Table 2.1 SEA/AA recommendations that have been included within the Integrated Implementation Plan

Plan Chapter No.	Text inserted into the Plan arising from SEA/AA processes
Chapter 2 Background to the Implementation Plan, Sub-section 2.3 Spatial Planning	Any future Transportation Strategies for these Metropolitan Areas will be required to be subject to SEA and AA as appropriate.
Chapter 4 Overall Infrastructure Investment Programme, Sub-section 4.5 Environmental considerations	**4.5.1 Regulatory Framework for Environmental Protection and Management** In implementing this Plan, the Authority will cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management, in compliance with EU Directives - including the Habitats Directive (92/43/EEC, as amended), the Birds Directive (2009/147/EC), the Environmental Impact Assessment Directive (2011/92/EU, as amended by 2014/52/EC) and the Strategic Environmental Assessment Directive (2001/42/EC) – and relevant transposing Regulations.
Chapter 4 Overall Infrastructure Investment Programme, Sub-section 4.5 Environmental considerations	**4.5.2 Lower-level Decision Making** Lower levels of decision making and environmental assessment should consider the sensitivities identified in Section 4 of the SEA Environmental Report, including the following: • Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) and Candidate SACs and SPAs; • Features of the landscape that provide linkages/connectivity to designated sites (e.g. watercourses, areas of semi-natural habitat such as linear woodlands etc); • Salmonid waters; • Shellfish waters; • Freshwater pearl mussel catchments; • Natural Heritage Areas and proposed Natural Heritage Areas; • Areas likely to contain a habitat listed in Annex 1 of the Habitats Directive; • Un-designated sites of importance to wintering or breeding bird species of conservation concern; • Entries to the Record of Monuments and Places and Zones of Archaeological Potential; • Entries to the Record of Protected Structures; • Architectural Conservation Areas; and • Relevant landscape designations.
Chapter 4 Overall Infrastructure Investment Programme, Sub-section 4.5 Environmental considerations	**4.5.3 Corridor and Route Selection Process for Relevant New Infrastructure** The following Corridor and Route Selection Process will be undertaken for relevant new infrastructure: Stage 1 – Route Corridor Identification, Evaluation and Selection • Environmental constraints (including those identified in Section 4 of the SEA Environmental Report) and opportunities (such as existing linear infrastructure) will assist in the identification of possible route corridor options; • Potentially feasible corridors within which infrastructure could be accommodated will be identified and these corridors assessed. The selection of the preferred route corridor will avoid constraints and meet opportunities to the optimum extent, as advised by the relevant specialists; and • In addition to the constraints identified above, site-specific field data may be required to identify the most appropriate corridors. Stage 2 – Route Identification, Evaluation and Selection • Potentially feasible routes within the preferred corridor will be identified and assessed. The selection of preferred routes will avoid constraints and meet opportunities to the optimum extent, as advised by the relevant specialists, taking into account project level information and potential mitigation measures that are readily achievable; • In addition to the constraints identified above, site specific field data may be required to identify the most appropriate routes; and • In addition to environmental considerations, the identification of route corridors and the refinement of route lines is likely to be informed by other considerations.

Plan Chapter No.	Text inserted into the Plan arising from SEA/AA processes
Chapter 4 Overall Infrastructure Investment Programme, Sub-section 4.5 Environmental considerations	**4.5.4 Appropriate Assessment** All projects and plans arising from this Plan will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and subsequent Appropriate Assessment where necessary, that: 1. The plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or 2. The plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or The plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.
Chapter 4 Overall Infrastructure Investment Programme, Sub-section 4.5 Environmental considerations	**4.5.5 Protection of European Sites** No plans or projects giving rise to significant cumulative, direct, indirect or secondary impacts on European sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans or projects[2]).
Chapter 4 Overall Infrastructure Investment Programme, Sub-section 4.5 Environmental considerations	**4.5.6 Climate Change, Emissions and Energy** As identified in the SEA Environmental Report that accompanies this Plan, the Plan facilitates sustainable mobility and associated positive effects, including those relating to: • Reductions in/limits in increases of greenhouse gas emissions and associated achievement of legally binding greenhouse gas emissions targets; • Reductions in/limits in increases of all emissions to air and associated achievement of air quality objectives, thereby contributing towards improvement of air quality and protection of human health; • Reductions in/limits in increases of consumption of non-renewable energy sources and achievement of legally binding renewable energy targets; and • Energy security. In implementing the Plan, the Authority will support relevant provisions contained in the National Climate Change Adaptation Framework (2018), the National Mitigation Plan (2017) and the Department of Transport, Tourism and Sport's 2017 "Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector", the National Energy and Climate Plan, Climate Change Action Plans of local authorities and any Regional Decarbonisation Plan prepared on foot of commitments included in the RSESs. The implementation of the Plan will incorporate relevant targets and actions arising from the sectoral adaptation plan for transport that will be prepared to comply the requirements of the Climate Action and Low Carbon Development Act 2015.

