3.2 Relationship with the 2021 Bill

The 2021 Bill and the National Planning Framework should be complementary to one another. The 2021 Bill *inter alia* strengthens national climate ambition to 2050, introduces governance structures to further incentivise central government to deliver on climate action, and offers increased scope for the financing of climate action. These changes should filter right down to local authorities, and there is an interaction there where the National Planning Framework sets out the guidelines and principles for planning and decision-making by those same local and regional authorities. These planning decisions will be particularly important in enabling the infrastructure development in (for example) energy, transport and waste that will enable the national objective to be achieved. The Marine Planning and Development Management Bill will also be important in enabling the development of offshore wind power resources, which are likely to feature strongly as part of the updated long term climate ambition for 2050 as defined in the Climate Action and Low Carbon Development (Amendment) Bill 2021.

2.4 Agriculture, Land Use and Forestry

2.4.1 Policy context

Ireland is unusual among developed countries in that agriculture is responsible for a large proportion (over 30%) of total national greenhouse gas emissions (EPA, 2020c). However, unlike some other sectors, agriculture and land use can also serve to lower emissions by sequestering carbon from the atmosphere through appropriate land management techniques. Agriculture can therefore be both a source of and a means of reducing net greenhouse gas emissions.

Ireland's most recently published ten-year strategy for the agri-food industry is Food Wise 2025, which sets out ambitions for the development and expansion of the sector (DAFM, 2015). This will be followed by another ten-year strategy, going to 2030, on which the government launched initial consultations in 2019. Alongside its focus on economic expansion, Food Wise 2025 also includes several actions under the heading of sustainability, which are aimed at improving the greenhouse gas efficiency of agricultural activities in Ireland.

The 2019 Climate Action Plan set out ambitions for emissions reductions from agriculture of 10-15% by 2030, to be achieved by farmers' adoption of measures identified as cost-effective by Teagasc - Ireland's agricultural

[18] Current details on the National Marine Planning Framework

development authority. The Department for Agriculture, Food and the Marine has in turn developed a policy document entitled 'Ag-Climatise' which identifies 29 measures to achieve this, including a reduction in the use of chemical fertilisers, the expansion of low-emissions slurry spreading practices and the use of nitrification-inhibiting fertiliser products, and improved beef genetics[19].

Agriculture is highly influenced by the EU Common Agricultural Policy, through which subsidies are directed to farmers. Rural Development Programme funds – representing 20-25% of the CAP budget – can be used by EU member states to fund climate mitigation measures in agriculture (European Union, 2020). In Ireland, this funding supports GLAS, the 'Green Low-carbon Agri-Environment Scheme', through which farmers can earn additional payments through various actions that support biodiversity, environmental quality, and climate mitigation. The CAP is set on seven-year cycles, and a new cycle is underway. The EU has also published its 'Farm to Fork' strategy, which sets out overall objectives and plans for the agri-food sector, including several related to greenhouse gas emissions (European Union, 2020).

Alongside emissions from agriculture, land use can also contribute to reducing net emissions through carbon sequestration in vegetation and soils. Converting land to forestry can increase sequestration, leading to a further reduction in emissions. Ireland's Forestry policy is set out in its 2014-2020 Forestry strategy, 'Forest products and people' (DAFM, 2014) as well as some more recent reports. These set national targets for afforestation, alongside measures to achieve this target in a sustainable way. The core policy tool for achieving this afforestation is a system of domestic subsidies, the Afforestation Grant, and Premium Scheme, under which landowners receive financial support for tree-planting. The provision of adequate and well managed sequestration will be a core component of Ireland' medium and long-term climate strategy, with LULUCF related flexibilities particularly relevant to 2030 ambitions, and essential in terms of the longer-term 2050 climate neutrality goal.

Another major factor in land use emissions is the management of peatlands. Exploited and degraded peatlands can be a major source of greenhouse gas emissions, whilst those in good environmental condition can serve as carbon sinks. The National Peatland Strategy sets out the government's approach to improving the condition of peatlands in Ireland (NPWS, 2015). Actions on the management and restoration of peatlands are also taking place in the context of supporting a just transition for affected territories, with a major programme of restoration works scheduled under the Peatlands Climate Action Scheme.

2.4.1 Relationship with the 2021 Bill

Given the stronger and more ambitious national climate action objectives of the 2021 Bill, it might be expected that forthcoming strategies such as the 2030 agri-food strategy and future forestry strategies will need to take

[19] Ag Climatise - A Roadmap towards Climate Neutrality

account of these, and potentially make explicit provision for responding to the carbon budgets that the Bill will enable, as well as delivering on the objectives of the long-term plans and annually revised action plans. Certainly, the 2050 goal of climate neutrality will necessitate adequate provision of sequestration against the balance of residual greenhouse gas emissions that cannot be fully abated by the end of 2050.

2.5 Energy generation and Built environment.

2.5.1 Policy context

Energy policy has central importance to national climate action. At EU level, the key instruments are the Renewable Energy Directive (2009, and updated in 2018 as 'RED2'), which sets member state targets for renewable energy generation to be achieved by 2030, and the Energy Efficiency Directive, which establishes EU-wide requirements to achieve higher levels of energy efficiency. Ireland was required to submit a National Renewable Energy Action Plan under the Renewable Energy Directive, which it did in 2010[20].

At a national level, the 2015 White Paper 'Ireland's Transition to a Low Carbon Energy Future 2015-2030' set out a framework for Ireland's energy policy up to 2030[21]. The Climate Action Plan set out further targets and actions: in particular, that 70% of Ireland's electricity would come from renewables in 2030, and that electricity generation from peat would end in 2028 and coal in 2025[22]. Alongside the planning and development framework noted above (e.g., Project Ireland 2040 and the National Planning Framework), the primary policy tool for driving renewables expansion is the Renewable Energy Support Scheme (RESS), which has replaced the former REFIT scheme as the mechanism for financial support for renewables[23].

The Energy Efficiency Directive requires member states to submit regular Energy Efficiency Action Plans. Ireland's fourth energy efficiency action plan was submitted in 2016, covering the period up to 2020; a further plan is due[24]. Ireland's Long-Term Renovation Strategy was also published in 2017, covering the period to 2020, containing measures to reduce emissions from buildings; this is a further requirement under the Energy Efficiency Directive[25].

In 2019, the Government issued a Policy Statement on Petroleum Exploration, to the effect that whilst licensing for onshore exploration of fossil fuels and offshore oil exploration would cease, offshore natural gas exploration

[20] Ireland's National Renewable Energy Action Plan
[21] The White Paper: Ireland's Transition to a Low Carbon Energy Future 2015-2030
[22] Note that the revised Climate Action Plan for 2021 may review and update targets. Furthermore, two of the main peat fired power generation facilities have now closed as of 2021.
[23] Renewable Energy Support Scheme
[24] The National Energy Efficiency Action Plan
[25] The Long-Term Renovation Strategy

would continue, based on the importance of natural gas as a transition fuel[26]. The Government also made a policy statement on Electricity Interconnection, setting out the principles for and process by which future interconnections with the UK and other EU member states would be made[27].

2.5.2 Relationship with the 2021 Bill

The carbon budgets, renewed climate action plans and long-term strategies envisaged in the Bill will all be closely tied to energy policy as set out in all the documents mentioned above. Depending on delivery progress against current targets, future energy policy is likely to have to directly consider the climate action objectives and carbon budgeting process enabled by the 2021 Bill. Decarbonisation of Ireland's energy system will be a core element of any path to the required emissions reductions. The increase in ambition represented by the new objective of carbon neutrality by 2050 (as opposed to an 80% reduction in emissions) will likely necessitate an acceleration of measures to expand renewable energy and increase energy efficiency, which may pose policy challenges in terms of implementation. Current policy seeks to achieve 70% of electricity generation from renewables in 2030, compared to around 30% in 2017. In order to reach the long-term climate objective in the 2021 Bill, additional measures will be required to further increase this share.

2.6 Transport

2.6.1 Policy context

Transport currently represents about 20% of Ireland's greenhouse gas emissions (EPA, 2020c). Ireland is notable for the relatively high proportion, at present, of fossil fuels and private car use in its transport mix. The Climate Action Plan 2019 contains several measures related to transport: central to this is sustainable mobility and the electrification of the fleet, with no new petrol and diesel vehicle sales by 2030 and a complete phase-out by 2045.

Public transport plays an important role. The National Planning Framework and National Development Strategy set out priorities and principles for transport planning, with environmentally sustainable public transport as a strategic priority. This follows on from the priorities identified in 'Investing in our Transport Future: A Strategic Framework for Investment in Land Transport', published in 2016, which gave the relief of urban congestion and the increased use of walking and cycling as strategic priorities[28]. The National Transport Authority's 2016 Rail Review identified the funding required for maintenance and planned expansion of the rail network[29].

[26] The Policy Statement on Petroleum Exploration
[27] The draft policy statement on interconnection
[28] Investing in our Transport Future: Strategic Investment Framework for Land Transport
[29] National Rail Review 2016

In addition to land transport, air and sea are also relevant, although emissions far less substantial, and air emissions are managed in a different manner within national emissions inventories. The National Aviation Policy for Ireland (2015) set out the strategy for the state's aviation and airport sector, and the National Ports Policy (2013) did so for Ports[30] [31]. At a regional level, Regional Transport Strategies are important in implementing the principles and priorities as set out at national level.

2.6.2 Relationship with the 2021 Bill

Successfully reaching established targets for zero-emission vehicle penetration, public transport expansion and the development of walking and cycling infrastructure will be crucial to the national climate objective. These measures will be supported by the future climate action plans and carbon budgets required by the 2021 Bill.

2.7 Waste

2.7.1 Policy context

Waste is a relevant source of emissions in Ireland but is also an important environmental concern in its own right. At a European level, the Circular Economy Action Plan (first published in 2015, with a second version published in 2020) sets out actions and principles for reducing waste throughout the economy[32]. The Waste Framework Directive (2008) set member state targets for recycling and reductions in landfill, as well as establishing common principles for waste policy; this was revised in 2015 as part of the Circular Economy Package.

In 2020, the Government published the 'Waste Action Plan for a Circular Economy', which identifies several actions to further reduce waste and embed the concept of a 'circular economy' in Ireland, including actions on single-use plastics, a deposit return scheme for cans and bottles, and other measures[33]. Regional Waste Management Plans contain measures at a more local level for the implementation of waste policy in support of the national goals.

2.7.2 Relationship with the 2021 Bill

Further reduction of emissions from waste will have a role in meeting the national climate objective, albeit that the sector is a modest contributor of greenhouse gas emissions in the context of the current national emissions

[30] National Aviation Policy
[31] National Ports Policy
[32] The EU Circular Economy Action Plan
[33] Waste Action Plan for a Circular Economy

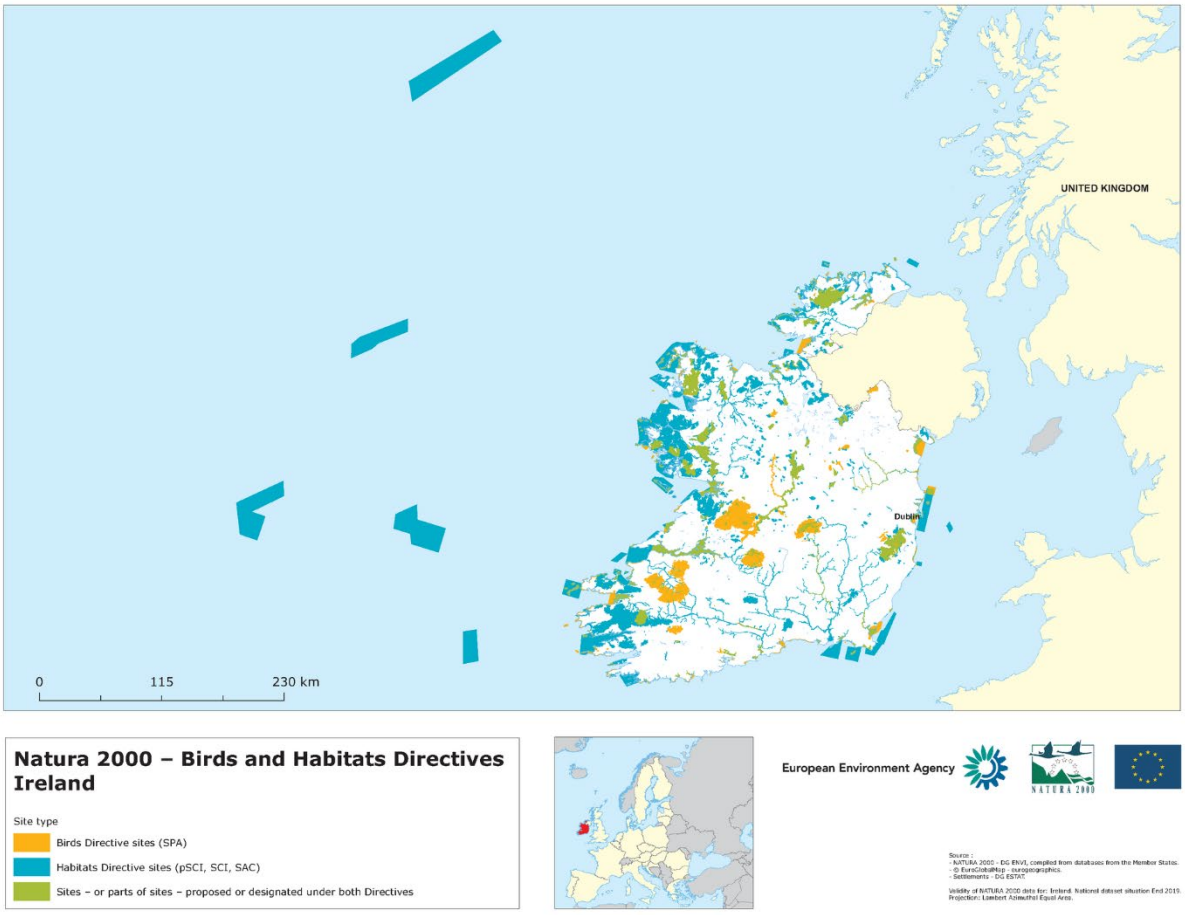
profile. Future waste plans and strategies will however still need to factor in the carbon budgets as envisaged under the Bill.

2.8 Biodiversity

2.8.1 Policy context

There are multiple links between biodiversity and climate. A major impact of climate change is biodiversity loss. Some measures to reduce net emissions, such as peatland restoration, can also deliver biodiversity benefits; on the other hand, the development of certain low-carbon infrastructure may pose threats to biodiversity if not properly managed (Bullock, et al., 2012), (Gasparatos, et al., 2017).

Figure 4 - Sites designated under Natura 2000 in Ireland for protected birds, habitats, and species



Source: (European Union, 2020)

At EU level, the principal legal instruments for protecting biodiversity are the Birds directive (1979, last amended in 2009) and Habitat's directive (1992). These laws establish protections for both species and habitats across the EU, as well as creating a network of protected sites known as 'Natura 2000' sites, within which development is restricted according to certain criteria[34].

In 2020, the EU also adopted a new Biodiversity Strategy and Action Plan. This strategy included an ambition to increase the size of the protected area network, as well as further measures to set more ambitious targets and a stronger legal framework for nature protection[35].

At an international level, the Convention on Biological Diversity (CBD), to which Ireland and the EU are parties, establishes principles and ambitions for protecting and restoring biodiversity around the world. In Ireland, the principal overarching policy is the National Biodiversity Action Plan, covering the period 2017-2021[36]. The plan includes actions to deliver a set of seven objectives focused around protecting and expanding Ireland's biodiversity, according to the country's commitments under the CBD.

2.8.2 Relationship with the 2021 Bill

Biodiversity protection can be a co-benefit to climate change mitigation measures but can also be impacted negatively by inappropriate development. The more detailed plans and strategies that follow from the 2021 Bill will be required to account for biodiversity protection through the constraints on development in protected areas and the appropriate assessment and impact assessment procedures. It may be possible that some measures, particularly carbon sequestration through native forest and peatland restoration, may also help to deliver on biodiversity objectives.

2.9 Air Quality

2.9.1 Policy context

Air Quality is often identified as a co-benefit of climate change mitigation, as the replacement of fossil fuels by renewable energy sources, or increased levels of energy efficiency can result in reduced air pollution from particulate matter, sulphur dioxide and nitrous oxides, and other harmful pollutants (Buonocore, et al., 2016). These pollutants are largely associated with transport and domestic fuel use, but agriculture is also relevant, as the dominant source of ammonia emissions. In this context, the use of nitrate fertilizers and slurries can cause

[34] Natura 2000
[35] The EU biodiversity strategy
[36] The National Biodiversity Action Plan 2017-2021

both air pollution through ammonia (NH_3) emissions and climate change through Nitrous Oxide (N_2O), a greenhouse gas (EPA, 2019c).

In 2012, the EU adopted a Clean Air Package, which reviewed European policy on air pollution, supported by a Clean Air Programme containing measures to achieve better air quality. Key legal instruments in this context are the National Emissions Ceiling Directive (itself pre-existing the 2012 policy package), which sets binding national-level limits on air pollution to 2030 and beyond, and the Ambient Air Quality Directives, which establish local air quality limits. Other supporting legislation has served to target emissions from specific sources – for example, the Industrial Emissions Directive[37].

At an international level, important treaties are the various protocols (particularly the 1999 Gothenburg protocol) under the UN Convention on Long-Range Transboundary Air Pollution – this is implemented in the EU under the auspices of the National Emissions Ceiling Directive – and the Stockholm Convention on Persistent Organic Pollutants.

The 2020 Programme for Government announced the intention to publish a Clean Air Strategy for Ireland, which would develop a national and regional approach to improving air quality. A previous public consultation on a Clean Air Strategy was held in 2017. In this context, the Ireland must also produce a National Air Pollution Control Plan (NAPCP) which illustrates how Ireland will deliver on its European air pollution goals out to 2030. Ireland developed a first NAPCP in 2019, and an updated version in 2021.

2.9.2 Relationship with the 2021 Bill

In principle, measures developed to deliver the objectives of the 2021 Bill should have the potential to support the air quality objectives established in EU law and which will be further developed under the National Clean Air Strategy. Where efforts are made to identify synergies and target specific actions and policies to realise these opportunities. There are however also potential risks and tradeoffs between climate policy and air policy which should be considered carefully, as increased ambition and associated actions are introduced. Recent work in this context has specifically focused on addressing these potential conflicts of climate change policy and air pollution policy in Ireland.[38]

[37] EU clean air policy
[38] EnvEcon 2019 report - CON+AIR: Addressing Conflicts of Climate and Air Pollution

2.10 Water Quality

2.10.1 **Policy Context**

In Ireland, water quality policy is heavily influenced by the EU Water Framework Directive (2000/60/EC), which sets targets for the improvement of water bodies such as rivers, lakes, and coastal waters. Member States are required to publish River Basin Management Plans which detail the actions they will take to improve water quality. The Irish Government's second River Basin Management Plan covers the period 2018-21 and includes several measures that the government is taking to improve water quality, such as the establishment of new governance and delivery structures and programmes of activity to tackle specific sources of pollution[39].

Further EU legal instruments address the quality of water for human consumption. The Drinking Water Directive (98/83/EC) sets the essential quality standards for drinking water; the Bathing Water Directive (2006/7/EC) puts rules in place to ensure the chemical and biological safety of public bathing waters; and the Urban Wastewater Directive (91/271/EEC) sets requirements for the treatment and monitoring of wastewater.

Also relevant to environmental water quality is the Nitrates Directive (91/676/EEC), which establishes regulations and measures to limit water pollution from runoff of agricultural fertilizer and manure. Ireland has established a Nitrates Action Plan, which contains measures to tackle this, including regulations and best practice on how and when farmers should apply fertilizers and slurry to their land. The Water Framework Directive (2000/60/EC) acts as an overarching instrument to all these instruments[40].

2.10.2 **Relationship with the 2021 Bill**

Measures in the climate action plans, mitigation frameworks and long-term strategies established in the bill should generally have a positive impact on water quality. Positive outcomes are most likely to come from measures that result in reduced agricultural emissions of ammonia and nitrous oxide as the nitrates are a principal source of water pollution associated with agricultural fertilizers and slurry.

2.11 Landscape, seascape, and cultural heritage

2.11.1 **Policy Context**

In 2015, the Government published a National Landscape Strategy for 2015-2025, which aims to implement the Florence Convention (also known as the European Landscape Convention), setting out a policy framework and

[39] The River Basin Management Plan 2018-2021
[40] EU water policy

developing a data and mapping framework for landscapes. In 2018, the Government also consulted on 'Heritage Ireland 2030', a new national heritage plan.

Policy documents in the infrastructure and planning sphere, such as the National Planning Framework and the Offshore Renewable Energy Development Plan, refer to landscape and seascape in the context of the appropriate mitigations that are put in place to avoid detrimental impacts from development.

2.11.2 Relationship with the 2021 Bill

The plans and measures that are developed to implement the national climate objective will potentially have an impact through new infrastructure development – for example, in waste, transport and energy generation, as well as forestry and land use – on landscape and cultural heritage. However, broader regulatory and planning frameworks should work to support appropriate developments.

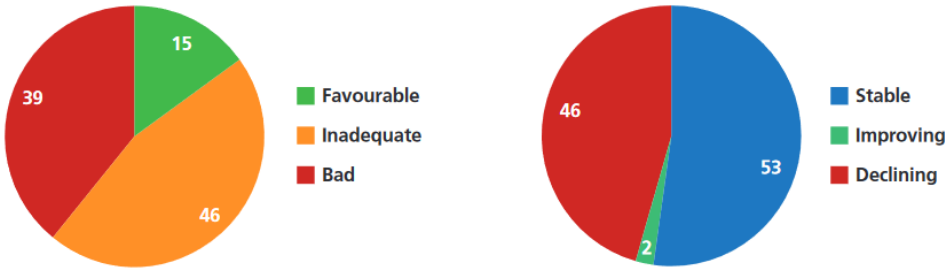
3. Baseline – the State of the Environment in Ireland

3.1 Biodiversity

3.1.1 Biodiversity: Baseline

Most Ireland's most important habitats are reported to be in a poor conservation status according to European-level metrics. Of habitats protected by Special Areas of Conservation under the Habitats Directive, only 15% are listed as being in a 'favourable' condition, with the remainder being inadequate or bad. Of particular concern are raised bogs and species-rich grasslands, whose range has significantly diminished. For protected species, the picture is slightly more positive, with 57% in a favourable condition, but many key species are declining: the freshwater pearl mussel, for example, faces a critical shortage of habitat (DCHG, 2019). Many iconic bird species are of conservation concern, including the barn owl, curlew, grey partridge, and corncrake (Colhoun & Cummins, 2013).