[2] Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be:
a) no alternative solution available,
b) imperative reasons of overriding public interest for the plan/programme/strategy/project etc. to proceed; and
c) Adequate compensatory measures in place.

Plan Chapter No.	Text inserted into the Plan arising from SEA/AA processes
	Cognisant of the imperative to reduce emissions, the Authority will seek to ensure primacy for transport options that provide for unit reductions in carbon emissions. This can most effectively be done by promoting public transport, walking and cycling, and by actively seeking to reduce car use in circumstances where alternative options are available. During the preparation and/or review of policies and plans relating to climate charge, carbon emissions and energy usage, the Authority will seek to integrate Plan objectives, as appropriate.
Chapter 4 Overall Infrastructure Investment Programme, Sub-section 4.5 Environmental considerations	**4.5.7 Other SEA Recommendations** In implementing the Plan, the Authority will ensure that the mitigation measures included in Table 9.2 of the SEA Environmental Report are complied with.

The SEA and AA recommendations detailed in Table 2.2 below have been integrated into the Plan through the commitment provided at sub-section 4.5.7 of the Plan. These measures are linked to specific environmental components and the potential adverse effects that would be present if the measures were not integrated into the Plan.

Table 2.2 Provisions referred to in Integrated Transport Plan sub-section 4.5.7 "Other SEA Recommendations"

Environmental component benefitting	Potential adverse effect mitigated	Requirement
Various	Various – see below	**Construction and Environmental Management Plans** Construction Environment Management Plans (CEMPs) shall be prepared in advance of the construction of larger projects and implemented throughout. Such plans shall incorporate relevant mitigation measures which have been integrated into the Plan and any lower tier Environmental Impact Assessment Report or Appropriate Assessment. CEMPs typically provide details of intended construction practice for the proposed development, including: a. location of the sites and materials compound(s) including area(s) identified for the storage of construction refuse, b. location of areas for construction site offices and staff facilities, c. details of site security fencing and hoardings, d. details of on-site car parking facilities for site workers during the course of construction, e. details of the timing and routing of construction traffic to and from the construction site and associated directional signage, f. measures to obviate queuing of construction traffic on the adjoining road network, g. measures to prevent the spillage or deposit of clay, rubble or other debris, h. alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public right of way during the course of site development works, i. details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels, j. containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater, k. disposal of construction/demolition waste and details of how it is proposed to manage excavated soil, l. a water and sediment management plan, providing for means to ensure that surface water runoff is controlled such that no silt or other pollutants enter local water courses or drains, m. details of a water quality monitoring and sampling plan. n. if peat is encountered - a peat storage, handling and reinstatement management plan. o. measures adopted during construction to prevent the spread of invasive species (such as Japanese Knotweed). p. appointment of an ecological clerk of works at site investigation, preparation and construction phases. q. details of appropriate mitigation measures for lighting specifically designed to minimise impacts to biodiversity including bats.