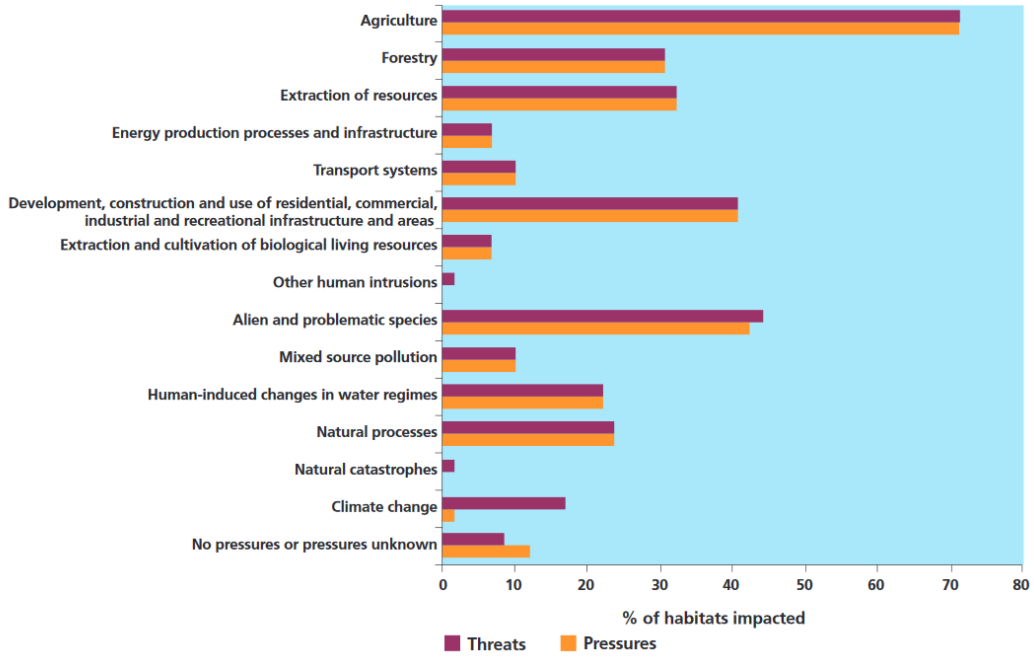
Figure 5 - Overall Assessment Results for the Status and Trends in Habitats Protected Under the EU Habitats Directive in Ireland, 2013-2019: Status and Trends



Habitat Status Habitat Trend

Source: (DCHG, 2019)

Figure 6 - Proportion of habitats impacted by key environmental pressures and threats



Source: (DCHG, 2019)

The greatest pressures on biodiversity come from land use change, agricultural intensification, pollution, and the spread of alien invasive species. Land use change has come from urbanization or the expansion of commercial forestry or farmland, in cases where these land uses encroach onto more biodiverse habitats. Agricultural intensification can increase the quantity of pesticides, herbicides and fertilizers that are used, all of which can have a harmful effect on the environment and biodiversity. Other pollution of air, water and soil from industry, agriculture and municipal sources can also have significant impacts on the population numbers of species that

are dependent on a high quality of air and water (particularly in freshwater ecosystems). Invasive animal species (such as the American mink and grey squirrel) and plant species (such as the giant rhubarb and Japanese knotweed) can also outcompete or over-predate native species, reducing the levels of overall biodiversity (Ibid.).

Nonetheless, Climate change itself also poses a threat to biodiversity, particularly in coastal habitats and on upland ecosystems, which are likely to become less resilient to the impacts of climate change (DCCAE, 2017). In the future, without significantly increased action, these pressures are likely to remain or increase.

3.1.2 Biodiversity: Environmental protection objectives

The most relevant environmental protection objectives are deemed to be those identified under the National Biodiversity Action Plan:

- Conserve and restore biodiversity and ecosystem services in the wider countryside
- Conserve and restore biodiversity and ecosystem services in the marine environment
- Expand and improve management of protected areas and species (DCHG, 2017)

The key indicators for these are the status of habitats and species protected under the Habitats and Birds directives, as reported on by the National Parks and Wildlife Service and referred to above.

3.2 Population & human health

3.2.1 Population and human health: Baseline

The Environment is linked to human health in two principal ways. Health can be affected by exposure to harmful environmental factors, such as air pollution, noise pollution, and water pollution. However, the environment can also affect our health by its influence on our lifestyles, and how it affects the way we eat and exercise. Air quality is a serious threat to human health in Ireland, with 1,300 premature deaths a year attributed to particulate matter exposure (EPA, 2019c). In addition, air pollution is linked to a range of other illnesses and impacts that can negatively influence on quality of life. Other key challenges to human health from environmental harms come from wastewater discharges (both from on-site and municipal systems), noise and odour, and radon exposure in homes. While most water supplies in Ireland are compliant with microbiological and chemical standards, a small proportion of supplies remain on the EPA's remedial list, and a significant number of private water supplies have been found to contain e. coli bacteria (EPA, 2020d).

Environmental quality, and particularly access to 'green spaces' such as parks and walking trails, has been shown to have a positive effect on health in terms of mental wellbeing and exercise (Engemann, et al., 2019). Overall, the health of the Irish population is much more affected by lifestyle factors such as exercise, diet, and substance use than by direct environmental harms (EPA, 2020d). However, there are policy relevant interactions that exist between our lifestyle and activities and the quality of our natural environment and infrastructure to safely access it.

Climate change is likely to have an increasing impact on human health into the future. Whilst cold-related deaths are likely to decrease, heat-related deaths and injuries are likely to increase. Furthermore, the expectation is that there will be greater impacts associated with the increased prevalence of floods and other extreme weather events (EPA, 2020d).

3.2.2 Population and Human Health: Environmental protection objectives

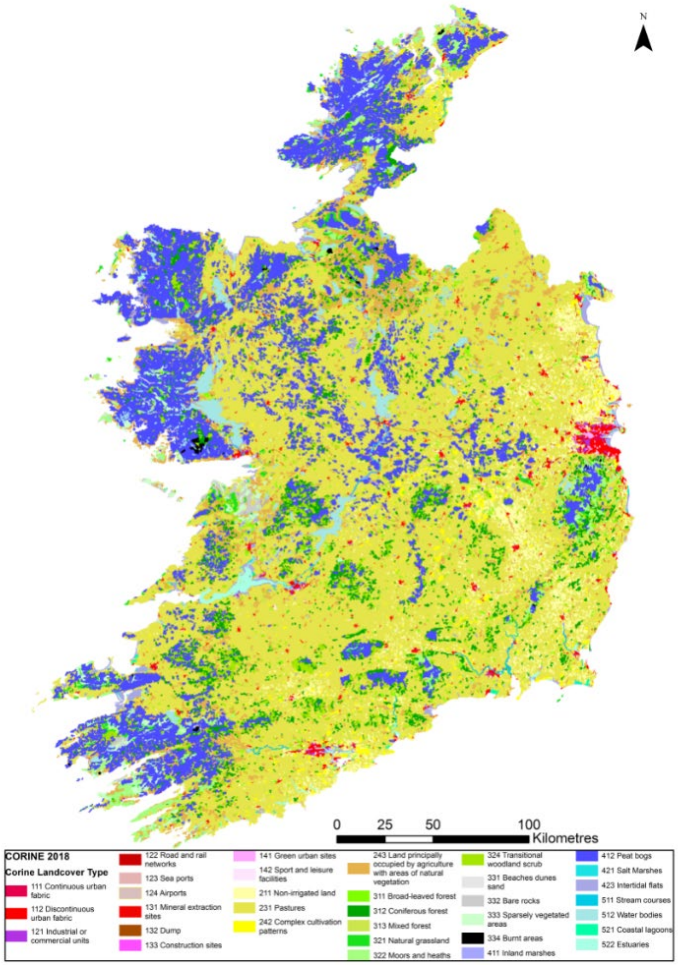
Given that human health is a very broad area, the most relevant environmental objectives are to reduce levels of pollution with a direct impact on human health. As air quality is covered below, the most relevant objectives defined in this area are related to the safety of water for human use:

- To increase the number of bathing waters meeting 'excellent' or 'good' status under the Bathing Water Directive.
- To improve compliance of public water supplies with the standards required under the Drinking Water Directive.

3.1Soil

3.1.1 Soil: Baseline

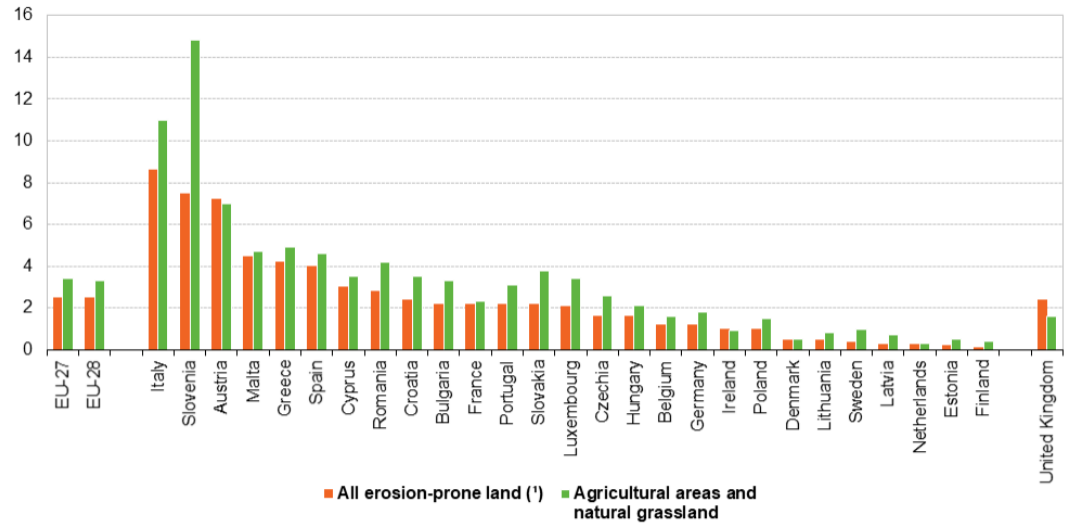
Figure 7 - CORINE Land cover map 2018 for Ireland



Source : CORINE Land cover inventory database

Ireland's agricultural soils are in reasonably good condition by European standards, with relatively little evidence of soil erosion or compaction; research by the EPA found an average level of erosion of <1 t/ha/yr, which is low by international standards. The relatively mild climate, flat landscape, and the prevalence of livestock agriculture rather than tillage all contribute to this outcome (Kiely, et al., 2014). However, peatland soils remain a major concern, with many peatlands critically degraded; only 10% of the original extent of raised bogs and 28% of blanket bog in Ireland has been deemed suitable for conservation (NPWS, 2015). In the future, further intensification of agriculture (including greater use of inputs and higher stocking rates) may increase the pressure on soils. Climate change is also likely to increase the pressures on peatland soils, as well as soils in general through increased intensity of rainfall (EPA, 2020d). The rate of urbanization can also present a threat to soils through 'soil-sealing', or the covering of land with impermeable material surfaces such as concrete.

Figure 8 - Soil water erosion rate by EU Member state, 2016



(1) Refers to the following classes from the Corine Land Cover Nomenclature: Agricultural areas, forest and semi natural areas (excluding beaches, dunes, sand plains, bare rock and glaciers and perpetual snow).

Source : Joint Research Centre, Eurostat (online data code: aei_pr_soiler)

3.1.2 Soil: Environmental Protection Objectives

The most relevant environmental objectives are to:

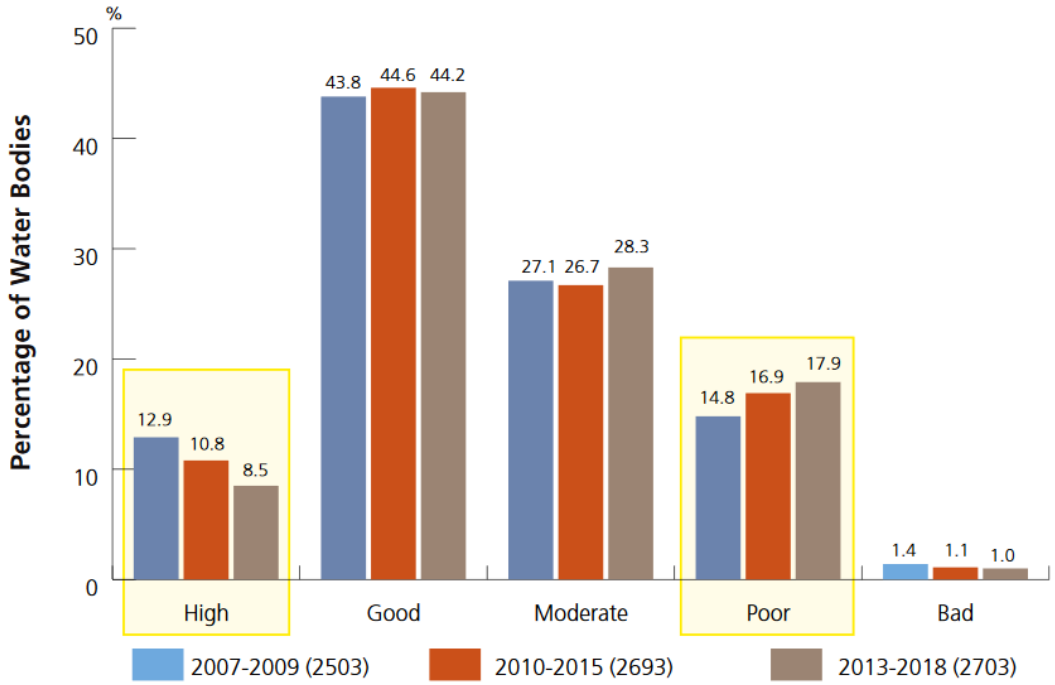
- Minimize damage to soil through erosion and compaction.
- Where possible, restore degraded peatlands and prevent further damage to natural peatland soils. This is an objective of many actions under the 'National Peatlands Strategy', on whose implementation the NPWS is required to report. Connected strategies on just transition are also expected to support ongoing peatland rehabilitation works as a counter to the loss of employment in the peat supply for power industry.

3.2 Water

3.2.1 Water: Baseline

Water quality faces challenges in Ireland, particularly from agriculture, wastewater, and forestry. The EPA's most recent assessment, up to 2018, found that approximately 53% of Ireland's surface waters were in a good or high condition, representing an ongoing decline from the previous reporting period to 2015. In particular, the number of 'pristine' river sites – the highest level of biological quality - has declined dramatically, down to just 0.7% sites across the country, down from 13.4% in 1987-1990 (EPA, 2019b).

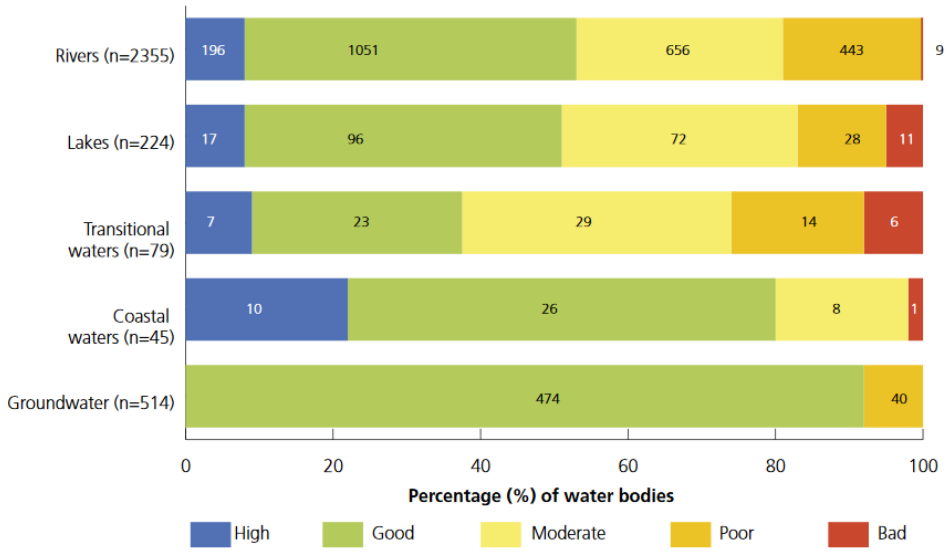
Figure 9 - Change in percentage of water bodies in water framework directive quality bands, 2007-2019



Source: (EPA, 2019b)

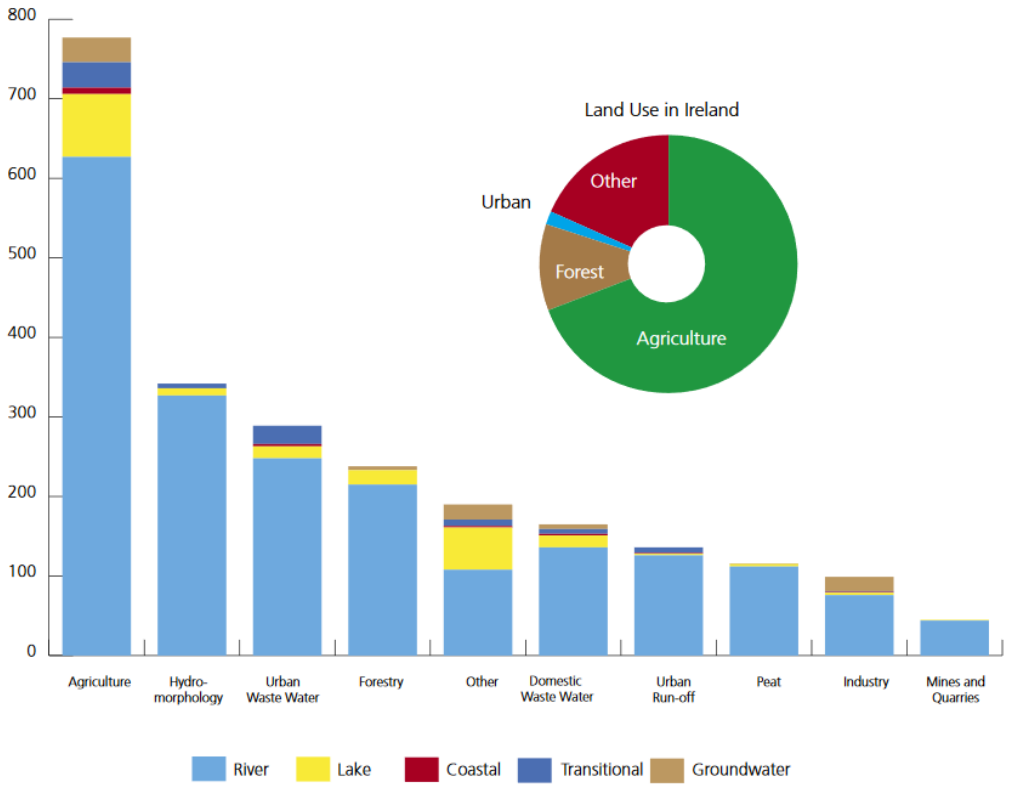
The principal cause of this decline in quality comes from the discharge of excess nutrients (nitrogen and phosphorous) in the body of water, leading to eutrophication and a subsequent loss of biological diversity. The largest single source of nutrient pollution (runoff and leaching) is from agriculture, but urban waste-water systems are also relevant. With an increased agricultural intensification, this decline in water quality may be expected to continue, although policy measures such as the River Basin Management plans, and related actions on sources of relevant air pollutants are in place to attempt to reduce the pressures on water quality.

Figure 10 - Status of waterbodies in Ireland



Source : (EPA, 2019b)

Figure 11 - Signifiant pressures on Ireland's aquatic environment



Source: (EPA, 2019b)

3.2.2 Water: Environmental protection objectives

The most relevant objective is to improve the status of Irish water bodies, as set out under the Water Framework Directive, to protect and enhance all waters, and specifically to achieve 'good' status for all waterbodies. Indicators on the status of water bodies are updated periodically by the EPA.

3.3 Air

3.3.1 Air: Baseline

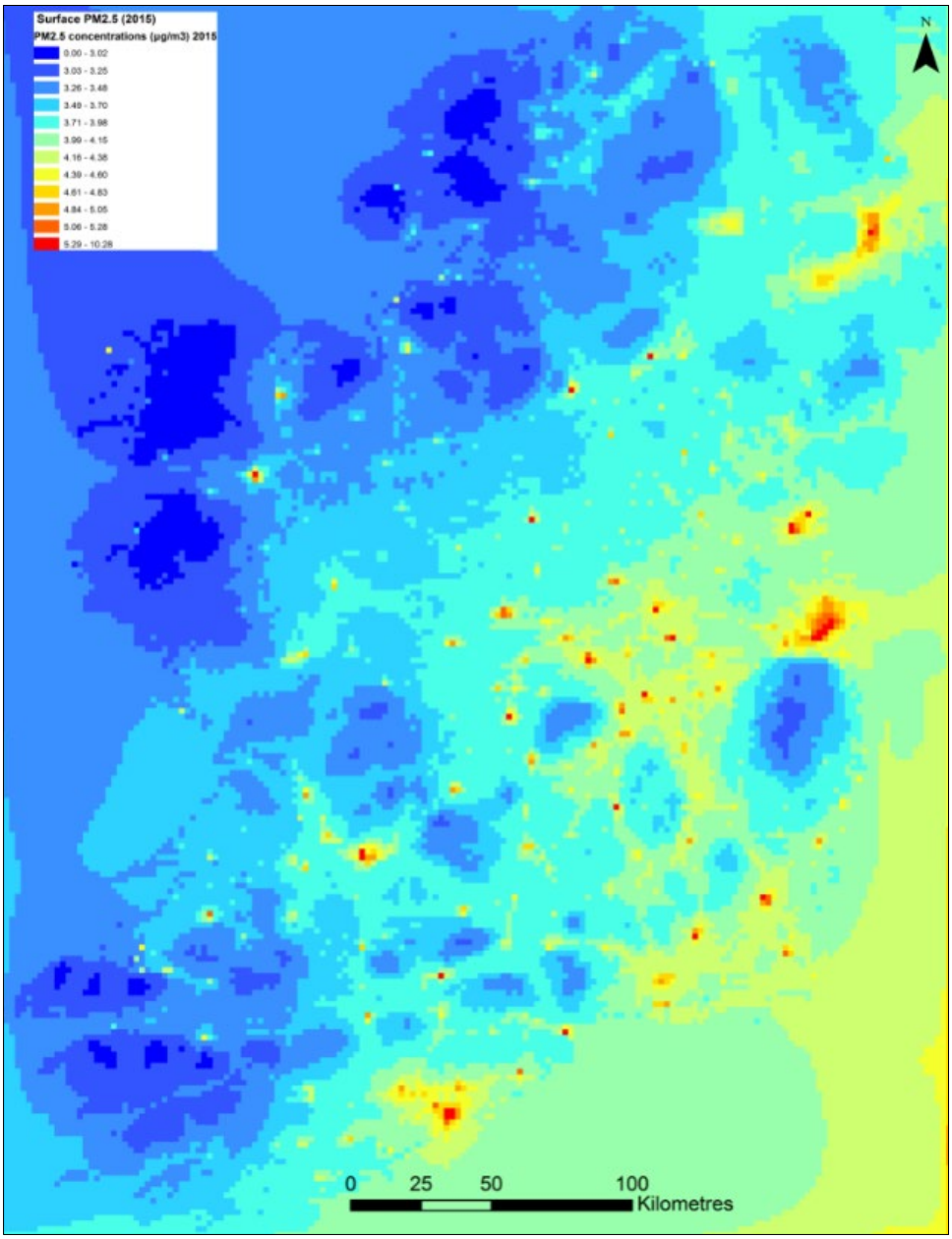
By European standards, Ireland's ambient air quality is relatively good, with ambient air quality limit values under European legislation generally respected. The EPA air quality in Ireland report (EPA, 2019c) found that there was only one exceedance of the EU legislative limits at monitored sites in Ireland in 2019. However, there are no safe levels of air pollution, and under the stricter criteria of the World Health Organisation (WHO) level, air quality was found to have breached WHO ambient guidelines at 33 monitoring sites across the country, often because of the burning of solid fuel in the built environment sector. It should also be remembered that the monitoring network (whilst growing) accounts for just 84 stations as of 2020. Air pollutants of particular concern in Ireland include nitrogen dioxide, particularly from vehicle exhausts in urban settings, and the burning of solid fuel in cities, towns, and villages, which contributes to fine particulate matter and other toxic air pollutants. Indeed, air pollution still has considerable direct health impacts. Research has estimated 1,300 premature deaths from particulate matter alone derived largely from the burning of solid fuel in Ireland (EPA, 2019c). These figures also exclude air pollution related morbidity and the broad range of conditions linked with poor air quality that reduce productivity and quality of life. There are ongoing efforts to deliver sustained cleaner air for all citizens.

In terms of annual national air pollution emissions, the official national inventory[41] in 2020 reports emissions up to the year 2018. Ireland is currently in breach of the 2010 ceiling for ammonia[42]. The current outlook suggests that in the next phase of the national emissions ceiling directive (2020 onwards), Ireland will continue to face challenges in respect of ammonia emissions, as well as potential challenges regarding NO_X and NMVOC emissions. However, once again it is acknowledged that there are no 'safe' levels of air pollution and thus other pollutants such as $PM_{2.5}$ should not be ignored.

[41] Official air pollutant submissions are available at https://www.epa.ie/pubs/reports/air/airemissions/airpollutantemissions/
[42] There are also challenges with non-methane volatile organic compounds, however, adjustments to the compliance value should allow for compliance.

Agriculture is the dominant source of national ammonia emissions, and herd size, spreading techniques and fertilizer use are important drivers of emissions. In terms of NO_X, internal combustion engine vehicle use remains a key source of the pollutant. Finally, solid fuel combustion is the dominant source of fine particulate matter in Ireland. In each case it is possible to identify the way stronger climate action and specific policy interventions may influence change and air pollutant outcomes.

Figure 12 - Annual average PM2.5 modelled concentration estimates for 2015



Source: EnvEcon modelling of 2015 inventory

3.3.2 Air: Environmental Protection Objectives

Target levels for emissions to air of selected air pollutants are provided by the limits under the National Emissions Ceilings Directive [2016/2284/EU] (NECD), whilst localised air quality is managed under the Ambient Air Quality, all under the auspices of the Cleaner Air for Europe Directive [2008/50/EC] (AAQD). In the case of the NECD the environmental objective is to ensure that annual national emission totals across key air pollutants remain below their ceiling level. In the case of ambient air quality, the objective is to avoid exceedances of limit values at ambient air quality monitoring sites. The current NECD ceilings are set for the period from 2020 through to 2030 and beyond.

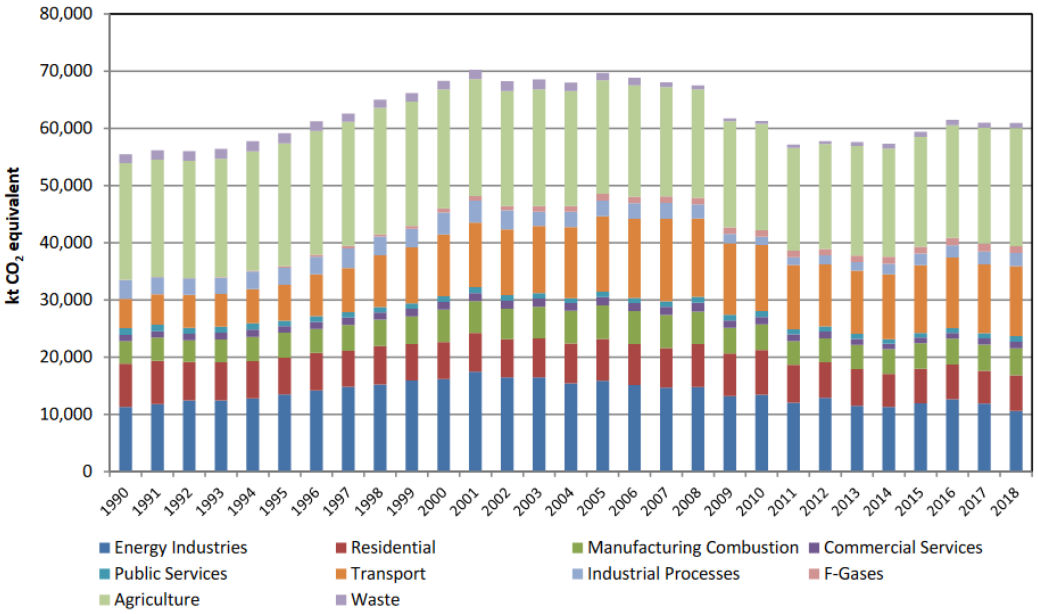
As of 2021, Ireland is preparing a Clean Air Strategy and released an updated National Air Pollution Control Plan, both of which are focused on achieving compliance with strict limits and ceilings in respect of air pollution in Ireland. This is motivated by a desire to drive down the negative health impacts of air pollution – both mortality and morbidity – and to contribute to environmental protection of the environment against issues such as acidification, eutrophication, ozone formation, and the associated crop and materials damage that can result.

3.4 Climate

3.4.1 Climate: Baseline

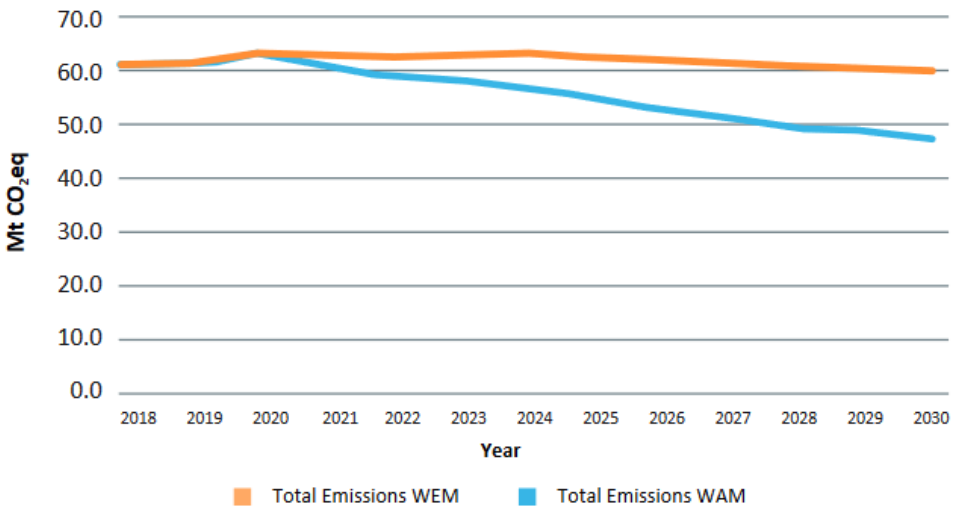
Ireland's official inventory of greenhouse gas emissions reported total national GHG emissions (excluding land use, land use change and forestry) of just over 60.9m tonnes of CO_2 equivalent for the year 2018 (EPA, 2020c). The highest ever reported emissions were 70.2m tonnes of CO_2e in 2001. However, progress on absolute abatement has been uneven and often modest. In 2018 the energy sectors accounted for 60% of total GHG emissions, agriculture contributed approximately one third of total national GHG emissions, and the balance was comprised of industrial processes and product use. The particularly large share of agriculture in the national GHG mix is somewhat uncommon in a European context. In terms of the energy sectors, transport, power generation and the built environment are the key sources of GHGs, accounting for approximately 20%, 17.5% and 10% respectively (EPA, 2020).

Figure 13 - Ireland's Greenhouse Gas Emissions by Sector, 1990-2018



Source: (EPA, 2020c)

Figure 14 - Ireland's greenhouse gas emissions projections, 2018-2030 – With Existing Measures (WEM) and With Additional Measures contained in 2019 Climate Action Plan (WAM)



Source: (EPA, 2020c)

3.4.2 Climate: Environmental Protection Objectives

Ireland's environmental protection objectives in the context of greenhouse gas emissions can be considered in terms of total national GHG emissions as well as in the context of the non-emissions trading sectors. Regarding total national GHG emissions, Ireland has articulated an ambition to become a climate neutral economy by the end of 2050, and this ambition is to be legally recognised as part of the Climate Action and Low Carbon Development (Amendment) Bill 2021. However, Ireland also faces interim goals in a European context as a Member State of the European Union.

Within Europe Ireland's heavy industry and power sectors are regulated under the European Emissions Trading System (ETS). This is a cap-and-trade system where individual entities must account for their emissions by surrendering the requisite number of permits. Whilst these entities are operating in Ireland, their emissions are regulated by the ETS through the cap mechanism that covers all such regulated entities in Europe.

The sectors outside of the ETS include the transport sector, built environment and agriculture. These and other smaller source sectors, represent the non-ETS, and these emissions are reduced in line with the ESD to 2020 and the ESR to 2030. As distinct from the ETS, the progress on emissions reductions in the non-ETS sectors for the ESD and ESR are the responsibility of the Member State. Ireland faces some challenges regarding compliance with the European Effort Sharing Decision target to 2020, although available flexibilities in that process may afford a means to comply. The current Effort Sharing Regulation to 2030, and imminent step-up in ambition will present a far more substantial challenge and compliance will be supported by the 2021 Bill.

3.5 Cultural heritage & landscape

3.5.1 Cultural heritage, landscape, and material assets: Baseline

Ireland contains many landscapes and sites of historical, cultural, and aesthetic value, including two UNESCO world heritage sites (Skellig Michael and Brú na Boinne), and several areas containing well recognised natural parks such as those in Killarney, the Burren and Connemara. This blend of cultural and archaeological heritage combined with a distinctive landscape is recognized as a key asset for promoting tourism, particularly in major strategic branding initiatives such as the 'Wild Atlantic Way'.

The 2015-2025 National Landscape Strategy set out an objective to provide a policy framework and evidence base on which to assess landscape quality and characteristics, including a 'National Landscape Character Assessment'. At present, there is no other quantitative basis on which trends in landscape quality or cultural heritage can be objectively assessed.

To a large extent, built heritage and areas of cultural or architectural protection are determined at the local, rather than the national level. Under the Planning and Development Act 2000, local and planning authorities have a responsibility to create a list of protected structures, which then enjoy protection under law from inappropriate development. Archaeological sites are listed under the Record of Monuments and Places, which is administered by the National Monuments Service. Around 1,000 particularly significant sites are 'Monuments in State Care', which are under the direct ownership and management of the government.

Architectural and built heritage can suffer negative impacts from inappropriate development – either deliberate or accidental – or neglect. Pressures on landscape quality come from land use change – for example, from traditional agricultural practices or natural landscapes such as peat bogs to commercial forestry or a more intensive form agriculture, or indeed through urbanization and development.

3.5.2 Heritage and landscape: Environmental Protection Objectives

Environmental protection objectives in this context are to be developed under the National Landscape Strategy. The government has identified a broad objective to ensure national built heritage is maintained and protected. The National Development Plan also gives 'enhanced amenity and heritage' as one of its ten strategic outcomes.

3.6 Material Assets

3.6.1 Material Assets: Baseline

Material assets are named as an area of environmental impact under the SEA Directive, but there are varying interpretations as to how this should be defined. Here we consider it as referring to natural resources, infrastructure, and the built environment in a broad sense.

Natural resources: Ireland's primary natural resources include large areas of agricultural land that are particularly suitable for beef and dairy systems, extensive fisheries (both inland and offshore), a substantial are of timber forestry, and significant mineral and geological resources, particularly in zinc and offshore natural gas deposits. Agriculture makes up the majority of land use in Ireland, with 61% of land area under grassland and 10% under cropland (CSO, 2016). Grassland is largely used for dairy and beef agriculture; the mild, wet climate and other biophysical factors lead to high levels of grass growth, with many Irish beef and dairy products exported with a 'grass-fed' premium. A further 10% of land area is under forestry. The vast majority of this is commercial and state-owned timber plantation, generally sitka spruce, the majority of which goes into construction material for

domestic, UK and EU markets (DAFM, 2014). The country also has substantial fish resources, with 77,000km of rivers, 250,000 ha of lakes and an extensive coastline, as well as an extensive area of continental shelf. Inland fisheries are used for commercial angling for species such as salmon and trout, as well as aquaculture. Offshore fisheries are managed jointly with other EU member states under the Common Fisheries Policy. Despite fishing yields being relatively stable over recent years, there are conservation concerns around many species, including salmon, arctic char, lamprey, and eel. Ireland benefits from a large area of peatland in the form of blanket and raised bogs. Peat has been historically used as an indigenous source of fossil fuel energy; however, this is planned to soon come to an end. In terms of mineral resources, Ireland is particularly rich in zinc and lead; the mine at Tara is Europe's largest zinc mine. Copper and precious metals are also mined. The continental shelf holds natural gas resources, with four natural gas fields commercially exploited, although three of these are expected to enter decommissioning as of 2020. The government ended offshore exploration for oil in 2018, and the present government has committed to ending natural gas exploration over the course of its term[43].

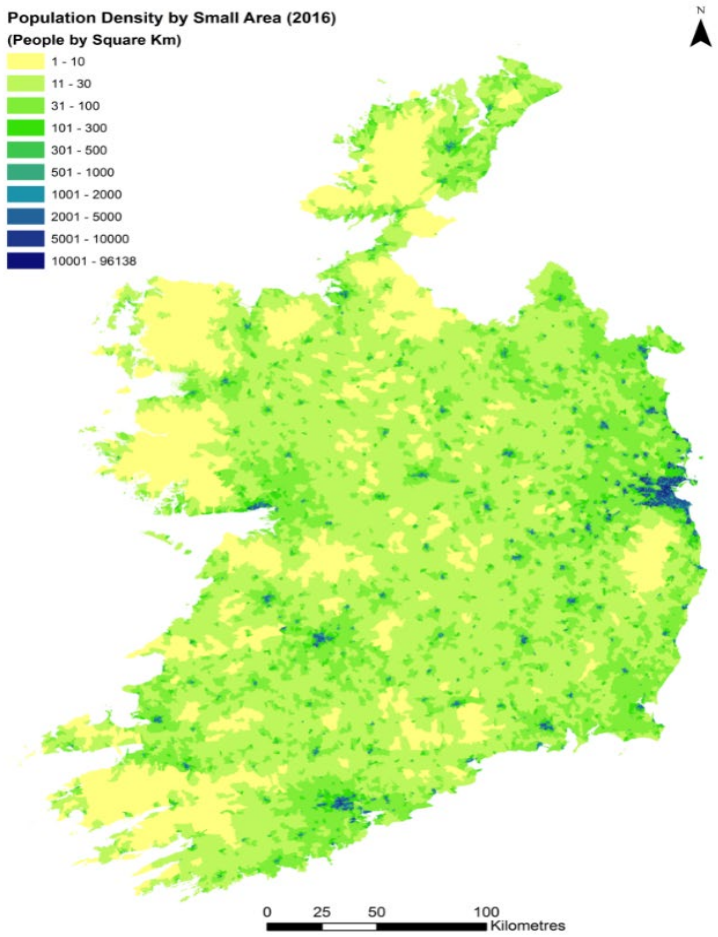
Infrastructure: Key aspects of Ireland's infrastructure include its energy system (generation and transmission), transport system (road, rail, port, air), water system, and telecommunications system. Ireland's energy system is currently primarily reliant on fossil fuels, with oil and natural gas accounting for just under 80% of energy usage as of 2017. Electricity is largely generated by the country's network of gas and oil-power stations. Coal provides around 7% of energy demand, with a single coal-fired power plant at Moneypoint, and peat 4%, with three peat-fired power plants. All peat and coal-fired stations are due to be closed by 2028, as part of the country's energy transition. The transmission network is managed by Eirgrid, including international interconnections with Great Britain and Northern Ireland. An interconnection project to link Ireland with France, the 'Celtic Interconnector', is currently being planned. Ireland's transport network is primarily oriented around road travel, with the overwhelming majority of journeys carried out by car or other modes of private transport. Intercity road connections have generally been modernised and expanded in recent decades[44]. Ireland's rail network mainly uses built prior to independence, owned, and operated by state-owned Iarnród Eireann. Around 1660km of track are in active use, largely for journeys between Dublin and the island's other cities[45]. Ireland's water supply and network are operated by Irish Water, which was created in 2014 as a state-owned utility. Whilst the quality of drinking water is generally good, there are concerns about ageing infrastructure and its capacity to handle demand; Irish Water has been undertaking a programme of work to modernise and upgrade its infrastructure[46]. Ireland's telecommunications infrastructure consists of fixed-line, broadband, and mobile networks. Mobile

[43] More information found here
[44] http://dttas.old.gov.ie/sites/default/files/content/corporate/english/general/sfilt-investing-our-transport-future/investing-our-transport-future.pdf
[45] https://www.nationaltransport.ie/wp-content/uploads/2016/11/151116_2016_Rail_Review_Report_Complete_Online.pdf
[46] https://www.water.ie/docs/Irish-Water-Business-Plan.pdf

infrastructure is operated by three private networks: Eir, Vodafone and Three. The National Broadband Plan, currently being implemented, aims to bring 90% of premises in the state within range of high-speed broadband.

Built environment: Roughly 63% of the Irish population lives in cities and towns, and 37% in rural areas. By far the largest settlement is Dublin, the capital, accounting for 28% of the state's total population[47]. Other major population centres are the four cities outside Dublin: Cork, Galway, Waterford, and Limerick. However, the largest of these cities (Cork) is relatively small; built-up areas outside of Dublin are very limited.

Figure 15- Population density in Ireland at small area scale from Census 2016 data



Source : EnvEcon mapping of CSO Census Data

[47] https://www.cso.ie/en/releasesandpublications/ep/p-cp2tc/cp2pdm/pd/

3.6.2 Material Assets: Environmental Protection Objectives

Given the diversity of activities and areas covered under 'material assets', it is difficult to identify specific objectives in this area. However, it may be useful to refer to the Strategic Outcomes expressed in the National Development Plan and National Planning Framework, which are aimed at ensuring a good material environment for the population, which is expected to increase by 1 million to 2040, increasing to 5.7 million people. These include:

- Compact Growth
- Enhanced Regional Accessibility
- Sustainable Mobility
- High-Quality International Connectivity
- Sustainable Management of Water Waste and other Resources

Environmental impacts can be assessed in terms of their expected impact, if any, on these objectives.

3.7 Interactions between elements of environmental baseline

As part of the Strategic Environmental Assessment process, it is important to recognise the connection between different elements of the environment. The 'environment', referring as it does to the spaces, organisms and dynamic systems that make up our physical world, is necessarily interconnected, and almost any action that has an impact on one of these elements may also impact on the others. However, using the categories above (which are ultimately derived from the text of the SEA directive), there are some stronger connections that can be identified:

- **Biodiversity, water, and soil**: There are several consistent pressures on biodiversity, water quality and soil quality: damage to all three elements can be caused by the expansion of agricultural, industrial, or residential activity and the release of pollutants into the biophysical system. Intense agricultural usage, including the overstocking of animals and excessive application of inputs such as nutrients, pesticides, and herbicides, is recognised as a major pressure on all three systems. The presence of a wide variety of organisms is used as an indicator of soil and water quality; it is the presence of species that allow soil and water systems to provide many of the 'ecosystem services' they offer. For example, it may be the presence of certain fish species in a river that give it value as a resource; earthworms, fungi and microorganisms play key roles in recycling nutrients in soil and improving fertility. When considering these elements, a negative impact in one area may well have negative impacts in others, and a positive vice versa.