Environmental component benefitting	Potential adverse effect mitigated	Requirement
Various	Various – see below	**Maintenance Plan** Lower tier assessments should examine the need for Maintenance Plans informed by environmental considerations to be prepared and implemented.
Air and Climatic Factors	Emissions to air	Please refer to the overall approach and detail provided for by the Plan focusses significant levels of investment in sustainable transport modes and other climate related provisions integrated into the Plan.
		Air and Energy Contribute towards: compliance with air quality legislation; greenhouse gas emission targets; management of noise levels; and reductions in energy usage.
Biodiversity and flora and fauna	- Arising from both construction and operation of transport infrastructure and services and associated facilities/ infrastructure: loss of/damage to biodiversity in designated sites, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna - Habitat loss, fragmentation and deterioration, including patch size and edge effects - Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species and coastal squeeze - Effects in riparian zones where new crossings of waters, if	**Protection of Biodiversity including Natura 2000 Network** Contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); UNESCO World Heritage and UNESCO Biosphere sites; Ramsar Sites; Salmonid Waters; Shellfish Waters; Freshwater Pearl Mussel catchments; Flora Protection Order sites; Wildlife Sites (including Nature Reserves); Certain entries to the Water Framework Directive Register of Protected Areas; Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs); Wildfowl Sanctuaries (see S.I. 192 of 1979) ; and Tree Preservation Orders (TPOs). Contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents): • EU Directives, including the Habitats Directive (92/43/EEC, as amended)[3], the Birds Directive (2009/147/EC)[4], the Environmental Liability Directive (2004/35/EC)[5], the Environmental Impact Assessment Directive (2011/92/EU, as amended by 2014/52/EC), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC). • National legislation, including the Wildlife Acts 1976 and 2010 (as amended), the Planning and Development Act 2000 (as amended) and associated Regulations, Environmental Impact Assessment Regulations, the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), the European Communities (Environmental Liability) Regulations 2008[6] and the Flora Protection Order 2015. • National policy guidelines (including any clarifying Circulars or superseding versions of same), including the "Landscape and Landscape Assessment" Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010. • Catchment and water resource management Plans, including the relevant River Basin Management Plan and Flood Risk Management Plan (including any superseding versions of same). • Biodiversity Plans and guidelines, including the 3rd National Biodiversity Plan 2017-2023 (including any superseding version of same). • Freshwater Pearl Mussel Regulations (S.I. 296 of 2009) (including any associated designated areas or management plans). • Ireland's Environment 2016 - An Assessment (EPA, 2016, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges.
		NPWS and Integrated Management Plans Article 6(1) of the Habitats Directive requires that Member States establish the necessary conservation measures for European sites involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans. The NPWS's current priority is to identify site specific conservation objectives; management plans may be considered after this is done. Where Integrated Management Plans are being prepared for European sites (or parts thereof), the National Parks and Wildlife Service shall be engaged with in order to ensure that plans are fully integrated with the Plan and other plans and programmes, with the intention that such plans are practical,

[3] Including Annex I habitats, Annex II species and their habitats and Annex IV species and their breeding sites and resting places (wherever they occur).
[4] Including Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur).
[5] Including protected species and natural habitats.
[6] Including protected species and natural habitats.

Environmental component benefitting	Potential adverse effect mitigated	Requirement
	any, are progressed - Potential effects from transport emissions	achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations, including those of local communities.
		Coastal Zone Management Support measures to protect the coast, the coastal edge and coastal habitats; and facilitate an Integrated Coastal Zone Management approach to ensure the conservation, management and projection of man-made and natural resources of the coastal zone.
		Biodiversity and Ecological Networks Contribute towards the protection and enhancement of biodiversity and ecological connectivity, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, geological and geo-morphological systems, other landscape features, natural lighting conditions, and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.
		Protection of Riparian Zone and Waterbodies and Watercourses Help to ensure that waterbodies and watercourses are protected from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include the preservation habitat features/structure, such as treeline density, and protection buffers in riverine, wetland and coastal areas, as appropriate.
		Biodiversity including non-designated biodiversity Ensure the undertaking of appropriately detailed surveying and assessment at project/EIA level and minimisation of loss of biodiversity, including old trees or tree lines or areas of vegetation, as a result of the development of new or widened infrastructure. Help to ensure the appropriate protection of non-designated habitat features, landscapes and biological diversity.
		Lighting Sensitive Species Lighting fixtures should provide only the amount of light necessary for personal safety and should be designed so as to avoid creating glare or emitting light above a horizontal plane. Lighting fixtures should have minimum environmental impact, thereby contributing towards the protection of amenity and the protection of light sensitive species such as bats.
		Non-native invasive species Support, as appropriate, the National Parks and Wildlife Service's efforts to seek to control and manage the spread of non-native invasive species on land and water. Where the presence of non-native invasive species is identified at the site of any proposed development or where the proposed activity has an elevated risk of resulting in the presence of these species, details of how these species will be managed and controlled will be required.
		National Peatlands Strategy Support, as appropriate, any relevant recommendations contained in the National Peatlands Strategy 2015.
Material Assets	- Generation of construction waste - Loss or damage to public assets and infrastructure	Also see Construction and Environmental Management Plans provision above
		Construction Waste Demonstrate that all waste arising during construction phase will be managed and disposed of in a way that ensures the provisions of the Waste Management Acts and regulations and any of the relevant Local Authorities Waste Management Plans. Construction Waste Management Plans will be implemented to minimise waste and ensure correct handling and disposal of construction waste streams in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects, Department of the Environment, July 2006.
		Waste Creation Support the minimisation of waste creation and promote a practice of reduce, reuse and recycle where possible.
		Waste Disposal Safeguard the environment by seeking to ensure that residual waste is disposed of appropriately.
		Public Assets and Infrastructure Contribute towards the protection of public assets and infrastructure including resources such as: public open spaces, parks and recreational areas; public buildings and services; and utility infrastructure (electricity, gas, telecommunications, water supply, wastewater infrastructure etc.)