- **Climate, air, water, population, and human health**: One of the most significant environmental impacts on human health comes from air pollution, through the damaging effects of particulate matter and gases such as NO_2 on the human respiratory system. These pollutants are largely derived from the combustion of fossil fuels, for transport, heat, industry, and energy generation. Actions to reduce CO_2 emissions from these sources are therefore likely to have significant benefits on air quality and accordingly on human health, although there may be some exceptions (e.g., biomass combustion replacing fossil fuels for home heating).

- **Climate, landscape, cultural and architectural heritage, biodiversity**: Reducing greenhouse gas emissions to net zero by 2050 is likely to require significant expansion, replacement, or modification of infrastructure. For example, to supply the planned wind energy capacity as set out in the Climate Action Plan and National Energy and Climate Plan, major construction of wind energy infrastructure (both on and offshore) and transport infrastructure will be required, and to meet targets for carbon sequestration, the proportion of land area under forestry will also need to increase significantly. This could have a potential negative impact on landscape, cultural heritage, and biodiversity, and it is important that existing mitigation systems (for example, through planning, permitting and assessment systems) remain in place to minimise potential negative impacts associated with a given course of action. Figure 16 offers a simplified overview of these described interrelationships.

Figure 16 - Simplified interrelationships between environmental impacts

3.8 Development of the baseline without the 2021 Act

The SEA directive requires that an environmental report should provide information on the likely evolution of the current state of the environment in the absence of the plan or programme being assessed.

As set out in the methodology section of this report, the impacts of the 2021 Act are largely expected to be indirect rather than direct, given the focus of its provisions on overarching targets and governance structures as opposed to specific measures. Part one of the assessment approach therefore reviews the expected impact on the identified environmental impact categories of existing climate action policy under previous SEAs. In some sense, given that existing climate policy is being implemented in the absence of the 2021 Act, this provides an indication of how the state of the environment may evolve, on the assumption that many of the existing climate action policies will continue to be implemented, albeit with a greater scale, ambition, and speed of transition across many of the primary climate policy initiatives.

Notwithstanding that future policy measures are somewhat uncertain; Table 1 gives a summary of the main national trends in the environmental factors within scope and the main pressures. This gives a broad snapshot of how the state of the environment is evolving without prejudice to future policy interventions.

Table 1 - Impact categories, trends in status and major pressures

Area	Trend	Main pressures
Biodiversity, Flora, Fauna	**Disimproving:** Whilst protected species, according to the most recent NPWS data, are on a broadly stable trend (15% declining, 17% improving), protected habitats are dramatically declining (46% declining, 2% improving).	Land-use changes through agriculture and development activities negatively impact biodiversity. Further to this, negative impacts can also arise from mitigation measures, such as large-scale biomass planting and harvesting operations. Specific to climate change, pressure on biodiversity in Ireland includes declining populations, reduced food availability and habitat loss. The most vulnerable habitats being at higher risk. These include upland habitats, peatlands, and coastal habitats. Plant communities are also likely to experience changes in their composition with species

		moving in and out, and an increased risk of invasive plant species.
Population and Human Health	**Neutral/Disimproving:** Indicators of water safety have been relatively stable since 2014, and the number of supplies on the remedial list has consistently decreased. However, there has been a worrying increase in the number of boil water notices issued, and in the detection of cryptosporidium (EPA, 2019). Reliable time-series indicators for other relevant issues such as noise, odour, energy poverty and green space access are not available. Air quality is a key factor and the trend in that regard is positive for human health, though challenges remain. Air is covered separately.	Factors such as location, age, and level of deprivation impact an individual's vulnerability to health risks. For example, coastal communities are at risk of rising sea levels, changes in wave heights and increasing extreme weather events. Likewise, densely populated urban areas are at a higher risk of summer heat stress and surface flooding. While new building and housing developments show improvements in energy efficiency, there is a significant stock of old buildings and houses in Ireland that have very poor energy efficiency that can be linked to health issues, particularly in the winter. Additionally, issues such as poor air and water quality can lead to health issues.
Soils	**Neutral/Mixed:** No reliable national-level time series is available for soil, though the Irish Soil Information System setup by Teagasc offers a useful national baseline. Currently, soils appear to be in relatively good condition. However, relevant concerns have been raised in the past regarding the impact of future agricultural intensification (Kiely, et al., 2014).	Changes in soil water content and temperature also increases probability of drought or flooding. This can increase the likelihood of soil carbon loss (particularly for carbon-rich peat soils), threaten soil viability, and increase greenhouse gas emissions. Existing issues such as soil erosion and changes in soil biodiversity could also be worsened by climate change.
Air		Main pressure points for air quality include transport, the built

	Neutral/Improving: Between 1990 and 2018, substantial reductions were achieved in many pollutants: SO_2 by 93%, $PM_{2.5}$ by 63%, and NO_x by 38%. However, NH_3 emissions have increased. Shifts to less polluting transport and domestic heating methods should support improved air quality from energy using sectors (EPA, 2020). Other actions are required for agriculture primarily related to fertiliser use and spreading techniques.	environment, and agricultural practices. Greater improvements in public transport systems and encouraging mode shift, as well as the electrification of transport and heating will present potential positive impacts for air quality. Further implementation of farm efficiency measures will also play a role in reducing emission of harmful pollutants such as ammonia. Moreover, emissions from biomass boilers are generally lower than coal, but the burning of biomass feedstock still emits air pollutants such as particulates. Seasonal variations in air quality are predicted to change; for example, weather conditions that produce summertime smog becoming more common.
Water	**Disimproving:** EPA monitoring shows an ongoing decline in the number of waterbodies at satisfactory status (Good or high); between the assessment periods 2010-15 and 2013-18, there was a net decline in status of 4.4% of waterbodies, with particular concern about the number of 'high' status rivers (EPA, 2019b). The River Basin Management Plan is intended to reverse this trend.	Marine and coastal environments are at risk from rising sea levels and temperatures, erosion of coastline, changes in acidity and salinity, and invasive non-native species, increasing flooding and salinisation. Climate change is likely to impact annual rainfall patterns and could therefore affect rivers, water flows and the breakdown of pollutants. Indirect impacts could also result from changes to the growing season, which could increase the number of pollutants entering water from agricultural run-off.
		The potential impact of Climate change over the course of the

Climatic Factors	**Neutral/Disimproving:** Irish greenhouse gas emissions increased slightly overall over the last three decades, from 55.5 mt in 1990 to 60.9 mt in 2018, peaking at 69.7 mt in 2004 (EPA, 2020b). Whilst it is expected that COVID will result in reduced emissions, the longer-term 'with measures' trend is inadequate. Stronger ambition and definitive actions are required and anticipated in this context. The proposed bill representing a key development in this context.	century is such that it would impact on every facet of the environment. Every major sector of the economy presents emissions pressure, and action will require a comprehensive, cross-sectoral, all of government effort in order to limit the dangerous effects of climate change and improve the overall level of resilience and sustainability within our society. This will involve mitigation measures across all core sectors of the economy – agriculture, transport, built environment, industry, waste, and energy generation. However, impacts can also result from mitigation and adaptation measures, such as renewable energy installations producing negative visual effects and changes in landscape.
Heritage, Landscape, Seascape and Visual Amenity	**Neutral:** There is limited meaningful data that offers a quantitative sense of landscape and heritage status over time in Ireland. However, Ireland is generally recognised as having a strong endowment in the context of natural environment, heritage, and visual amenity.	Pressures from development, economic activity, and increasing extreme weather events may present challenges for cultural heritage. Pressure points as a result of climate change include the potential degradation of buildings and historical monuments. These amenities are important aspects of the Irish economy as it relates to tourism and citizen amenity. Additionally, there may be impacts to archaeology due to the planting and harvesting of energy crops and retrofitting of old buildings. Furthermore, climate change could change landscapes due to coastal

		erosion and increased flooding. Indirect impacts could also stem from mitigation measures such as the development of flood defences.
Material Assets	**Improving:** Given the broad scope of material assets, it is difficult to establish a baseline trajectory. Ireland possesses substantial and growing infrastructure in the context of transport, renewable energy, natural resources, and forestry. Broadly these could be considered as growing.	Material assets such as transport infrastructure, natural resources and other buildings are at risk of damage due to increasing extreme weather events. A further pressure will also be the projected increase in population of an additional 1 million people by 2040.

4. Assessment Approach in this Case

4.1 Scope of the Assessment

4.1.1 There are nine categories of impact that are recommended for consideration under the SEA Directive. In each case the effects may include direct, secondary, cumulative, synergistic, short, medium, and long-term, permanent and temporary, positive and negative effects.

4.1.2 The Climate Action and Low Carbon Development (Amendment) Bill 2021 lacks the specificity to undertake quantitative effect analysis. This is not a failing, but rather the nature of a bill amendment that is focused on raising the level of ambition and establishing or enhancing supporting governance structures for climate action in Ireland to 2050.

4.1.3 The ultimate objectives of the Climate Action and Low Carbon Development (Amendment) Bill 2021 will primarily be given effect to by the specific interventions, investments and initiatives detailed in the evolving Climate Action Plan and longer-term strategies. As noted, there is an SEA planned for the National Energy and Climate Plan that will align with the next Climate Action Plan. There is also an SEA completed for the National Mitigation Plan, which was the precursor plan to the Climate Action Plan 2019.

4.1.4 The level of ambition, number of commitments and rate of uptake for new policies, behaviours, and technologies, will change positively between the National Mitigation Plan and the Climate Action Plan. Similarly,

there are important changes in governance, monitoring and analysis introduced. However, the substantive elements that will underpin emission reductions across all of the sectors in the Irish economy remain largely the same. This is the case across much of Europe where the major technologies, transitions and behaviours envisaged to underpin substantial climate action, in particular to 2030, are well established. The primary challenges therefore are expected to relate more to supporting and incentivising change across various sectors and contexts and doing so at an accelerated pace consistent with these new broader international environmental ambitions.

4.1.5 Additionally, there are insights from other relevant national SEAs that have been completed, such as the SEAs for the National Planning Framework, Offshore Renewable Energy Development Plan, and 2014-20 Forestry Programme. Once again, the core measures referenced in these documents - as relevant to climate action - remain very similar and offer insight as to the type of actions that may be further supported under the Climate Action and Low Carbon Development (Amendment) Bill 2021.

4.1.6 In the individual topic boxes below, the agreed scope for the SEA on the recommended impact topics is presented for context. These scoping statements and the confirmation of the SEA approach recognise the outcomes of the SEA scoping process as agreed with the competent authority after consideration of feedback.

4.1.7 Biodiversity, Flora and Fauna

Biodiversity, Flora and Fauna	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the 2021 Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments and controls. Broad impacts of major climate actions on this category will be recognised as part of the SEA process by drawing on existing reports and research.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related Climate Action plans and the corresponding effect of the major measures on this category of environmental outcome.*

4.1.8 Air

Air	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 will be expected to have mostly positive synergistic impacts on national air pollutant emissions and associated ambient air quality given the close connection between emissions to air of both greenhouse gases and air pollutants. The increased level of ambition can be considered qualitatively regarding potential impacts on air outcomes, as well as recognition of potential areas for concern and consideration in respect of climate focused policy action.
SEA Approach	*A summary recognition of the directional and potential significance of impacts from the increased climate ambition on air outcomes, and the associated considerations and recommendations will be included in the SEA.*

4.1.9 Population and Human Health

Population and Human Health	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	Once again, the Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Supporting actions in other national plans and strategies can of course have impacts in this category and these are again subject to their own set of assessments. However, impacts on human health as derived from the air impact consideration will be recognised as an additional element as part of the summary recognition.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available, along with recognition of the qualitative assessment of air outcomes.*

4.1.10 Soil

Soil	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments. In this case other SEA assessments and climate action research will be considered to describe the potential environmental impacts on this SEA category. The relevance of agricultural measures and LULUCF actions will be the focus.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available.*

4.1.11 Water

Water	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this SEA category as a direct result of the Bill cannot be credibly determined. The Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts on Water, and these are subject to their own set of assessments. As such the category will be considered through assessment of prior climate action assessments regarding water outcomes. Examples of impacts on water from climate actions could include aspects related to pollution or flood risk.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available. The connection to climatic factors can be recognised.*

4.1.12 Climatic Factors

Climatic Factors	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Qualitative Assessment	The Climate Action and Low Carbon Development (Amendment) Bill 2021 introduces a direct and legally binding step-up in ambition for climate action, in the form of a climate neutral economy by the end of 2050. Whilst specific measures are not identified, a broad consideration of the impact of this shift in ambition on climatic factors is relevant for the SEA. Whilst climatic change is most strongly influenced by global actions and outcomes, this qualitative assessment will recognise the areas where the increased ambition of the Climate Action and Low Carbon Development (Amendment) Bill 2021 can make a positive contribution, and the corresponding outcomes that arise from broader international action and progress on global climate change objectives.
SEA Approach	*An expanded recognition of the directional and potential significance of impacts of climatic factors on the other SEA categories will be included. Given the focus of the bill is climate action, this section of the SEA will recognise how enhanced climate action can contribute, as part of broader international efforts, to delivering mitigated climatic effects.*

4.1.13 Cultural heritage and the historic environment

Cultural heritage and the historic environment	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments. Examples of impacts could include shifts in development plans or forestry affecting the cultural or historic environment e.g., old buildings, archaeological sites.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available.*

4.1.14 Material Assets

Material Assets	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments. Examples of indirectly supported climate actions relevant to material assets could include changes in travel infrastructure and use of natural resources for energy.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available. Note that material assets as an SEA impact category have been interpreted differently in various cases. The Directive does not offer a definition; however, we will interpret it as natural resources, built environment and infrastructure.*

4.1.15 Landscape, seascape, and visual amenity

Landscape, seascape, and visual amenity	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments. Nonetheless, this category can be considered in relation to changes regarding certain aspects that will certainly be a feature of a climate neutral economy, for example, new energy infrastructure, wind and solar farms, changes in forestry and land-use. Whilst the specific actions are not defined in the Climate Action and Low Carbon Development (Amendment) Bill 2021, recognition will be given to prior consideration of relevant climate actions on this SEA category.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions and impacts for this category will be included where available.*

4.2 Temporal Scope of SEA

The Climate Action and Low Carbon Development (Amendment) Bill 2021 is focused on a long-term vision to the end of 2050. As such the temporal scope on which the SEA is considered extends to that same time horizon. However, it must be remembered that the Climate Action and Low Carbon Development (Amendment) Bill 2021 is a supporting framework, that enhances aspects of the existing act, and advances the level of national ambition. However, neither actions, nor action timelines are included, thus, temporal appraisal is limited.

4.3 Geographical Scope of SEA and Transboundary Consultation

4.3.1 The geographical scope of the SEA on the Climate Action and Low Carbon Development (Amendment) Bill 2021 is national as the Bill will support actions with far reaching effects across all sectors of the Irish economy. There are no significant effects perceived in regard to neighbouring member states. The departure of the United Kingdom from the European Union results in Ireland having no directly neighbouring European member state. Nonetheless it is believed that the overall impact of the enhancement of climate action governance and ambition in Ireland will contribute to deliver net positive environmental outcomes to Northern Ireland and the mainland UK, in terms of a positive contribution to collective efforts for reduced climatic impact.

4.3.2 Similarly, the climate action ambitions across all sectors of the economy are expected to deliver a net reduction in transboundary air pollutants. With recognition that consideration can be given to appropriate management of biomass combustion over time into the future. However, official national outlooks from the EPA do not anticipate growth in emissions to air of transboundary air pollutants out to 2035, and there is no perceived cause for concern in regard to the impact of the Bill in that regard, or on a longer time horizon to 2050.

4.3.3 This report will however be shared directly with the relevant SEA authorities in Northern Ireland for consideration and comment, as necessary.

4.4 Approach to this Assessment

4.4.1 The Climate Action and Low Carbon Development (Amendment) Bill 2021 delivers a legally bound level of ambition for climate action by 2050. However, whilst the Bill includes important changes in governance, management, and financial mechanisms, it does not define explicit measures that may be evaluated in a direct manner.

4.4.2 The specific and substantive impacts of the Bill are therefore expected to be indirect – and will be expected to align with the impacts defined as part of the assessments of more policy and measure focused plans (e.g., National Mitigation Plan and now the Climate Action Plan 2019 and subsequent iterations). The Bill is broadly intended

to support greater action and further progress, albeit along the same lines of investments and interventions as have been defined in those prior national climate plans.

4.4.3 There are various existing plans and programmes of particular relevance to the Climate Action and Low Carbon Development (Amendment) Bill 2021, including the National Mitigation Plan[48], Climate Action Plan 2019, National Planning Framework (Project Ireland 2040), and the National Energy and Climate Plan[49]. Considerable work has already gone into assessing the impacts of these programmes. Strategic Environmental Assessments were completed for the National Mitigation Plan and National Planning Framework, and one is intended to be produced for the National Energy and Climate Plan. Beyond the SEA process, these strategies and plans have also benefited from broad stakeholder engagement processes, specialist inter-disciplinary research and collaboration across Government departments and agencies.

4.4.4 Stage one of our methodology consisted of a review of the main environmental impacts identified to date in completed Strategic Environmental Assessments for these relevant plans and programmes – particularly, but not limited to, those of the NMP and NPF. In short, we have sought to identify the major measures and actions that will comprise the main thrust of climate ambition in Ireland, as these are the measures and actions that the Climate Action and Low Carbon Development (Amendment) Bill 2021 will be expected to work to support. This approach allows for a reasonable overview of those indirect environmental effects associated with current climate action policy in Ireland.

4.4.5 Stage two of our methodology is focused on the provisions of the 2021 Bill itself as released on the 23rd of March 2021. Informed by the findings of Stage one, it gives a high-level overview of how the substantive changes to climate policy governance contained in the Bill may indirectly impact the environment. This looks specifically at:

i. The more ambitious national climate action objective of achieving a climate-neutral economy by 2050. Based on the assumption that the new objective will strengthen and accelerate climate action, the assessment will seek to show what the environmental impacts of such action might be. This will draw on the international evidence base and literature on the impacts of achieving 'carbon neutrality'.

ii. Carbon budgeting. The assessment will seek to assess the potential environmental impacts of carbon budgeting, drawing again on the international policy literature on carbon budgeting as a policy tool.

[48] As part of the Climate Action (amendment) Bill, the National Mitigation Plan will be replaced by the Climate Action Plan 2019 and subsequent iterations, alongside the National Long-Term Climate Strategy reports that are also provided for within the Bill.
[49] It is noted that the 2019 National Energy and Climate Plan is due to be updated again in line with increased national ambition. See the Appendix on relevant plans and programs for additional detail.

iii. Governance arrangements. The assessment will seek to group together the changes to governance as described in the Bill and give a broad assessment of their likely impact on environmental outcomes, if any.

4.5 Consideration of Reasonable Alternative

4.5.1 The Climate Action and Low Carbon Development (Amendment) Bill 2021 implements recommendations of the Citizen's Assembly on Climate Change, Joint Oireachtas Committee on Climate Change, and the Climate Advisory Council. The reasonable alternative considered is the existing provisions in the Climate Action and Low Carbon Development Act 2015, as is. In the aforementioned processes proposals were not made for a reduction of Climate Ambition below the level in the 2015 Act, nor for a more ambitious target than that in the 2021 Bill – these are therefore be assumed to represent the reasonable ends of the spectrum of policy options.

4.5.2 This approach also broadly follows that taken by the Scottish Government in the SEA process for a new Climate Change Bill in 2017, which is the most analogous precedent available nationally or internationally in the context of the Climate Action and Low Carbon Development (Amendment) Bill 2021.

5. Assessment Findings

5.1 Overview of impacts and Review of Previous SEAs

The first stage of our assessment reviewed the impacts identified in existing Strategic Environmental Assessments of plans and programmes related to Climate Policy in Ireland, specifically:

- The National Mitigation Plan (produced in 2017 to give effect to the provisions of the original Climate Action Act 2015).
- The National Planning Framework (whose objectives are closely related to many of the actions required to deliver a low carbon transition).
- The Offshore Renewable Energy Development Plan.
- Ireland's Forestry Strategy 2014-20.

This is not intended to reflect a comprehensive review of all Irish policy relating to climate action, but instead reflects the most relevant areas where recent SEAs are available. In the absence of specific measures in the 2021 Bill this approach is necessary. This review identified the potential for several environmental impacts related to

climate action, which are summarized below. Moreover, to provide context, a high-level review of some environmental impacts of climate policy as identified in academic literature are given. It is important to note that this is a summary of the potential impacts in a categorical sense, rather than an attempt to quantify those impacts – which, given their indirect nature and the lack of specific measures in the Bill - would not be appropriate.

Table 2: Overview of potential impacts of climate action generally

Area	Positives	Negatives
Climatic Factors	There will be a positive long-term impact across all sectors due to a reduction in emissions. Overall economic and societal resilience will improve due to efficiencies and fuel switching, specifically in sectors involving energy use and production. A reduction in emissions and air and water pollution will offer benefits to human and environmental health. Furthermore, broad investment in energy efficiency, infrastructure improvements, housing stock improvements and a more sustainable society will provide many benefits.	Competing and changes in land use is a negative impact. Additionally, biomass and biofuel may present challenges. Furthermore, there is a concern that rapid development may put pressures on citizens and the environment.

Biodiversity, Flora, Fauna	Positive impacts include the protection of habitats under agri-environment schemes, increased carbon sequestration through the restoration of peatlands and woodlands and the creation of woodland habitats under forestry schemes. Additionally, protecting and supporting the provision of ecosystem services through the rehabilitation of degraded land and improving land management practices will present many benefits to biodiversity.	Construction and infrastructure development presents negative impacts to biodiversity through habitat disturbance. There are also potential impacts on marine ecology resulting from offshore renewable energy development and undersea interconnectors. Furthermore, agriculture presents several negative impacts such as land-use change to support biomass cultivation and farming intensification and modernization through new technology and changing practices. There is also potential for biodiversity loss in connection with afforestation.
Heritage, Landscape, Seascape and Visual Amenity	Retention of agricultural landscape features such as hedgerows under agri-environment schemes and the creation of woodland habitats under forestry schemes are positive impacts on landscape.	Infrastructure development, including renewables generation, pylons and offshore, and transport infrastructure can affect the setting of historic buildings and energy efficiency measures could change the fabric of buildings with historic and cultural significance. Furthermore, if designed and managed poorly, there is potential for disruption of landscape and seascape through renewable energy onshore and offshore installation.

Soils	Increased soil carbon retention may result from agri-environmental measures. Additionally, better land management, land restoration and expanding woodland may increase carbon sequestration capacity.	Increased demand for feedstocks and bioenergy may result in soil erosion, significant land use change and other adverse environmental effects. Moreover, forestry operations may potentially lead to soil acidification and other kinds of soil damage. There are also potential negatives which may result from inappropriate development or step-up in biofuel production.
Air	Improvements in air quality will result from a reduction in ammonia emissions due to targeted nitrate usage in agricultural practices, reduced tailpipe emissions resulting from the transition to higher electric vehicle uptake and encourage modal shift and reduced fossil fuel emissions from improved energy efficiency measures in the residential sector.	The development of new infrastructure projects may increase emissions in this sector, affecting air quality. There are also potential rebound effects of farming intensification and changing traditional practices with improved technology or modernization. Air pollution from biomass burning and bioenergy may also increase.
Water	Improved water status through reduction in nitrates use in agriculture.	Water pollution from the leaking of antifreeze from water-to-water heat pumps and conifer afforestation may increase. Moreover, reduced water quality and disruption of bathing areas and other water-based recreation may be an impact of offshore renewable energy infrastructure development.

Population and Human Health	Increases in fuel efficiency and transport electrification will improve air quality, reducing health complications such as asthma. Mental and physical health benefits may arise from sustainable transport mode shift that increases walking and cycling. Additionally, warmer and more energy efficient homes will improve health and well-being.	Increased construction activity because of new infrastructure projects, which can create dust, noise, vibration, and visual impacts, affecting health and well-being. Additionally, there may be a disruption of bathing areas and other water-based recreation by offshore renewables development.

5.1.1 High-Level Overview of Evidence

The transition to a low-carbon economy, whilst driven by environmental objectives (mitigation of climate change), may be associated in general with some negative environmental outcomes. It has been noted that across Europe, tensions are inevitable between renewable energy expansion and biodiversity protection, given the extent of the Natura 2000 network. Whilst wind turbines can present risks to bird populations, equal or greater harm to biodiversity can come from the habitat alteration required to clear the ground area and install service roads, transmission lines and the like to energy facilities. Site location and operational procedure are important in minimizing these impacts. (Katzner et al., 2013). As might be expected, the cultivation of biomass crops poses similar challenges to biodiversity as conventional agriculture, with potential negative impacts from loss into the environment of inputs such as pesticides and fertilisers as well as habitat loss (McDonald et al., 2009). Tensions with renewable energy expansion are often focused around upland areas, which often have both high renewable energy potential and a high level of 'ecosystem service' provision, in the form of biodiversity, recreation and the aesthetic/cultural value of such landscapes, among others (Hastik et al., 2015). In terms of landscape impacts, wind energy developments are often the focus of local opposition due to their visual impact and can indeed have a pronounced effect on the subjective amenity value of landscapes (Ioannidis and Koutsoyiannis, 2020).

There are existing cases in Ireland of climate infrastructure development and afforestation having a negative impact on peatland landscapes and soils – an example being the 2003 Derrybrien landslide, caused by inappropriate wind energy development, that had major impacts on local ecosystems and resulted in a financial penalty imposed on the state by the European Court (Dykes, 2008). Hydropower can also have a negative effect on aquatic ecosystems through fragmentation of habitat, and there are concerns around the impact of the existing hydroelectric facility at Ardnacrusha on migratory salmon and eel populations.

However, there are also multiple positive impacts associated with low carbon development. For example, there is clear and strong evidence that renewable energy expansion and reduction in fossil fuel use can have a positive impact in reducing air pollution and mitigating associated impacts (Novan, 2015; Alvarez-Herranz et al., 2017).

5.1.2 Climatic factors

The programme of actions set out under Ireland's existing set of policies and programmes is expected to have an overall positive impact on climatic factors – unsurprising as the principal aim of such policies is to reduce net greenhouse gas emissions. The overall suite of measures, as included in the National Mitigation Plan, Climate Action Plan, and other strategies, is likely to have a significant effect on reducing emissions, and thus contribute to global action to tackle global warming. This includes actions across various sectors: the transition of Ireland's energy system, increased energy efficiency, changes to the transport system, and measures to reduce net emissions from agriculture and land use. The Strategic Environmental Assessment of the National Mitigation Plan found that almost all actions within the plan were likely to have a positive effect on the climate by contributing to emissions reduction, particularly those measures aimed at expanding renewable energy, improving energy efficiency, and decarbonizing the transport system. The only potential negative impacts on climate were found in agriculture, where the analysis found that measures to increase farm efficiency might in fact stimulate the expansion of farming activity, leading to higher emissions. The SEA of the Offshore Renewable Energy Development Plan found that the expansion of offshore renewables would likely make a positive contribution to climate action. The first Climate Action Plan built on the actions in the NMP and would be expected to have a further positive effect on reducing emissions and thus tackling climate change. The EPA's projections expected full implementation of the Climate Action Plan 2019 to result in a 23% reduction in emissions on 2018 levels by 2030. The 2021 Bill will see that reduction increase substantially.

5.1.3 Biodiversity

The SEA of the National Mitigation Plan identified some potential positive impacts on biodiversity from the implementation of the Plan's actions. These would primarily be derived from the creation of new woodland or other semi-natural habitat through forestry or agri-environmental schemes, as a side-benefit to carbon sequestration. There are also, however, some potentially negative impacts on biodiversity associated with climate action, primarily related to land use change and infrastructure development. Climate action will require significant development of new infrastructure, particularly for energy generation, energy transmission and transport. Without the appropriate controls at project or programme level, such development can have a negative impact on biodiversity. The SEA of the Offshore Renewable Energy Development Plan found the development of large-scale offshore wind energy could have negative impacts on marine birds, mammals, and benthic ecology.

Other negative impacts on biodiversity may come from land use change where significant areas of land are converted to biomass cultivation or forestry. Whilst forestry may have a positive impact on biodiversity in some cases, it can pose a risk to protected habitats and species that are dependent on grassland or peatland habitats. The positive climatic effects on these plans are, however, likely to have an indirectly positive impact on species and habitats that are under pressure from climate change.

5.1.4 Population and Human Health

A review of current climate action policy suggests that it is likely to have a positive impact on human health. A principal positive impact comes from improved air quality, due to reduced emissions from the decarbonization of transport, particularly regarding tailpipe emissions from the vehicles. The transition to electric and zero-emissions vehicles is likely to lead to an improvement in air quality, especially in urban areas. Other health benefits may come from measures to increase active transport modes such as walking and cycling, as well as the decreased accident risk associated with lowered speed limits. Potential negative impacts from climate action include a reduction in air quality from increased use of biomass, with can be a source of particulate matter. Potential negative impacts associated with offshore energy development include the risk of collision with sea traffic and encroachment on maritime recreation areas. Any positive climatic impact of the plans will likely carry benefits to human health and safety, through mitigating any increase in flooding and extreme weather events.

5.1.5 Soil

Impacts to soil from climate action are likely to be limited. Positive effects could come from measures to incentivize soil carbon sequestration on agricultural land, with increases in soil organic carbon leading to improved soil quality and fertility. Measures to restore peat bogs to reduce emissions from gaseous fluxes (and associated with the phasing out of peat-fired electricity generation) would also have a positive impact on peatland soils. Negative impacts on soil may be related to forestry; if planted and managed inappropriately, trees and forestry activity can have a range of negative impacts including acidification and compaction. Furthermore, changes in land use, perhaps connected to biofuel/biomass production may have implications for soil.

5.1.6 Air

In general, positive impacts on air quality are associated with climate action policy. Most air pollutants of concern in Ireland (apart from ammonia) are derived transport, the built environment and combustion of fossil fuels. The transition to low-carbon transport systems and improved domestic energy efficiency and heating systems should therefore lead to an overall improvement in air quality. Ammonia pollution in Ireland is largely connected to the nitrification of agricultural fertilisers and slurry. As Nitrous Oxide, a greenhouse gas, is generated by the

same process, measures to reduce NO_2 emissions from agriculture may also reduce levels of ammonia, with a positive impact on air quality. Potential negative impacts are associated with increased use of biomass for heating and as a fuel source.

5.1.7 Water

The main association between climate action and positive effects on water quality is related to agricultural measures that seek to reduce nitrate pollution; a co-benefit of measures to reduce NO_2 emissions for climate reasons is likely to be a reduction in nitrates running off into waterbodies – a principal source of water pollution in Ireland. Negative impacts on water quality associated with climate action are largely associated with expansion of forestry, which can contribute to acidification and sedimentation of watercourses, particularly in cases where afforestation takes place in sensitive catchments where previous land use was not intense or semi-natural.

5.1.8 Material Assets

Depending on the specific actions taken, climate action can have a range of positive associations with the status of material assets. In terms of natural resources, afforestation provides a material asset benefit where forests are timber-producing. The capture of carbon in tree biomass that is then turned into building materials is recognized as one way of reducing net emissions. However, afforestation will generally be competing with other productive land uses, such as farming or biomass cultivation, so the specific material benefits relative to the baseline will vary in each case. The transition from fossil fuels to renewable energy, if fully implemented, will also have benefits in terms of increasing the domestic energy supply through captured wind, solar and hydroelectric energy, and reducing reliance on fuel imports. Improvements to water quality through reduced nitrate pollution may have a positive indirect effect on inland fisheries by improving the health of fish stocks.

It should be noted, however, that all new infrastructural developments will carry a financial cost that will potentially displace conventional development, so the specific material benefits in any case must be measured against the benefits that would have been offered by the development baseline. It is also relevant to remember the potential climatic impact on material assets from climate change. Rising sea levels and increased extreme weather activity, including coastal and river flooding, is likely to have a negative impact on material assets, with an increasing quantity of built-up areas and infrastructure exposed to potential flood damage.

5.2 Review of proposals in the 2021 Bill

This section builds on the assessment developed in section 5.1 – which gives a general overview of the environmental impacts caused by climate action – and gives a more specific analysis of the provisions in the 2021 Bill. The nature of the legislation is such that it deals with national-level targets, processes, and governance, rather than the implementation of specific measures. Consequently, the environmental impacts of any specific provision within the 2021 Bill cannot be credibly evaluated. Instead, the analysis provides a summary of the general environmental outcomes that may be reasonably associated with these provisions. It should be noted that this section is a summary of expected environmental impacts from a position of identifying necessary mitigations, rather than broader aspects such as an assessment of the level of climate ambition in the 2021 Bill.

5.2.1 The new National Climate Action Objective

A core provision of the 2021 Bill is the replacement of the national transition objective defined in the 2015 Act with a new National 2050 Climate Objective. This new objective is to achieve a 'climate resilient and carbon neutral economy' – defined as one in which greenhouse gas emissions are balanced or exceeded by the removal of gases from the atmosphere – by the year 2050. This is an increase in ambition on the previously defined objective, which was to achieve a:

- an aggregate reduction in carbon dioxide (CO_2) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors; and
- in parallel, an approach to carbon neutrality in the agriculture and land-use sector, including forestry, which does not compromise capacity for sustainable food production.

The new objective is therefore significantly more ambitious in terms of emissions reduction than the previous target, setting the aim of reducing net emissions to zero across the entire economy. This goal of legally enshrining a target of net zero emissions by 2050 is in line with other commitments made internationally. For example, a major precedent was set by the UK, which passed the Climate Change Act in 2008, amended in 2018 to also include a commitment to net zero by 2050. Many other economies have also committed to a similar target – including, China, whose leader announced in 2020 that China would seek to become carbon neutral before 2060. On a global level, achieving net zero emissions by 2050 is now deemed an essential element of the pathway towards limiting dangerous climate change to 1.5C, or at most 2C, above pre-industrial levels, as per the Paris Agreement. For this reason, the EU, and other major economies such as the US are stepping up their ambition.

The Bill does not set out the specific measures by which the government is to achieve these objectives. These will be the subject of the annually renewed climate action plans and long-term strategies provided for under the Bill. It is not possible to credibly define specific direct environmental impacts from this provision in the Bill.

However, it can be reasonably expected that the specific delivery measures contained in the action plans provided for under the 2021 Bill will align with many of those already set out under plans such as the National Mitigation Plan and 2019 Climate Action Plan. On that basis, the more ambitious target set out in the 2021 Bill has the potential, and is likely to, accentuate all the impacts set out in section 5.1. that are associated with Climate Action, both positive and negative. For example, the positive impacts on climate and air quality may be enhanced, but the detrimental impacts on biodiversity and landscape through forestry and infrastructure development may also increase if appropriate mitigations and careful planning and implementation of measures are not delivered.

It should be noted, however, that a broad set of domestic-level legislation provides an additional layer of legal structures for Ireland on top of that already provided by the EU. New European climate legislation to create a legal commitment for the EU to achieve carbon neutrality by 2050 is also being developed. The EU's other major climate legislation – the Effort Sharing Directive and Emissions Trading Scheme – set aligned interim targets which are binding on all member states. The 2021 Bill aligns well with this international policy context.

5.2.2 Carbon Budgets

The concept of carbon budgeting revolves around the establishment of a total amount of greenhouse gases that can be emitted up to the point at which emissions reach net zero. Using such a tool is intended to work alongside a long-term emissions target to ensure that year-on-year cumulative emissions stay underneath a certain level as well as eventually reaching a target annual level.

Carbon budgets have been calculated at a global level and have been included in the domestic climate change legislation of other jurisdictions including the UK, France, and New Zealand. In the UK, the Committee on Climate Change is responsible for advising the government on carbon budgets, which are then adopted by the government through secondary legislation; the Bill foresees the Climate Change Advisory Council playing a similar role in Ireland. Likewise in France, carbon budgets are incorporated into national law by the Energy Transition for Green Growth Act 2015, although the *Haut Conseil pour le Climate*, in many respects analogous to the Committee on Climate Change or Climate Change Advisory Council, does not have the responsibility to propose budgets, which are instead set by the government. The New Zealand system follows a model like that

in the UK. The Irish model would follow, to some degree, that set out in the UK system (which is replicated at sub-national level in Scotland). However, attention has been drawn to the relative lack of legal obligation on the Minister to ensure compliance with the carbon budget under the proposal in the Bill.

Yet, there is not sufficient evidence to determine the impact of national-level carbon budgeting on environmental performance, due to the small number of cases and the difficulty of identifying specific factors in influencing policy outcomes. So, while carbon budgeting can be regarded as an effective tool in increasing the transparency and accountability of climate policymaking, its direct environmental impacts are very difficult to assess.

5.2.3 Governance and Process change

The 2021 Bill also includes detailed provisions as to the governance and process around climate action in Ireland. It sets out the plans and strategies that will contain the detailed measures for the delivery of the climate action objective and carbon budgets, specifically:

- Annual revisions to the Climate Action Plan.
- Long Term Strategies covering ten-year periods.
- National adaptation frameworks.
- Sectoral adaptation strategies.

Beyond these, the Bill expands the concepts to which Ministers must 'have regard' in formulating these plans and strategies.

The Bill also makes changes to the composition and role of the Climate Advisory Council. The members of the Council will serve staggered terms to allow for greater continuity of expertise. The Council currently has four ex-officio members: The Director of the Environmental Protection Agency, The Director of Teagasc, the Director of the Economic and Social Research Institute, and the Chief Executive of the Sustainable Energy Authority of Ireland. Under the 2021 Bill, this will change to three: The Director of the EPA, the Director of Teagasc, and the Director of Met Éireann. The Government will also have to have regard to ensuring gender balance and a broader range of expertise on the Council, including specific fields like climate science, ecology, and behavioral science. The Council will have new responsibilities related to the preparation of carbon budgets and the assessment of delivery against budgets.

The current process by which a single 'annual transition statement' is prepared to review performance against the national objective will be changed, with a new responsibility on all Ministers with sectoral responsibilities for climate action to report separately to the Oireachtas committee on their sector's performance.

Finally, Local Authorities will also be required to create climate action plans for their respective areas, covering both mitigation and adaptation.

In general, these process changes are aimed at increasing the transparency and long-term stability of climate action, as well as broadening the accountability within government for its delivery (with individual ministers reporting on their sectors and local authorities responsible for producing plans within their own local areas. The changes to the composition and responsibilities of the Council should enhance its ability to hold government to account on delivery.

In terms of broader environmental impacts, it is difficult to clearly draw any direct impacts from the governance and process changes in the bill which could be appropriately determined by this assessment. In general, more detailed, and comprehensive governance and processes could be expected to enhance the positive climatic impacts that are the central aim of the legislation, and potentially to help mitigate against some of the potential negative impacts associated with climate measures.

5.2.4 Changes to NORA Act 2007

The final provision relevant in this section is Section 15 of the Bill, which amends the National Oil Reserves Agency Act 2007 to change the criteria for projects which can be financed under Ireland's Climate Action Fund. The Climate Action Fund is a pot of money taken from revenues of fossil fuel taxation, which is earmarked for spending on climate action projects, one of four development funds established to support Project Ireland 2040; a total of €500 million is allocated to the fund (established in 2019) up to 2027.

The present legislation requires projects financed under the Climate Action Fund to be focused on the reduction of emissions, the generation of renewable energy, energy efficiency, innovative solutions to climate change, or supporting communities in the transition to a low-carbon economy. The 2021 Bill proposes to expand this to cover projects focused on climate change resilience and on carbon sequestration, particularly through 'nature-based solutions' that also seek to enhance biodiversity.

As with the other provisions of the Bill, this will only have indirect rather than direct effects, as the environmental impacts will be entirely dependent on the individual projects that are funded, and the mitigations put in place around those projects. Nevertheless, we can observe that some carbon sequestration projects (for example, through certain types of reforestation/afforestation or peat bog restoration) are amongst those climate measures with the greatest potential for positive impacts on biodiversity, water, soil, and landscape quality.

5.2.5 Landscape, Culture and Heritage

Climate action can be associated with negative impacts on landscape, culture, and heritage due to various factors. New infrastructure development, such as wind turbines or solar farms, transmission lines or pylons and transport infrastructure, can have a negative effect on sensitive landscapes if inappropriately implemented. This the case onshore and offshore. The Strategic Environmental Impact Assessment of the Offshore Renewable Energy Development Plan found that offshore wind developments could have significant effects on seascapes, particularly in the west of Ireland where many coastal landscapes have high scenic value.

Land use change to forestry or biomass cultivation as part of climate policy could also have a detrimental effect on landscapes, particularly in upland areas or sensitive areas of particular significance such as national parks.

However, some climate measures may have a positive effect on landscape. In some cases, afforestation may improve landscape quality, where forestry schemes create woodland that enhances local ecosystems and provides recreation opportunities. The restoration of peat bogs to more natural conditions may also have a similar impact, as can the retention and maintenance of agricultural landscape features such as hedgerows under agri-environment schemes.

Climate change is likely to have several negative impacts on landscape and seascape, particularly through coastal erosion.

5.3 Consideration of Reasonable Alternative

The 'Reasonable Alternative' considered under this assessment is the maintenance of the targets and processes established in the existing legislation, namely:

- A target of 80% reduction in non-agricultural emissions by 2050 and an approach to carbon neutrality that does not sacrifice food supply in agriculture.
- No carbon budgets.
- The Climate Advisory Council continuing as is.
- Fewer governance and process arrangements around climate action in Ireland.

It should be noted that under this system, climate action in Ireland would still be expected to continue, with effort focused on delivery of the measures in the 2019 Climate Action Plan and other supporting documents. The trends identified in the environmental baseline are likely to continue their current trajectory, influenced by the specific way existing climate action policies are delivered. There would likely be a reduction in greenhouse gas emissions, accompanied by other environmental impacts of a mixed nature.

Under such a scenario, the positive climatic impacts of the measures in the 2021 Bill would likely be weakened, as would all the other impacts, both positive and negative. However, the exact balance of impacts would be dependent on how exactly the target was implemented under either scenario.

Setting more ambitious long-term targets does not on its own lead to direct environmental benefits. The effective implementation of current and future actions and measures are most likely to create environmental impacts. Accelerated effort to deliver decarbonisation measures can lead to positive environmental effects, and more ambitions targets may lead to greater reductions in GHG emissions over the long term. However, it is also possible for adverse environmental effects to be associated with accelerated decarbonisation efforts, such as potential for biodiversity loss, landscape disruption, and impacts on cultural heritage from increased renewable energy infrastructure or potential rebound effects of farming intensification and modernisation.

This consideration of the status quo scenario as an alternative should also consider existing policy and policy developments at EU level. Under the EU 2030 Climate package, the EU has committed to a reduction in emissions of 40% on 1990 levels by 2030. The National Energy and Climate Plan submitted by the Irish government proposed a reduction in emissions from the non-traded sectors (agriculture, transport, waste, buildings, and other emissions outside electricity generation) of 30% on 2005 levels by 2030. However, The European Green Deal has committed to increase the overall EU target to a 55% reduction on 1990 levels by 2030 as well as a target of 'net zero' emissions by 2050 under an EU Climate law. Therefore, even in the absence of domestic legislation, it is quite likely that Ireland would face legal obligations to reduce emissions in a similar fashion to that envisioned under the 2021 Bill. For this reason, whilst the status quo could be maintained, it is

likely that changes would be required into the future to align with the broader new goals of the European bloc. Figure 17 summarises the expected impact of the 2021 Bill in respect of the major impact categories.