Environmental component benefitting	Potential adverse effect mitigated	Requirement
Water	- Adverse impacts upon the status of water bodies and entries to the WFD Register of Protected Areas, arising from changes in quality, flow and/or morphology - Increase in the risk of flooding	Also see measures under soil above and material assets below.
		Water Framework Directive and associated legislation Contribute towards, as appropriate, the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, wetlands, groundwater, coastal waters and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). Support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development.
		River Basin Management Plan Support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan, and associated Programmes of Measures, or any such plans that may supersede same during the lifetime of the Plan. Proposed plans, programmes and projects shall not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 and 36 which provide guidance on exemptions to the environmental objectives of the Water Framework Directive.
		Bathing Water Contribute towards the achievement of the requirements of the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008) and EU Mandatory Values, as a minimum, and EU Guide Values, where possible.
		Flood Risk Management Guidelines Comply with The Planning System and Flood Risk Management Guidelines (2009, DEHLG/OPW) (including any clarifying Circulars or superseding versions of same) and relevant outputs of the Catchment and Flood Risk Assessment and Management Studies (CFRAMS).
		Surface Water Drainage and Sustainable Drainage Systems (SuDs) Ensure that new development is adequately serviced with surface water drainage infrastructure and promote the use of Sustainable Drainage Systems, as appropriate.
Soil	Adverse impacts on the hydrogeological and ecological function of the soil resource as a result of construction of associated facilities/ infrastructure	Also see requirements under other heading of water above.
		Soil Protection and Contamination Ensure that adequate soil protection measures are undertaken where appropriate. Adequate and appropriate investigations shall be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed.
		Areas of geological interest Contribute towards the appropriate protection and maintenance of the character, integrity and conservation value of features or areas of geological interest.
		Land Take Contribute towards the target of the National Planning Framework's (2018) SEA to "Maintain built surface cover nationally to below the EU average of 4%."

Section 3 Environmental Report and Submissions/Observations

3.1 Introduction

This section details how both the Environmental Report and submissions and observations made to the NTA on the Environmental Report and SEA process have been taken into account during the preparation of the Plan.

3.2 SEA Scoping Submissions

SEA scoping submissions were made by four environmental authorities: Northern Ireland Environment Agency, Environmental Protection Agency, Department of Communications, Climate Action and Environment and Department of Culture, Heritage and the Gaeltacht.

Submissions from the Northern Ireland Environment Agency provided information/ suggestions on topics including the following that informed the preparation of the Plan and SEA:

- A clear statement indicating the opinion (and the reasons for it), about whether or not the implementation of the Plan, in combination with any identified measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment, is likely to have a significant effect on Northern Ireland;
- Marine environment and in particular any transboundary issues;
- Air quality issues; and
- Biodiversity, flora and fauna issues.

A submission from the Environmental Protection Agency provided information/ suggestions on topics including the following, which informed the preparation of the Pan and SEA:

- *Ireland's Environment - An Assessment 2016* (EPA, 2016) report and key plans and programmes;
- Implications for greenhouse gas emissions and air quality issues;
- Climate change mitigation and adaptation;
- Alternative fuels, biofuels obligation scheme/smarter travel;
- Noise pollution and lighting; and
- Biodiversity, flora and fauna issues.

A submission from the Department of Communications, Climate Action and Environment provided information/suggestions on topics including the following that have been taken into account by the relevant parts of this report:

- Soil and Geology;
- Material Assets; and
- Datasets and viewers to help with the compilation of the SEA.

A submission from the Department of Culture, Heritage and the Gaeltacht provided information/suggestions on topics including the following that informed the preparation of the Plan and SEA:

- Integration of biodiversity, flora and fauna issues into the Plan; and
- SEA guidance, scope of the Environmental Report and information sources available.

3.3 Submissions on the Environmental Report

Furthermore, submissions were made on the Draft Plan, SEA Environmental Report and AA Natura Impact Report while these documents were on public display and these resulted in updates being made to the documents. Submissions included those made by the Department of Agriculture, Environment and Rural Affairs Northern Ireland (the Northern Ireland Environment Agency)[7], the Department of Agriculture, Food and the Marine, the Environmental Protection Agency, Friends of the Irish Environment, An Taisce and the Irish Environmental Network. Updates made to the SEA Environmental Report on foot of these submissions include those detailed at Table 3.1.

[7] The submission from the Department of Agriculture, Environment and Rural Affairs Northern Ireland (the Northern Ireland Environment Agency) identified, inter alia, that it considered the Draft Plan and that it noted the findings of the assessment (at Section 8.3 of the SEA Environmental Report), that significant environmental effects will not occur in Northern Ireland.

Table 3.1 Updates to SEA and Plan arising from Submissions

Source of Submission	Updates to SEA and Plan New text in **bold**
Department of Agriculture, Environment and Rural Affairs Northern Ireland	To update the *SEA Environmental Report* by including reference to the new report **"Air Pollution in Northern Ireland 2017" (DAERANI, 2019)**.
Environmental Protection Agency	To add a paragraph at the end of section 8.5 of the Plan stating: **The Authority supports the roll out of electric vehicles as a more sustainable form of vehicular transport. In particular, the Authority will support the provision of electric vehicle charging points, including at Strategic Park and Ride and other Facilities.**
	To add the following text to Section 2.3 "Spatial Planning": **In addition to supporting alignment and integration of transport planning with land use planning, the Authority supports its alignment and integration with climate action planning. As detailed under Section 4.6.6 "Climate Change, Emissions and Energy" of this Plan:** • **Implementation of the Plan will incorporate relevant targets and actions arising from the sectoral adaptation plan for transport that will be prepared to comply the requirements of the Climate Action and Low Carbon Development Act 2015; and** • **In implementing the Plan, the Authority will support relevant provisions contained in the National Climate Change Adaptation Framework (2018), the National Mitigation Plan (2017), the Department of Transport, Tourism and Sport's 2017 "Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector", the National Energy and Climate Plan, Climate Change Action Plans of local authorities and any Regional Decarbonisation Plan prepared on foot of commitments included in the RSESs.**
	To add the following text to Section 4.6.6 "Climate Change, Emissions and Energy": In implementing the Plan, the Authority will support relevant provisions contained in the National Climate Change Adaptation Framework (2018), the National Mitigation Plan (2017), the Department of Transport, Tourism and Sport's 2017 "Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector"**, the National Energy and Climate Plan, Climate Change Action Plans of local authorities and any Regional Decarbonisation Plan prepared on foot of commitments included in the RSESs**.
	To add a **summary of the expected content of the Planning, Land Use and Transport Outlook 2040** (PLUTO) to Appendix I to the *SEA Environmental Report* and to identify that **implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management**.
	To include reference to the emerging PLUTO on *SEA Environmental Report* Figure 3.2 "Hierarchy of Planning and Environmental Assessment".
	To add noise mapping to Section 4.5.7 of the *SEA Environmental Report* based on the EPA's third round of strategic noise mapping of roads, rail and airport, in the form of noise contours for the Lden (day, evening, night) period for Dublin agglomeration and the major roads outside of the agglomerations.
	To add the following to text to the Human Health measure that is included on Table 9.2 in the *SEA Environmental Report* and has been integrated into the Plan at Section 4.6.7 "Other SEA Recommendations": Assess proposals for development in terms of, inter alia, potential impact on existing adjacent developments, existing land uses and/or the surrounding landscape. Where proposed developments would be likely to have a significant adverse effect on the amenities of the area through pollution by noise, fumes, odours, dust, grit or vibration, or cause pollution of air, water and/or soil, mitigation measures shall be introduced in order to eliminate adverse environmental impacts or reduce them to an acceptable operating level. **In implementing the Plan, the Authority will also seek to prevent traffic noise and protect designated quiet areas where feasible.**
	To reflect the findings of the following recently published documents in the *SEA Environmental Report*: • "Ireland's Provisional Greenhouse Gas Emissions 1990-2017" (EPA, 2018). • "Air Quality in Ireland 2017" (EPA, 2018).
Friends of the Irish Environment	To update, as follows, text from Section 8.1 of the *SEA Environmental Report*: All types of vehicle emissions (Carbon Monoxide, Carbon Dioxide, Nitrous Oxides and Hydrocarbons) reduce under the Transport Strategy**, in comparison with a do minimum scenario**. This highlights the air quality improvements for the GDA associated with the introduction of the GDA Transport Strategy provisions.