Figure 17- Summary Impact of the Climate Action (amendment) Bill on major impact categories

Impact Categories	Indicative Impact of Bill		Rationale
Biodiversity, Flora, Fauna	+	Weak Positive	Positive impacts from carbon sequestration measures (peatland/woodland restoration). Negative impacts mainly due to additional construction and infrastructure development.
Population and Human Health	+++	Strong Positive	Positive impacts from reduced tailpipe emissions, more active lifestyle through increased walking/cycling, and improved residential energy efficiency creating better well-being in the home.
Soils	+	Weak Positive	Co-benefits from carbon sequestration. Potential negatives from inappropriate development or step-up in biofuel production.
Water	—	Neutral	Co-benefits from reducing nitrogen loss from agriculture. Negatives from commercial forestry impacts and offshore renewable development.
Air	++	Positive	Positive impact from fossil fuel substitution in transport and domestic heating. Negative short term impacts from construction and biomass burning.
Climatic Factors	+++	Strong Positive	Positive long term impacts across all sectors as the main focus of the Bill is on reduced GHG emissions.
Cultural Heritage	—	Neutral	No significant impact expected. Inappropriate infrastructure development could affect historic or heritage sites.
Landscape, Seascape and Visual Amenity	+	Weak Positive	Naturalistic afforestation and peatland restoration could improve landscapes. Potential for negative effects from inappropriate development of energy and transport infrastructure.
Material Assets	—	Neutral	Positives from greater energy efficiency and efficient use of existing infrastructure. Also from measures to promote circular economy. However, potential for increase in natural resource production from forestry and increase in domestic energy generation.

6. Mitigation Measures and Enhancement Opportunities

6.1 Overview

6.1.1 An important part of the SEA process as defined under EU law is to identify how any negative effects can be mitigated, as well as opportunities to enhance the environmental benefits. As referred to above, the Act in question has positive environmental impacts as its central goal – specifically, the reduction of Ireland's greenhouse gas emissions. Given the nature of the legislation, its effects will largely be indirect, with direct impacts coming from the plans and programmes delivered in order to fulfil the objectives set by the Act.

6.1.2 It should be noted as well that whilst there may be critiques of the legislation's additional level of climate ambition for example, these are deemed beyond the scope of this assessment. The proposals in the 2021 Bill represent an increase in ambition in the speed and depth of Ireland's GHG emissions reductions, and an overall strengthening

of its commitment to international efforts to combat climate change. The ambition is well aligned with the leading edge of international climate commitments. Also, whilst additional or earlier ambition could be adopted, these are not the defined objectives of the Bill. We do not see the role of the SEA as being to change those underlying objectives that have been developed through channels including the Citizens' Assembly work, the Oireachtas Joint Committee on Climate Action Report in 2019, and the current Programme for Government.

6.1.3 Inasmuch as the Act will have environmental impacts, this will be primarily in terms of the reduced GHG emissions that the targets, governance structures and processes are likely to incentivise. The exact extent of this reduction of emissions, as well as any other impacts, will depend on the individual projects and actions by which these reductions are pursued and their associated performance over time. As noted in section 5, there are a number of potentially adverse environmental impacts that can arise as a result of climate action, when considering the types of measures currently being pursued or under consideration in Ireland. In particular, biodiversity and landscapes can suffer negative impacts from the development of new infrastructure and from land use change to forestry and biomass cultivation. These impacts can also extend to soil (e.g., where wind energy development can destabilise upland peat soils) and water quality (e.g., where forestry acts as a cause of pollution and acidification of watercourses). However, many positive benefits and co-benefits can also be achieved. The transition away from fossil fuel-based transport and domestic heating is likely to have positive effects on air quality and thus human health. Measures to reduce greenhouse gases from agriculture (both methane and nitrous oxide) may have co-benefits for local water quality (reduced eutrophication from nitrate loss), soil (decreased inputs into soil), air quality (reduced ammonia emissions) and biodiversity (general reduction in intensity of agricultural practices). Other carbon sequestration measures may also benefit biodiversity – particularly the restoration of high-nature value woodland and wetland habitats such as peat bogs.

6.1.4 The plans and programmes that are legally mandated by the Act – particularly the annually updated Climate Action Plans and Long-Term Strategies – and the National Energy and Climate Plan, are likely to undergo assessment as appropriate. Moreover, the measures and actions that these plans set out will also likely undergo assessment at the project level, with mitigation and monitoring taking place for implementation. For example, development of new infrastructure and land use change is subject to a number of existing controls including those identified under the subsequent headings. These process should offer the necessary protections.

6.2 Planning Framework

6.2.1 Planning guidelines under the Planning and Development Act 2000 and National Planning Framework, which establish basic processes at the local level for assessing the suitability of the development. This may include processes such as Landscape Character Assessment, consideration of local natural or built heritage

designations, consistency with local development plans, and consultation with appropriate stakeholders. Infrastructure developments over a certain size will be subject to additional processes for 'Strategic Infrastructure Development'. Specific planning guidelines exist for some types of low-carbon development, such as the Wind Energy Development Guidelines published by the Department of Housing, Local Government and Heritage.

6.2.2 In the context of the coastal and marine environment, the Maritime Area Planning Bill is expected to set the framework for good planning practice around offshore wind development, encapsulating all offshore planning including fisheries and aquaculture, and the establishment of marine protected areas.

6.3 Environmental Impact Assessment

6.3.1 The Environmental Impact Assessment Directive (85/337/EEC) requires all projects above a certain threshold to undergo a process of assessment which follows similar steps to SEA but at the project level, assessing impacts and potential mitigations. This Impact Assessment must then be considered by decision makers when giving or refusing planning consent.

6.3.2 Additionally, projects or plans that have a potential impact on species or habitats protected under the Natura 2000 Directives (the Habitats and Birds Directives) must undergo a process of 'appropriate assessment' to identify and offer mitigation for these impacts.

6.4 Specific Licensing Regimes

6.4.1 Specific types of projects may then be subject to other controls. For example, offshore wind energy development will have to obtain a foreshore lease or license, and forestry development or felling operations require licensing by the Department for Agriculture, Food, and the Marine.

7. Monitoring and Governance

7.1.1 The indirect environmental impacts of the Act can be monitored *inter alia* through the various datasets gathered and maintained in Ireland at national or sectoral level in this context. Monitoring of Greenhouse gas emissions currently takes place through the provision of an Annual Transition Statement to the Oireachtas. The Act, in Section 11, amends and strengthens this reporting requirement, obliging the Minster (as well as other Ministers with sector-specific responsibilities) to appear in front of the Joint Oireachtas Committee on Climate Change to report on emissions reductions and progress against the relevant targets. Further official greenhouse gas

monitoring takes place through the reporting requirements to the European Union and the UN Framework Convention on Climate Change.

7.1.2 A substantial number of programmes and processes are in place to monitor the status of key environmental indicators in Ireland. Many of these are referred to above in section 3 when discussing the environmental 'baseline'; they are largely gathered and administered by the Environmental Protection Agency. For example, the EPA collects and publishes annual data on water quality, air quality, and the condition of drinking water supplies. Other data, such as that on biodiversity and the condition of peatlands, is gathered and published by the National Parks and Wildlife Services. These datasets all allow us to form a picture of the state of the environment and its relative condition over time.

7.1.3 In many cases, these datasets and reports are driven by EU-level policy instruments, such as the Habitats and Birds Directives, Water Framework Directive and National Emissions Ceiling Directive, all of which require member states to provide regular data as evidence of progress against the targets in the legislation.

7.1.4 These various forms of monitoring and data-gathering will be important in the context of assessing the impacts of climate action on environmental factors over time. In particular, attention should be paid to the relative role of impacts associated with climate action (such as energy infrastructure development and forestry) as pressures on environmental trends, as well as the role of climate change itself.

7.1.5 It is likely that future plans and programmes subsidiary to the 2021 Bill, with more detailed measures – such as further Climate Action Plan updates and Long-Term Strategies – may require and adopt their own monitoring and governance instruments to manage performance and and mitigate potential negative impacts.

8. Conclusions and Recommendations (SEA Statement)

Reserved for post-consultation.

9. Next Steps

9.1.1 Once the consultation is closed, responses will be considered, and a post-adoption statement will be published. This will reflect the way that the assessment and its recommendations have been amended if deemed appropriate and necessary, based on the responses received. It will also detail any subsequent changes to be made to the Bill itself. The post-adoption statement will be released alongside the final version of the proposals for the Bill.

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Appendix A - Glossary and Definitions

CAP	Climate Action Plan
CBD	Convention on Biological Diversity
DCCAE	Department of Communications, Climate Action and Environment
DECC	Department of Environment, Climate and Communications
EPA	Environmental Protection Agency
ESD	Effort Sharing Decision (EU legal instrument on greenhouse gas emissions reduction)
ESR	Effort Sharing Regulation (Further EU regulation on emissions reduction, strengthening the ESD)
GHG	Greenhouse Gas
NECP	National Energy and Climate Plan (Strategy document required under EU legislation)
NDC	Nationally Determined Contribution (Country commitments under the Paris Agreement)
NMP	National Mitigation Plan
NORA	National Oil Reserves Agency
NPF	National Planning Framework
NTO	National Transition Objective
RESS	Renewable Energy Support Scheme
UNFCCC	United Nations Framework Convention on Climate Change

Appendix B – List of relevant plans, programmes, legislation, and policy

Key Relevant Plans and Programmes - **International**

- The Seventh Environmental Action Programme (EAP) of the European and European Community 2013-2020 (EU, 2013)
- EU Action Plan for the Circular Economy (EU, 2015)
- Transport White Paper (EU, 2011)
- Roadmap to a Resource Efficient Europe
- EU Biodiversity Strategy to 2020 (EU, 2011)
- Horizon 2020 – The EU Framework Programme for Research and
- Innovation
- EUROPE 2020 A strategy for smart, sustainable and inclusive growth (COM/2010/2020)
- European Strategy for Low-Emission Mobility (COM/2016/501)
- EU Common Agricultural Policy
- Global Alliance for Climate Smart Agriculture (GACSA)
- EU Forest Strategy: for Forests and the Forest-Based Sector (2014)
- A Blueprint to Safeguard Europe's Water Resource (COM/2012/673)
- The 1979 Geneva Convention on Long-range Transboundary Air Pollution (LRTAP)

Key Relevant Plans and Programmes - **National**

- National Clean Air Strategy (DECC) (in preparation)
- National Planning Framework (DHPCLG)
- Renewable Electricity Policy and Development Framework (DECC) (in preparation)
- National Policy Framework for Alternative Fuels in Transport (DTTAS, 2017)
- National Bioenergy Plan (DECC) (in preparation)
- Hen Harrier Threat Response Plan (in preparation by NPWS)
- National River Basin Management Plan
- Building on Recovery: Infrastructure and Capital Investment (2016-2021) (DPER, 2015)
- Ireland's Regional Waste Management Plans 2015-2021
- Investing in our Transport Future: A Strategic Framework for Investment in Land Transport (DTTAS, 2015)
- Rail Review 2016 (National Transport Authority, 2016)

- A National Aviation Policy for Ireland (DTTAS, 2015)
- National Ports Policy (DTTAS, 2013)
- All Ireland Pollinator Plan 2015-2020
- Forestry Programme 2014-2020 (DAFM, 2015)
- Afforestation Grant and Premium Scheme (DAFM, 2015)
- Ireland – Rural Development Programme 2014-2020 (DAFM, 2015)
- Food Wise 2025 (DAFM)
- National Landscape Strategy for Ireland 2015-2025 (DAHG, 2015)
- Forest Policy Review: Forests, products and people – Ireland's forest policy – a renewed vision (DAFM 2014)
- Ireland's Nitrates Action Programme (DAFM, 2014)
- Review of Raised Bog Natural Heritage Area Network (NPWS, 2014)
- National Hazardous Waste Management Plan 2014-2020 (EPA, 2014)
- National Raised Bog SAC Management Plan (Draft) (DAHG, 2014)
- National Peatland Strategy (DAHG, 2015)
- Offshore Renewable Energy Development Plan (DCENR 2014)
- Delivering Resource Efficiency: Northern Ireland Waste Management Strategy, (DoE, 2013)
- Our Sustainable Future: A Framework for Sustainable Development for Ireland (DECLG, 2012)
- Strategy for Renewable Energy: 2012-2020 (DCENR)
- Part L (Conservation of Fuel and Energy) of the Building Regulations 1997
- Towards Nearly Zero Energy Buildings in Ireland – Planning for 2020 and beyond
- National Waste Prevention Programme 'Towards a Resource Efficient Ireland' (EPA, 2014)
- A Resource Opportunity: Waste Management Policy in Ireland (DECLG, 2012)
- Actions for Biodiversity 2011-2016, Ireland's National Biodiversity Plan (DAHG, 2011)
- Grid25 Implementation Programme 2011-2016 (EirGrid, 2012)
- National Renewable Energy Action Plan (NREAP) (DCENR, 2010)
- Biofuel Obligation Scheme (2010)
- Bioenergy Roadmap (SEAI, 2010)
- Smarter Travel 'A New Transport Policy for Ireland' 2009-2020 (DTTAS)
- The Planning System and Flood Risk Management Guidelines for Planning Authorities (OPW, 2009)
- Delivering a Sustainable Energy Future for Ireland (Energy White Paper)
- The Energy Policy Framework 2007–2020 (DCENR)
- Medium Term Exchequer Framework 2012-2016 (supersedes the National Development Plan 2007-2013)
- Green, Low Carbon, Agri-environment Scheme (GLAS)
- The National Strategy on Biodegradable Waste (DEHLG, 2006)

- Waste Management – Taking Stock and Moving Forward (2004)
- Towards a Sustainable Energy Future for Ireland (SEAI)
- Preventing and Recycling Waste – Delivering Change (2002)
- National Heritage Plan (DAHG, 2002)
- National Spatial Strategy 2002-2020 (DECLG, 2002)
- Framework and Principles for the Protection of Archaeological Heritage (1999)
- Waste Management – Changing our Ways (1998)
- National Energy Efficiency Action Plans 1, 2 and 3 (NEEAP)
- Renewable Energy Feed-In Tariff (REFIT) Schemes 1, 2 and 3
- Ireland's Transition to a Low Carbon Energy Future 2015-2030 (White Paper)
- Public Sector Energy Efficiency Strategy (DCCAE January 2017)
- Better Buildings – A National Renovation Strategy for Ireland (DCENR 2014)

Key Relevant Plans and Programmes - **National**

- Catchment Flood Risk Assessment and Management Plans (CFRAMs) (in preparation)
- Regional Spatial and Economic Strategies (Regional Assembly) (in preparation)
- Freshwater Pearl Mussel Catchment Management Plans for Forestry (in preparation)
- Transport Strategy for the Greater Dublin Area 2016 – 2035 (NTA)
- Integrated Implementation Plan 2017-2022 for the Greater Dublin Area (NTA, in preparation)

Key Relevant Policy and Legislation - **International**

- 2020 Climate and Energy Package
- 2009 Effort Sharing Decision (406/2009/EU)
- 2030 Climate and Energy Framework
- Roadmap for a low carbon economy by 2050
- The Gothenburg Protocol (1999)
- Stockholm Convention (2004)
- World Health Organisation (WHO) Air Quality Guidelines (1999) and Guidelines for Europe (1987)
- Convention for the Protection of the Archaeological Heritage of Europe (revised) (Valletta, 1992)
- UN Convention on Biological Diversity (1992)
- Bern Convention (Convention on European Wildlife and Natural Habitats) 1982 RAMSAR Convention (1971)

- World Heritage Convention United Nations Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972)
- Medium Combustion Plant Directive (MCPD) Directive (EU) 2015/2193
- EIA Directives 85/337/EEC (as amended by 97/11/EC and 2014/52/EU)
- Priority Substances Directive (2013/39/EU)
- Clean Air Package (EU 2013)
- Energy Efficiency Directive (EED) (2012/7/EU)
- Indirect Land Use Change Directive (2015/1315)
- Seveso III Directive (2012/18/EU)
- Use and Disposal of Animal By-Products (2011/EU/142)
- Industrial Emissions Directive (2010/75/EU)
- Birds Directive (2009/147/EC)-codified version of (79/409/EEC)
- Energy Performance of Buildings Directive (2002/91/EC) and updated Directive (2010/31/EU)
- Fuel Quality Directive (2009/30/EC)
- Clean Vehicles Directive (2009/33/EC)
- Car Labelling Directive (1999/94/EC)
- CO_2 Regulation for New Cars (333/2014)
- CO_2 Regulation for New Light Commercial Vehicles (253/2014)
- Renewable Energy Directive (2009/28/EC)
- Eco-design Framework Directive (2009/125/EC)
- Waste Framework Directive (2008/98/EC)
- Marine Strategy Framework Directive (2008/56/EC)
- Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC)
- Floods Directive (2007/60/EC)
- Freshwater Fish Directive (2006/44/EC)
- Groundwater Directive (2006/118/EC)
- Dangerous Substances Directive (2006/11/EC)
- Environmental Liability Directive (2004/35/EC)
- Biofuels Directive (2003/30/EC)
- Environmental Noise Directive (END) (2002/49/EC)
- Health Rules Regarding Animal By-Products Not Intended for Human Consumption Directive (2002/1774/EC)
- Waste Statistics Regulation (2150/2002/EC as amended)

- National Emissions Ceiling Directive (NECD) (2001/81/EC) and the new NECD published December 2016 – Directive 2016/2284/EU
- Water Framework Directive (2000/60/EC)
- European Landscape Convention (2000)
- Landfill Directive (99/31/EC)
- Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC)
- Urban Wastewater Treatment Directive (91/271/EEC), as amended by Directive (98/15/EEC)
- Habitats Directive (92/43/EEC)
- Sewage Sludge Directive (86/278/EEC)
- Nitrates Directive (91/676/EEC)

Key policies and legislation - **National**

- National Parks and Wildlife Conservation Plans for SACs and SPAs
- Flora Protection Order 2015
- The Environment (Miscellaneous Provisions Act 2015 (No. 29 of 2015))
- European Union (Household Food Waste & Bio-Waste) Regulations 2015 (S.I.430 of 2015)
- Waste Management (Food Waste) Amendment Regulations 2015 (S.I. 190 of 2015)
- Waste Management (Landfill Levy) Regulations 2015 (S.I. 189 of 2015)
- Drinking Water Regulations (S.I. 122/2014)
- Energy Efficiency Regulations (S.I. No. 426/2014)
- S.I. No. 634/2016 – European Union (Energy Efficiency Obligation Scheme) (Amendment) Regulations 2016
- European Union (Energy Efficiency) (Amendment) Regulations 2016 (S.I. No. 646 of 2016)
- European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2014 (S.I. No. 31 of 2014)
- European Union (Renewable Energy) Regulations 2014 (S.I. No. 483/2014)
- Water Policy Regulations (S.I. 350/2014)
- Industrial Emissions Regulations (S.I. 138/2013)
- European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011)
- Renewable Energy Regulations (S.I. 483/2014)
- European Communities (Environmental Assessment of Certain Plans and Programmes Regulations 2004, (S.I. 435 of 2004) as amended by S.I. 200 of 2011
- European Communities (Waste Directive) (No. 2) Regulations 2011 (S.I. 323 of 2011)
- European Communities (Waste Directive) Regulations 2011 (S.I. 126 of 2011)

- Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011)
- National Oil Reserves Agency Act 2007 (Returns and Biofuel Levy) Regulations 2010
- Persistent Organic Pollutant Regulations 2010 (S.I. 235/2010)
- Assessment and Management of Flood Risks Regulations (S.I. 122/2010)
- European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. 9 of 2010)
- European Communities Environmental. Objectives (Surface Water) Regulations 2009 (S.I. 272 of 2009)
- European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009 (S.I. 296 of 2009)
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- Environmental Liability Regulations (S.I. 547/2008)
- Planning and Development (Strategic Infrastructure) Act 2006
- European Communities (Natural Habitats) Regulations, S.I. 94/1997, as amended by S.I. 233/1998 and S.I. 378/2005
- National Monuments Acts (1930 to 2004) (S.I. No. 2 of 1930 & No. 22 of 2004)
- European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003) and Water Policy Regulations 2014 (S.I. 350/2014)
- Protection of the Environment Act (2003)
- Waste Management (Use of Sewage Sludge in Agriculture) (Amendment)
- Regulations 2001 (S.I. No. 267 of 2001)
- The Wildlife Acts 1976-2012 (as amended)
- Planning and Development Act 2000 (as amended)
- Waste Management Act 1996-2011 (as amended)
- Environmental Protection Agency Act 1992
- Environmental Impact Assessment Regulations (S.I. 349/1989) (as amended)
- Arterial Drainage Acts 1945-1995
- Forestry Act 2014
- Forestry Environmental Requirements (2017)
- Quality of Salmonid Waters Regulations 1988 (S.I. 293 of 1988)
- Quality of Bathing Waters Regulations 1988 (S.I. 84 of 1988) as amended
- Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations 1998 (S.I. 258 of 1998

Appendix C Scoping Report

S.E.A

SCOPING

Scoping Strategic Environmental Assessment

Climate Action and Low Carbon Development (Amendment) Bill 2021

April 2021

Version 1.05

EnvEcon
Decision Support

Table of Contents

1. Introduction 3

2. SEA Scope Requirements 4

3. The Climate Action and Low Carbon Development (Amendment) Bill 2021 6

4. Impact of the Climate Action and Low Carbon Development (Amendment) Bill 2021 12

5. Range and Boundaries of the SEA 14

Scope of SEA Topics Considered 14

Biodiversity, Flora and Fauna 15

Air 16

Population and Human Health 16

Soil 17

Water 17

Climatic Factors 18

Cultural heritage and the historic environment 18

Material Assets 19

Landscape, seascape and visual amenity 19

Temporal Scope of SEA 20

Geographical Scope of SEA and Transboundary Consultation 20

6. Methodology 21

7. Next Steps in the SEA Process 23

8. Feedback on Draft SEA Scoping Report 24

9. Appendix A – Relevant Plans and Programs 28

10. Appendix B – Draft Table of Contents for SEA 31

11. Appendix C – Baseline Data Sources and Assessments 34

Disclaimer

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Reference

EnvEcon, (2021), SEA Scope – Climate Action and Low Carbon Development (Amendment) Bill 2021, April 23rd, 2021, Dublin: EnvEcon

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1. Introduction

1.1. The Climate Action and Low Carbon Development (Amendment) Bill 2021 would introduce several changes to the current Climate Action and Low Carbon Development Act 2015. Broadly, the Bill seeks to provide for an enhanced statutory framework to enable more effective governance of Ireland's efforts to pursue long-term climate action goals. In this context it has been determined that a Strategic Environmental Assessment report should be prepared in parallel with the development of the Bill.

1.2. The Strategic Environmental Assessment (SEA) process is a requirement of the SEA Directive 2001/42/EC where a plan or programme – and in this case a bill – are anticipated to have significant effects on the environment. Details for SEA can be sourced from the European Commission[1] and from the Irish Environmental Protection Agency[2] (EPA).

1.3. Core elements of the SEA process include the following:

1.3.1. **Screening** - Determining if there is a requirement to conduct an SEA.
1.3.2. **Scoping** - Defining the environmental issues, method and focus of the SEA.
1.3.3. **Reporting** - Preparing a draft SEA Environmental Report.
1.3.4. **Consulting** - Engagement and consultation on the draft.
1.3.5. **Integration** - Consideration and incorporation of input. Creation of SEA statement.
1.3.6. **Publication** - Formal release of the SEA and decision into the public domain.

1.4. The screening process for the SEA has been concluded. Following consultation with the Attorney General's office in September 2020 the Department of the Environment, Climate and Communications (DECC) proposed to carry out an SEA on the Climate Action and Low Carbon Development (Amendment) Bill 2021[3]. The Attorney General's office noted that on the basis of current case-law, the Climate Action and Low Carbon Development (Amendment) Bill 2021 would constitute a plan or programme setting the framework for development consent, within the

[1] https://ec.europa.eu/environment/eia/sea-legalcontext.htm
[2] https://www.epa.ie/monitoringassessment/assessment/sea/
[3] We note that the Bill was initially a 2020 version, but now refer to the Bill throughout with the current year of 2021.

meaning of the SEA Directive. As such it was agreed that the formal SEA process would be undertaken. This document relates to the Scoping stage of that process.

1.5. The overarching objective of the SEA process is defined within Article 1 of the SEA Directive 2001/42/EC as being "*to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations in the preparation and adoption of plans and programmes with a view to promoting sustainable development*". It is noted that the Climate Action and Low Carbon Development (Amendment) Bill 2021 is focused on delivering positive environmental outcomes.

2. SEA Scope Requirements

2.1. The scope of the SEA is to be determined between the competent authority (DECC) and the defined environmental and statutory authorities. Details on the process are defined in Statutory Instrument 435/2004 – European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004[4] and the corresponding 2011 update[5]

2.2. The statutory authorities defined in Statutory Instrument 435/2004 in section 9 (5) are:

- The Environmental Protection Agency

2.3. Where expected to have significant effects in relation to relevant architectural or archaeological heritage or to nature conservation, or significant effects on fisheries or the marine environment, additional statutory authorities are to be conducted. However, on the basis that the Bill seeks to provide for an **enhanced statutory framework to enable more effective governance** of Ireland's efforts to pursue long-term climate action goals (see Introduction and sections 2.7 and 2.8), it is determined that this extension, to the entities noted below, is not required.

- The Department of Housing, Planning and Local Government (DHPLG)
- The Department of Culture, Heritage and the Gaeltacht (DCHG)

[4] http://www.irishstatutebook.ie/eli/2004/si/435/made/en/print#article11
[5] http://www.irishstatutebook.ie/eli/2011/si/200/made/en/print

- The Department Agriculture, Food and the Marine (DAFM)[6]

2.4. The scoping report is required to provide information for consideration in respect of the requisite content of the SEA. This includes defining the various sections, and describing the data, methods and processes that will be utilised. It is obligatory to conduct the scoping stage of an SEA such that the content and boundaries for the SEA are agreed prior to commencement of the SEA report.

2.5. A draft table of contents for the SEA on the Climate Action and Low Carbon Development (Amendment) Bill 2021 is included in Appendix B. This scoping report also defines the range and boundaries for the SEA. This is discussed in Section 5 and in effect represents the initial proposal and understanding for the proposed SEA.

2.6. The methodology for the SEA appraisal is summarised in Section 6 and mirrors the approach taken by the closest contemporary international precedent for an SEA in relation to a climate Bill.

2.7. The SEA on the Climate Action and Low Carbon Development (Amendment) Bill 2021 is different to an SEA on a national plan or strategy that comes with explicit actions. This is because specific actions (e.g. defined infrastructure investments or area development plans) have more clearly defined pathways by which they may impact on environmental outcomes. This affords the analysts the potential, in most cases, to quantitatively and qualitatively assess the individual components of the strategy or plan, and to ascertain the expected corresponding impacts on the environmental outcomes covered by the SEA process. In turn this allows for the redesign of elements to mitigate or avoid undesirable outcomes.

2.8. In the case of the planned SEA, the changes proposed in the Climate Action and Low Carbon Development (Amendment) Bill 2021, are focused on the establishment of an enhanced framework for managing national activities on Climate Action. These changes are defined in Section 3 of this scoping report and will be similarly conveyed in the full SEA. However, in broad terms the Climate Action and Low Carbon Development (Amendment) Bill 2021 intends to strengthen and add to the existing 2015 Climate Act so that it is better equipped to deliver on Ireland's Climate ambitions as well as fulfil its EU and international climate obligations into the future.

[6] Included as part of the 2011 update.

2.9. The Bill also establishes a more ambitious long-term target – specifically a climate neutral economy by no later than 2050 – and sets this target in law. Given the nature and level of detail in the Bill, the assessment must be more qualitative and directional in nature. This specific approach to conducting an SEA on a climate related Bill has recent international precedent[7], that has been carefully considered in proposing a credible approach in this SEA scoping report for the subsequent SEA on the Climate Action and Low Carbon Development (Amendment) Bill 2021.

3. The Climate Action and Low Carbon Development (Amendment) Bill 2021

3.1. The Climate Action Plan of 2019 defined several new provisions to be included within an amended Climate Action Bill. These have been summarised by the Climate Governance, Planning and Coordination Division of DECC as follows:

- Establishing a 2050 emissions reduction target in law;
- Making the adoption of carbon budgets a legal requirement;
- Requiring the Government to set a decarbonisation target range for each sector, with the Minister with primary responsibility for the sector being accountable for delivering the relevant actions to meet the sectoral target;
- Establishing the Climate Action Council as a successor organisation to the Climate Change Advisory Council;
- Establishing that the Climate Action Plan shall be updated annually;
- Establishing that a Long-Term Climate Strategy, to match the period covered by three five-year carbon budgets, shall be published – the first Strategy would be published for the period 2021 to 2035, and will also include a longer-term perspective to 2050; it is intended that the Long-Term Strategy will be a statutory successor to the National Mitigation Plan; and
- Ensuring that the proposed governance arrangements retain sufficient flexibility to allow necessary reorientation of policy in light of changing technologies, circumstances, challenges, and opportunities over the period to 2030 and beyond.

[7] See for example the SEA on the Climate Change (Emissions Reduction Targets) (Scotland) Bill, that was finalised into an Act of the same name in 2019 - https://www.legislation.gov.uk/asp/2019/15/contents/enacted

3.2. The Climate Action and Low Carbon Development (Amendment) Bill 2021, therefore, alters the existing Climate Action and Low Carbon Development Act 2015, in line with the provisions made in the Climate Action Plan of 2019. The approach taken in regard to these amendments has been to blend the new provisions into the existing 2015 Act in so far as possible, but also providing for new sections of the Bill where necessary. Overall, the intention for the Climate Action and Low Carbon Development (Amendment) Bill 2021 is to provide a strengthened statutory framework for effective governance of national climate action.

3.3. The amendments in the Climate Action and Low Carbon Development (Amendment) Bill 2021 have been informed by the Report of the Citizens' Assembly on How the State Can Make Ireland a Leader in Tackling Climate Change; the Oireachtas Joint Committee on Climate Action Report 2019; the provisions set out in the 2019 Climate Action Plan; the 2020 Programme for Government and the Joint Committee on Climate Action Pre-Legislative Scrutiny report published in December 2020.

3.4. The key elements of the new framework, include:

- Establishing a commitment for a climate neutral economy by no later than 2050 in law;
- Introducing a legal requirement for Government to adopt a series of three successive, five-year economy-wide carbon budgets and sectoral emission ceilings for each relevant sector, that will require Government, Ministers and public bodies to plan in an effective manner to meet climate targets;
- Expanding the Climate Change Advisory Council from eleven to fourteen members, and providing that future appointments to the Council provide for a greater range of relevant expertise;
- Strengthening the role of the Climate Change Advisory Council, enabling it to propose appropriate carbon budgets to the Minister;
- Providing that the first two five-year carbon budgets proposed by the Climate Change Advisory Council should equate to a total reduction of 51% over the period to 2030, relative to a baseline of 2018;
- Replacing the former process of developing a series of successive National Mitigation Plans by introducing a requirement to conduct and adopt an annual revision of the Climate Action Plan, and prepare a National Long Term Climate Action Strategy at least once every five years;

- Improving accountability arrangements with a greater role for the Oireachtas – Ministers will have to account for their performance towards sectoral targets and actions before an Oireachtas Committee each year;
- Providing that the Minister request, within 18 months of the enactment of the Bill, each Local Authority to prepare a Climate Action Plan to include both mitigation and adaptation measures, and that these plans must be updated not less than once every five years. Local Authority Development Plans must be aligned with their Climate Action Plan; and
- Public Bodies will be obliged to take account of Climate Action Plans in the performance of their functions.

3.5. The Climate Governance, Planning and Coordination Division of DECC have summarised the key changes across the text of the Bill. The summaries in respect of key sections of the text of the Bill (23rd March 2021 release) are presented below.

3.6. Limitation of Liability (Section 4)

Section 4 inserts a new section 2A which provides that there will be no entitlement to remedy or relief by way of damages or compensation for any failure to comply with the Act or any breaches of obligation thereunder.

3.7. National Climate Objective (Section 5):

This section replaces section 3 of the 2015 Act. It revises the previous national transition objective (NTO) and the related 2014 national policy position with a clear long-term climate objective of climate neutrality by no later than the end of the year 2050. The new 'national climate objective' introduces a 'climate neutral economy' commitment into law aimed at balancing emissions and removals within the State by no later than the end of the year 2050 and in subsequent years. The national climate objective aligns with the legislative proposal for a European Climate Law to achieve net-zero greenhouse gas emissions in the EU by 2050. This section also identifies specific mechanisms, plans and strategies that will be used by Government to deliver the national climate objective. These are:

- Carbon Budgets.
- Sectoral emission ceilings.
- Annual revisions to the Climate Action Plan.

- National Long-Term Climate Action Strategies.
- National Adaptation Frameworks.

3.8. Climate Action Plan and National Long Term Climate Action Strategy (Section 6):

This section replaces section 4 of the 2015 Act. It provides for the replacement of the former National Mitigation Plan through the preparation of (i) an annual revision to the Climate Action Plan commencing in 2021; and (ii) a National Long-Term Climate Action Strategy, prepared every 5 years

The Climate Action Plan, updated annually, will focus on the near- and medium-term perspectives, and will provide a roadmap of actions, including sectoral actions, that are needed to comply with the adopted series of three, consecutive, five-year carbon budgets. The roadmap will include specific actions that in the Minister's opinion are required for the next 5 years; it will set out an overview of policies and to the extent feasible, measures (in the Minister's opinion) required over the following 5 year period; and it will outline potential policies that may be required for a further 5 year period. The National Long-Term Climate Action Strategy will outline the range of opportunities and indicative pathways towards achieving the national climate objective and will have a perspective of at least 30 years.

3.9. Sectoral Adaptation Plan (Section 8):

This section provides that more than one Minister will be able to develop and submit to Government a joint Sectoral Adaptation Plan.

3.10. Carbon Budgets (Section 9):

This section outlines in four proposed new sections of the Act, sections 6A to 6D, the framework for how the system of 5-year economy wide carbon budgets will be proposed, approved and adopted. They also detail the respective roles of the Advisory Council; the Minister for Climate Action; Government and the Houses of the Oireachtas at each stage in the process including opportunities for consultation with Ministers. The first three carbon budgets will cover the period 2021-2035. The development and adoption of carbon budgets should take place over a period of four to six months.

The section also outlines how after a set of carbon budgets has been adopted, a set of sectoral emission ceilings will be developed by the Minister in consultation with other relevant Ministers and then approved by Government.

The section also sets out a limited range of circumstances where adopted carbon budgets can be revised. It also provides that where a carbon budget is exceeded, the excess emissions are carried forward to the next budget period. Where greenhouse gas emissions are less than the carbon budget, the Minister may seek to carry forward any overachievement to the next budget period.

3.11. Climate Change Advisory Council (Sections 10to 13):

Under Section 10 which amends section 9 of the 2015 Act, the Council membership has been increased to up to 13 ordinary members, and the ex officio membership has also been revised. In addition, it expands the range of expertise its members can draw upon and there is provision to ensure an equitable gender balance in the Council members when appointed. New areas of expertise the Council will be able to draw upon will include climate science; biodiversity and eco-system services; policy expertise in key emitting sectors (transport; agriculture; energy) and expertise in areas aimed at promoting climate awareness, such as behavioural and communication science and socio-political or ethical expertise in relation to climate.

Section 11 of the Bill broadens the Council's core advisory functions to include providing advice and recommendations to the Minister and Government on the preparation of new policy instruments set out in the Bill – annual revisions to the Climate Action Plan, the development of National Long Term Climate Action Strategies and to propose carbon budgets to the Minister before the Minister recommends carbon budgets to Government and the Houses of the Oireachtas for consideration. In addition, the Council will also provide advice to the Minister where a motion on the Government's proposed carbon budgets is rejected by either House of the Oireachtas, or later if adopted carbon budgets are being revised.

Sections 12 and 13 of the Bill provide that annual and periodic reviews and reports on progress on climate policy, and the achievement of the national climate objective can include new policy instruments set out in the Bill, in addition to compliance with the carbon budget and each sectoral emission ceiling for the period.

3.12. Climate Reporting (Section 14):

This section of the Bill provides for enhanced ministerial accountability to the Oireachtas and replaces the existing Annual Transition Statement process. Relevant Ministers (including M/ECC) will have to account annually to an Oireachtas Committee about how their sectors have performed in pursuing the national climate objective by complying with carbon budgets and sectoral emission ceilings and proposed measures to address failures. The Minister will also have to account for how the Government has pursued the national climate objective.

3.13. Role of Local Authority (Section 15):

This section sets out a new requirement for Local Authorities to prepare climate action plans for their respective administrative areas. Within 18 months of the enactment of the Bill, the Minister will request each Local Authority to prepare within a 12-month period a Local Authority Climate Action Plan, covering both mitigation and adaptation actions. Each plan will take effect for a period of 5 years from the date of approval. The plans will have to be consistent with national plans / strategies and the plans of neighbouring local authorities. Plans will be published no later than 30 days after approval and can be revised at any time. The section also sets out how the plans will be developed and adopted by local authorities.

3.14. Duty of Certain Bodies (Section 16):

- This section amends the requirement on public bodies to take account of Climate Action Plans in the performance of their functions.

3.15. Amendment of the Planning and Development Act 2000

This section amends section 10(2) of the Planning and Development Act 2000 to include consideration of the local authority climate action plan, as outlined in section 14B of the Climate Action and Low Carbon Development Act 2015. Local authorities must include in the making of a Development Plan, relevant climate action plans for the area in question.

3.16. Amendment of the National Oil Reserves Agency Act 2007 (Section 19):

This section amends the National Oil Reserves Agency Act 2007. The amendment broadens the type of projects that the Climate Action Fund can support using funds it receives from the National Oil Reserves Agency. These new projects relate to increasing climate resilience; nature based projects that enhance biodiversity while supporting climate mitigation or increasing climate resilience; and innovative solutions or research in relation to climate resilience, climate mitigation or nature based solutions that enhance biodiversity while supporting climate mitigation or increasing climate resilience.

4. Impact of the Climate Action and Low Carbon Development (Amendment) Bill 2021

4.1. The Climate Action and Low Carbon Development (Amendment) Bill 2021, and the specific components detailed in Section 3, are likely to have a substantial and lasting effect on environmental outcomes in Ireland. The Bill sets in law a national climate objective, which commits 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. Thus, it advances beyond the prior ambition of an 80% reduction in CO_2 from 1990 emission levels by 2050.

4.2. The Climate Action and Low Carbon Development (Amendment) Bill 2021 sets a legal requirement for the new and more ambitious goal for a climate neutral economy by no later than the end of the year 2050, and on this basis alone, it is clear that the Climate Action and Low Carbon Development (Amendment) Bill 2021 has the intention of delivering a significant and positive impact on environmental outcomes in Ireland.

4.3. The Climate Action and Low Carbon Development (Amendment) Bill 2021 will support progress on this increased ambition by *inter alia* establishing requirements for carbon budgets and targets at a sectoral level. The Bill specifies that the first two carbon budgets proposed by the Climate Change Advisory Council, 2021 to 2025 and 2026 to 2030, will provide for a reduction of 51% reduction in the total amount of greenhouse gas emissions over the course of the first two budget periods ending on December 31st 2030, from the annual greenhouse gas emissions reported for the year ending on 31 December 2018, as set out in the national greenhouse gas emissions inventory

prepared by the Agency. These mechanisms should serve to stimulate early and sustained action across all sectors of the economy in regard to delivering the overall national objective by 2050.

4.4. The Climate Action and Low Carbon Development (Amendment) Bill 2021 will also facilitate climate action by broadening the scope of projects that may be supported by the Climate Action Fund. Thereby enabling a broader range of national initiatives and actions to be supported in pursuit of the overall national goal.

4.5. The major expected impact of the Climate Action and Low Carbon Development (Amendment) Bill 2021 will, therefore, be to reduce national GHG emissions. The specific measures and actions are not defined within the Climate Action and Low Carbon Development (Amendment) Bill 2021 but will rather be delivered through the implementation of related plans and strategies nationally. These are primarily the annually revised Climate Action Plan and the National Long-Term Climate Action Strategy, as well as connected and associated strategies and plans such as the National Energy and Climate Plan, the National Development Plan and National Planning Framework. Whilst these secondary or indirect impacts can be considered in broad terms, those other strategies, plans and their specific actions, must be guided and managed through existing structures, Directives and governance mechanisms which exist to manage environmental impacts in relation to specific actions.

4.6. The range and boundaries of the proposed SEA, in light of these practical constraints and relevant international precedent, are discussed in Section 5.

5. Range and Boundaries of the SEA

5.1. This section proposes the scope of SEA topics to be considered, along with the temporal and geographic boundaries for the SEA of the Climate Action and Low Carbon Development (Amendment) Bill 2021. On a broad level the Bill is expected to deliver positive outcomes through the increased ambition (Section 3) and the various supporting structures established or enhanced with the other amendments detailed in Section 3.

5.2. The baseline data sources for considering each category and the initially identified assessments that will be considered in regard to ascertaining the indirect effect of stronger climate action supported by the Climate Action and Low Carbon Development (Amendment) Bill 2021, are included in Appendix C.

Scope of SEA Topics Considered

5.3. There are nine categories of impact that are recommended for consideration. In each case the effects may include direct, secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative effects.

5.4. The Climate Action and Low Carbon Development (Amendment) Bill 2021 lacks the specificity to undertake quantitative effect analysis. This is not a failing, but rather the nature of a Bill amendment that is focused on raising the level of ambition and establishing or enhancing supporting structures for climate action.

5.5. The ultimate objectives of the Climate Action and Low Carbon Development (Amendment) Bill 2021 will primarily be given effect to by the key provisions set out in the Bill, as detailed in section 3.4.

5.6. The level of ambition, number of commitments and rate of uptake for new policies, behaviours and technologies, necessarily changes positively between the National Mitigation Plan and the Climate Action Plan. Similarly, there are important changes in governance, research and analysis introduced.

However, in national climate policy to date, the substantive elements that underpin emission reductions across all of the sectors in the Irish economy remain largely the same.

5.7. There are insights from other relevant national SEAs that have been completed, such as the SEAs for the National Planning Framework, National Mitigation Plan, Offshore Renewable Energy Development Plan, and 2014-20 Forestry Programme. The core measures referenced in these documents - as relevant to climate action - remain very similar.

5.8. In the individual topic boxes below, a consideration of the plausible scope for the SEA on the recommended impact topics is presented. The approach aligns closely with the prior referenced international precedent in this context, where similarly, the lack of specificity in the relevant Bill constrained the potential methods and quantitative detail for an SEA in this context.

5.9. In broad terms each category item will be reviewed in terms of the expected environmental outcome for that category, which could reasonably be expected given the major climate actions that will be necessary as part of the overall climate neutral economy objective. This work will draw on existing national data, SEAs and higher-level policy impact assessments and literature in considering the direction and scale of environmental outcomes. Considerations will also be flagged in respect of areas of concern that may be noted and tackled as part of the policy/measure specific plans and programs.

Biodiversity, Flora and Fauna

Biodiversity, Flora and Fauna	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments and controls. Broad impacts of major climate actions on this category will be recognised as part of the SEA process by drawing on existing reports and research.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related Climate Action plans and the corresponding effect of the*

	major measures on this category of environmental outcome.

Air

Air	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 will be expected to have mostly positive synergistic impacts on national air pollutant emissions and associated ambient air quality. The increased level of ambition for 2050 can be considered qualitatively with regard to potential impacts on air outcomes, as well as recognition of potential areas for concern and consideration in respect of climate focused policy action.
SEA Approach	*A summary recognition of the directional and potential significance of impacts from the increased climate ambition on air outcomes, and the associated considerations and recommendations will be included in the SEA.*

Population and Human Health

Population and Human Health	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	Once again, the Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Supporting actions in other national plans and strategies can of course have impacts in this category and these are again subject to their own set of assessments. However, impacts on human health as derived from the air impact consideration will be recognised as an additional element as part of the summary recognition.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available, along with recognition of the qualitative assessment of air outcomes.*

Soil

Soil	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments. In this case other SEA assessments and climate action research will be considered to describe the potential environmental impacts on this SEA category. The relevance of agricultural measures and LULUCF actions will be the focus.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available.*

Water

Water	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this SEA category as a direct result of the Bill cannot be credibly determined. The Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts on water, and these are subject to their own set of assessments. As such the category will be considered through assessment of prior climate action assessments in regard to water outcomes. Examples of impacts on water from climate actions could include aspects related to pollution or flood risk.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available. The connection to climatic factors can be recognised.*

Climatic Factors

Climatic Factors	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Qualitative Assessment	The Climate Action and Low Carbon Development (Amendment) Bill 2021 introduces a direct and legally binding step-up in ambition for climate action, in the form of a climate neutral economy by 2050. Whilst specific measures are not identified, a broad consideration of the impact of this shift in ambition on climatic factors is recommended for the SEA. Whilst climatic change is most strongly influenced by global actions and outcomes, this qualitative assessment will recognise the areas where the increased ambition of the Climate Action and Low Carbon Development (Amendment) Bill 2021 can make a positive contribution, and the corresponding outcomes that arise from broader international action and progress on global climate change objectives.
SEA Approach	*An expanded recognition of the directional and potential significance of impacts of climatic factors on the other SEA categories will be included. Given the focus of the Bill is climate action, this section of the SEA will recognise how enhanced climate action can contribute, as part of broader international efforts, to delivering mitigated climatic effects.*

Cultural heritage and the historic environment

Cultural heritage and the historic environment	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments. Examples of impacts could include shifts in development plans or forestry affecting the cultural or historic environment e.g. old buildings, archaeological sites.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available.*

Material Assets

Material Assets	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments. Examples of indirectly supported climate actions relevant to material assets could include changes in travel infrastructure and use of natural resources for energy.
SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions will be included where available. Note that material assets as an SEA impact category have been interpreted differently in various cases. The Directive does not offer a definition; however, we will interpret it as natural resources, built environment and infrastructure.*

Landscape, seascape and visual amenity

Landscape, seascape and visual amenity	
Proposal on Scope	**Potential Significant Environmental Impacts for SEA Process**
Summary Recognition	The Climate Action and Low Carbon Development (Amendment) Bill 2021 does not prescribe specific measures and as such impacts in this category as a direct result of the Bill cannot be credibly determined. Whilst the Climate Action and Low Carbon Development (Amendment) Bill 2021 will support actions in other national plans and strategies that can have impacts in this category, these are subject to their own set of assessments. Nonetheless, this category can be considered in relation to changes in regard to certain aspects that will certainly be a feature of a climate neutral economy, for example, new energy infrastructure, wind and solar farms, changes in forestry and land-use. Whilst the specific actions are not defined in the Climate Action and Low Carbon Development (Amendment) Bill 2021, recognition will be given to prior consideration of relevant climate actions on this SEA category.

SEA Approach	*A summary recognition of the directional and potential significance of impacts based on prior assessments of related plans that offer detailed actions and impacts for this category will be included where available.*

Temporal Scope of SEA

5.10. The Climate Action and Low Carbon Development (Amendment) Bill 2021 is focused on a long-term vision to 2050 and beyond. As such the temporal scope on which the SEA is considered will extend to that same time horizon. However, it must be remembered that the Climate Action and Low Carbon Development (Amendment) Bill 2021 is a supporting framework, that enhances the existing act, and formalises and advances the level of national ambition. Thus, appraisal on a temporal scale is limited to consideration of the appropriateness of the defined ambition on that time horizon.

Geographical Scope of SEA and Transboundary Consultation

5.11. The geographical scope of the SEA on the Climate Action and Low Carbon Development (Amendment) Bill 2021 is national as the Bill will support actions with far reaching effects across all sectors of the Irish economy.

5.12. There are no significant effects perceived in regard to neighbouring Member States. The departure of the United Kingdom from the European Union results in Ireland having no directly neighbouring European Member State. Nonetheless it is believed that the overall impact of the enhancement of climate action governance and ambition in Ireland will contribute to delivering net positive environmental outcomes to Northern Ireland and the mainland UK, in terms of a positive contribution to collective efforts for reduced climatic impact.

5.13. Similarly, the climate action ambitions across all sectors of the economy are expected to deliver a net reduction in transboundary air pollutants. With recognition that consideration can be given to management of biomass combustion over time into the future. However, official national outlooks from the EPA do not anticipate growth in emissions to air of transboundary air pollutants out to

2035, and there is no perceived cause for concern in regard to the impact of the Bill in that regard. For this reason, no special transboundary consultation is deemed necessary for the proposed SEA.

6. Methodology

6.1. The Climate Action and Low Carbon Development (Amendment) Bill 2021 delivers a legally bound level of ambition for climate action by 2050. However, whilst the Bill includes important changes in governance, management and financial mechanisms, it does not define explicit measures that may be evaluated in a direct manner.

6.2. The specific and substantive impacts of the Bill are, therefore, expected to be indirect – and to include those impacts defined as part of the assessment of more policy and measure focused plans (e.g. the Climate Action Plan 2019 and subsequent iterations). The Bill is broadly intended to support greater action and further progress, albeit along the same lines of investments and interventions as have been defined in those explicit and dynamic national plans.

6.3. There are various existing plans and programmes of particular relevance to the Climate Action and Low Carbon Development (Amendment) Bill 2021, including the National Mitigation Plan[8], Climate Action Plan 2019, National Planning Framework, the National Development Plan (Project Ireland 2040), and the National Energy and Climate Plan[9]. Considerable work has already gone into assessing the impacts of these programmes.

6.4. Stage One of our methodology will involve a review of the main environmental impacts identified to date in completed Strategic Environmental Assessments for major related plans and programmes – particularly, but not limited to, those of the National Mitigation Plan and National Planning Framework. In short, we will seek to identify the major measures and actions that we expect will comprise the main thrust of climate ambition in Ireland, as these are the measures and actions that the Climate Action and Low Carbon Development (Amendment) Bill 2021 will work to support. This

[8] As part of the Climate Action and Low Carbon Development (Amendment) Bill, the National Mitigation Plan will be replaced by the Climate Action Plan 2019 and subsequent iterations, alongside the National Long-Term Climate Action Strategy reports that are also provided for within the Bill.
[9] It is noted that the 2019 National Energy and Climate Plan is due to be updated again in line with increased national ambition. See the Appendix on relevant plans and programs for additional detail.

will provide a comprehensive overview of those indirect environmental effects associated with current climate action policy in Ireland.

4.1.1 Stage two of our methodology is focused on the provisions of the Bill itself as released on the 23rd March 2021. Informed by the findings of Stage one, it gives a high-level overview of how the substantive changes to climate policy governance contained in the Bill may indirectly impact the environment. This looks specifically at:

i. The more ambitious national climate objective. Based on the assumption that the new objective will strengthen and accelerate climate action, the assessment will seek to show what the environmental impacts of such action might be. This will draw on the international evidence base and literature on the impacts of achieving 'climate neutrality'.

ii. Carbon budgeting. The assessment will seek to assess the potential environmental impacts of carbon budgeting, drawing again on the international policy literature on carbon budgeting as a policy tool.

iii. Governance arrangements. The assessment will seek to group together the changes to governance as described in the Bill and give a broad assessment of their likely impact on environmental outcomes, if any.

6.5. The Climate Action and Low Carbon Development (Amendment) Bill 2021 is faithful to the recommendations of the Citizen's Assembly on Climate Change, the Joint Oireachtas Committee on Climate Change, and the Climate Change Advisory Council. The most useful reasonable alternative to consider, therefore, is the status quo of the existing provisions in the Climate Action and Low Carbon Development Act 2015, as is. No proposals have been made for the reduction of climate ambition beyond that in the 2015 Act, nor have they been made for a more ambitious target than that in the 2021 Bill – these are therefore be assumed to represent the reasonable ends of the spectrum of policy options.

6.6. This approach broadly follows that taken by the Scottish Government in the SEA process for a new Climate Change Bill in 2017, which is the most analogous precedent available nationally or

internationally in the context of the Climate Action and Low Carbon Development (Amendment) Bill 2021.

7. Next Steps in the SEA Process

7.1. This SEA Scoping draft will be shared with the statutory consultees as determined by the competent authority in this case – the DECC.

7.2. The statutory consultees will have four weeks from the date of notice to respond in writing to this SEA scoping draft. Guidance for the feedback is provided in Section 8 and this section will be updated when finalising the scoping document. Specifically, this section will recognise any relevant feedback and acknowledge the submission and corresponding action as necessary.

7.3. Once all statutory consultees have responded, the process will move onto the next stage where the draft SEA (or 'environmental report') on the Climate Action and Low Carbon Development (Amendment) Bill 2021 will be compiled, in line with the completed scoping document.

7.4. The draft SEA will be made available for open consultation for a period of four weeks. After this process has been completed the SEA will be finalised and will be updated to include an SEA statement that defines how the consultative process has been accounted for within the final SEA and Climate Action and Low Carbon Development (Amendment) Bill 2021. This will be followed by final publication and completion of the SEA aspect of the process.

8. Feedback on Draft SEA Scoping Report

8.1. A draft version of this SEA scoping report has been circulated to the required stakeholders for feedback. In addition to DECC, the statutory consultee is the following:

- The Environmental Protection Agency.

8.2. In line with S.I. No. 435/2004 - European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, the consultees are hereby notified that an SEA is to be conducted as part of the Climate Action and Low Carbon Development (Amendment) Bill 2021, in recognition of the likely significant indirect effects on the environment.

8.3. A four-week window from the date of notice of the SEA process and delivery of this draft scoping report will be afforded to the statutory consultees for a response. Should all of the statutory consultee submissions be received at an earlier point within that four-week window, then process will advance to the next stage.

8.4. The consultees are informed of the change proposed (Section 2), the anticipated impacts (Section 3), the scope of the SEA in terms of topics, and both temporal and geographic range (Section 5), and the proposed methodology for the SEA (Section 6).

8.5. Guidance for the statutory consultation is given as follows:

i. The consultees are requested to review the changes in the Climate Action and Low Carbon Development (Amendment) Bill 2021.

ii. The consultees are invited to consider the scope of topics to be covered in the SEA as per Section 5 of this scoping report. This can include a recommendation for inclusion or exclusion of a topic but must be supported with a rationale for inclusion/exclusion and a plausible method for evaluation, with regard to the available detail in the Climate Action and Low Carbon Development (Amendment)

Bill 2021 through which an impact may be defined, and the available data and evidence on which to consider that impact.

iii. The consultees are invited to consider the defined temporal and geographic scope of the SEA. Where an alternative is suggested this is again to be supported with a rationale for the change, and an indication of how the revised scope may be credibly assessed in terms of the detail within the Climate Action and Low Carbon Development (Amendment) Bill 2021, and the corresponding data and evidence.

iv. The consultees are also invited to comment generally on the proposed Climate Action and Low Carbon Development (Amendment) Bill 2021.

8.6. The feedback received has/will been/be summarised in the following tables with a corresponding note on the actions taken, where necessary and appropriate to account for the issue raised. Once updated, this will complete the SEA Scoping report stage of the process.

SEA Climate Action and Low Carbon Development (Amendment) Bill 2021 - Scoping Feedback

Stakeholder: Department of the Environment, Climate and Communications

Corresponding Action	

SEA Climate Action and Low Carbon Development (Amendment) Bill 2021 - Scoping Feedback

Stakeholder: Environmental Protection Agency

Corresponding Action	

9. Appendix A – Relevant Plans and Programs

9.1. The relevant plans and programs in an Irish context have been detailed. The most relevant national plan to the Climate Action and Low Carbon Development (Amendment) Bill 2021 would be the Climate Action Plan of 2019 and subsequent revisions into the future. Also, the precursor plan, the National Mitigation Plan, where an SEA, with an associated list of relevant plans and programs has been developed as part of the SEA.

9.2. The National Mitigation Plan SEA was delivered in March 2017 and is available directly from DECC at https://www.dccae.gov.ie/documents/Draft-National-Mitigation-Plan-SEA.compressed.pdf. The assessment within on relevant plans and programs is deemed most relevant as whilst the National Mitigation Plan did not have the same governance provisions or level of ambition as called for in the Climate Action Plan, the core measures e.g. renewables penetration, built environment energy efficiency measures, electric vehicles and so on remain similar.

9.3. In the intervening years since the national mitigation plan SEA, the additional relevant plans and strategies, to be considered in addition to those in that list, are as follows:

Additional Relevant Plans and Programs	
Title	**Summary of Objectives and Relevance**
Ag-Climatise	The Ag-Climatise report has completed a public consultation[10] - and has been released. The plan represents an important development for the agriculture sector in Ireland. Agriculture is a major contributor to Ireland's GHG emissions profile at both non-emissions trading sector and national scales. The Ag-Climatise report will define a roadmap for tackling both climate and air[11] emissions on a time horizon to 2030. The plan takes a broad base approach to the sector and will encompass primary producers through to final processors in the value chain of agriculture.

[10] Available at - https://www.agriculture.gov.ie/ruralenvironmentsustainability/climatechangebioenergybiodiversity/ag-climatiseadraftnationalclimateairroadmapfortheagriculturesectorto2030andbeyondpublicconsultation/

[11] In particular ammonia (NH3) where Ireland remains off course for compliance in the context of the National Emissions Ceiling Directive (2016/2284).

	The Climate Action and Low Carbon Development (Amendment) Bill 2021 should in principle support the strong ambitions articulated in the consultation for Ag-Climatise by formally establishing a long-range national goal to 2050 for climate action and establishing enhanced governance structures that can further incentivise sectoral action on climate goals.
National Energy and Climate Plan (Update from 2019 Version)	Under the Governance of the Energy Union and Climate Action Regulation, Ireland was required to submit a draft National Energy & Climate Plan (NECP) for the period 2021-2030 to the European Commission by the end of December 2018. This draft version recognised relevant policy introduced to that point such as the National Planning Framework – Project 2040, and the National Development Plan – 2018-2027. Building from this draft the NECP was drafted in 2019 with all policies and measures deemed necessary to achieve the 30% reduction (from 2005 levels) in non-emissions trading sector emissions in Ireland. However, as part of the 2020 Programme for Government – Our Shared Future, Ireland is committing to a stronger level of climate action, with a 7% annual average reduction in greenhouse gas emissions between 2021 and 2030. As such the 2019 NECP will be further updated to incorporate those altered policies and measures deemed necessary to achieve the 7% trajectory. The Climate Action and Low Carbon Development (Amendment) Bill 2021 is expected to directly support the implementation of the updated NECP through enhanced governance structures and supporting mechanisms for action.
National Air Pollution Control Plan 2021 (Update)	In a similar manner as the NECP, the national air pollution control plan is designed to chart a pathway to compliance with defined environmental goals. Ireland submitted the NAPCP in 2018, however, this submission was unable to define an agreed pathway to compliance for all of the air pollutants covered under the scope of the Clean Air for Europe Directive. In 2021 Ireland expects to submit an updated NAPCP that defines a pathway to compliance under the updated national outlooks for air pollutants. It is expected

	that the increased ambition of the NECP and Ag-Climatise, alongside the supporting structures of the Climate Action and Low Carbon Development (Amendment) Bill 2021 will deliver positive outcomes in regard to overall net emissions through increased energy efficiency, increased electrification of key air pollution sources (e.g., road transport, residential heating), and the suite of ammonia measures in Ag-Climatise. As such a beneficial impact is expected in this regard from the Climate Action and Low Carbon Development (Amendment) Bill 2021.

10. Appendix B – Draft Table of Contents for SEA

10.1. This is a draft table of contents for the final SEA report, showing the expected structure and thereby indicating how the report would satisfy the requirements under the SEA Directive.

Non-technical Executive Summary.....

1. Introduction.....

1.1 Context - Climate Change in Ireland .....

1.2 Context - Policy Developments in Ireland.....

1.3 Context - Proposals for an Amendment to the Climate Action Act.....

1.4 The Strategic Environment Assessment Approach.....

1.5 Requirement for a Strategic Environment Assessment.....

1.6 Scope of this Strategic Environment Assessment.....

1.7 Structure of this report .....

2. Relationship with other Relevant Plans, Programmes and Strategies.....
defined.

2.2 Climate .....**.....**

2.3 Infrastructure and Planning .....

2.4. Agriculture, Land Use and Forestry .....

2.5 Energy generation and Built environment.....

2.6 Transport.....

2.7 Waste .....

2.8 Biodiversity .....

2.9 Air Quality .....

2.10 Water Quality.....

2.11 Landscape and cultural heritage.....

3. Baseline – the State of the Environment in Ireland.....
3.1 Biodiversity .....
3.1.1 Baseline.....
3.1.2 Environmental protection objective.....
3.2 Population & human health.....
3.2.1 Baseline.....
3.2.2 Environmental protection objectives .....
3.3 Soil.....
3.3.1 Baseline.....
3.3.3 Environmental Protection Objectives.....
3.4 Water .....
3.4.1 Baseline.....
3.4.2 Environmental protection objectives .....
3.5 Air.....
3.5.1 Baseline.....
3.5.2 Environmental Protection Objectives.....
3.6 Climate .....
3.6.1 Baseline.....
3.6.2 Environmental Protection Objectives.....
3.7 Cultural heritage including architectural and archaeological heritage & landscape.....
3.7.1 Baseline.....
3.7.2 Environmental Protection Objectives.....
3.8 Material Assets .....
3.8.1 Baseline.....
4. Assessment Approach in this Case .....
4.1 Approach to this Assessment.....

4.2 Scope of the Assessment .....

4.3 Consideration of Reasonable Alternative .....

5. Assessment Findings .....

5.1 Overview of impacts and Review of Previous SEAs .....

5.1.1 Biodiversity .....

5.1.2 Population and Human Health.....

5.1.3 Soil.....

5.1.4 Air.....

5.1.5 Water .....

5.1.6 Climatic factors .....

5.1.7 Material Assets .....

5.1.8 Landscape, Culture and Heritage.....

5.2 Review of proposals in the 2021 Bill.....

5.2.1 The new National Climate Action Objective .....

5.2.2 Carbon Budgets.....

5.2.3 Governance and Process changes.....

5.3 Consideration of Reasonable Alternatives.....

6. Mitigation Measures and Enhancement Opportunities .....

7. Monitoring and Governance.....

8. Conclusions and Recommendations (SEA Statement).....

10. Next Steps .....

Appendix A – List of relevant plans, programmes, legislation and policy.....

11. Appendix C – Baseline Data Sources and Assessments

11.1. The following is not yet considered an exhaustive list for the SEA process on the Climate Action and Low Carbon Development (Amendment) Bill 2021. However, it indicates many of the headline relevant sources for defining the baseline data in each of the SEA categories, as well as highlighting the impact assessment reports and literature that may be relevant in regard to defining the scale and direction of impact associated with the type of climate action related measures that the Climate Action and Low Carbon Development (Amendment) Bill 2021 is expected to support.

SEA SCOPING – DATA SOURCES AND ASSESSMENTS		
SEA CATEGORY	**BASELINE DATA SOURCES**	**IMPACT ASSESSMENT SOURCES**
Biodiversity, Flora and Fauna	• The State of EU Protected Habitats and Species in Ireland (NPWS, 2019)	• SEA on National Mitigation Plan 2017 • SEA on National Planning Framework • SEA on Offshore Renewable Energy Development Plan • SEA on Forestry Strategy 2014-2020 • SEA on Wind Energy Development Guidelines 2019
Air	• EPA inventory and forecasting data for air pollutants • Air Quality in Ireland (EPA, 2019)	• SEA on National Mitigation Plan 2017 • SEA on National Planning Framework • National Air Pollution Control Plan • Clean Air Strategy (draft)

Population and Human Health	• Air Quality in Ireland (EPA, 2019) • State of the Environment Report Chapter 8 – Environment, Health and Wellbeing (EPA, 2016)	• SEA on National Mitigation Plan 2017 • SEA on National Planning Framework • National Air Pollution Control Plan • Clean Air Strategy (draft) • SEA on Wind Energy Development Guidelines 2019
Soils	• State of the Environment Report Chapter 7 – Land and Soil (EPA, 2016)	• SEA on National Mitigation Plan 2017 • SEA on National Planning Framework • SEA on Forestry Strategy 2014-2020 • SEA on Offshore Renewable Energy Development Plan • SEA on Wind Energy Development Guidelines 2019
Water	• Water Quality in Ireland 2013-2018 (EPA, 2019)	• SEA on National Mitigation Plan 2017 • SEA on National Planning Framework • SEA on Offshore Renewable Energy Development Plan • SEA on Forestry Strategy 2014-2020 SEA on Wind Energy Development Guidelines 2019

Climatic Factors	• Ireland's Final Greenhouse Gas Emissions 1990-2018 (EPA, 2020) • Ireland's Greenhouse Gas Emissions Projections 2019-2040 (EPA, 2020)	• SEA on National Mitigation Plan 2017 • SEA on National Planning Framework • Reports of Climate Advisory Council • Policy impact literature on carbon neutrality, governance and budgeting
Material Assets	• National Planning Framework	• SEA on National Mitigation Plan 2017 • SEA on National Planning Framework • SEA on Offshore Renewable Energy Development Plan • SEA on Forestry Strategy 2014-2020 • SEA on Wind Energy Development Guidelines 2019
Landscape, Seascape, Visual Amenity	• National Landscape Strategy • National Park data	• SEA on National Mitigation Plan 2017 • SEA on National Planning Framework • SEA on Offshore Renewable Energy Development Plan • SEA on Forestry Strategy 2014-2020 • SEA on Wind Energy Development Guidelines 2019

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