3.4 Environmental Report

The Draft Plan and accompanying documents (including SEA Environmental Report and AA Natura Impact Report[8]) were placed on public display, having integrated all recommendations arising from the SEA and AA processes.

Responses to submissions made on the Environmental Report during the period of public display were integrated into a Report on Submissions and considered by the National Transport Authority.

The SEA Environmental Report was updated in order to take account of:

- Recommendations contained in submissions; and
- Changes to the Draft Plan that were made on foot of submissions.

The National Transport Authority have taken into account the findings of all relevant SEA output during their consideration of the Draft Plan and before the Plan was adopted.

[8] Also referred to as Natura Impact Statement

Section 4 Reasons for choosing the selected alternative in light of other alternatives considered

As per the requirements of the SEA Directive, the SEA considered reasonable alternatives, which are capable of being implemented for the Plan.

4.1 Need for the Plan

The emergence of increasing road congestion in recent years has underlined the need to provide an enhanced level of public transport provision to provide an alternative to car-based commuting. Congestion is a challenge that must be addressed by the transport system in a context where significant population growth, and associated economic, social, cultural and recreational activity is being planned for.

Furthermore, the significance of the need for action to reduce the use of fossil fuels and diminish the generation of greenhouse gases is recognised and required by legislation. The National Transport Authority is required to adhere to the National Climate Change Adaptation Framework, which was published by the Minister for Communications, Climate Action and Environment in 2018, and the Department of Transport, Tourism and Sport's Sectoral Adaptation Plan, published in 2017.

The National Transport Authority is required by the Dublin Transport Authority Act 2008 to prepare a six year Integrated Implementation Plan to, inter alia, facilitate the implementation of the Transport Strategy for the Greater Dublin Area 2016-2025. The Transport Strategy, which was subject to full SEA and Stage 2 AA, is therefore a key in shaping the six-year Integrated Infrastructure Plan.

4.2 Existing provisions already in place

The Transport Strategy for the Greater Dublin Area 2016-2035 establishes an overall framework for transport investment in Counties Dublin, Meath, Kildare and Wicklow over the next two decades.

The Transport Strategy (and consequently the Implementation Plan) focuses on improving public and sustainable transport across the Greater Dublin Area while seeking to ensure primacy for transport options that provide for unit reductions in carbon emissions. This involves: promoting public transport, walking and cycling; seeking to reduce car use in circumstances where alternative options are available; and transitioning to lower emission vehicles for transport use. Transport Strategy provisions include those relating to: light rail; including the development of the MetroLink project; heavy rail (inclusive of expanded electrification on the suburban rail lines); cycling facilities; pedestrian movement; interchange facilities; information provision; and park and ride developments. To date the Authority has focused significant levels of investment in these sustainable modes, including the reopening of the Phoenix Park Tunnel and the delivery of Luas Cross City. The continuation of this focus is facilitated by the Transport Strategy and it is intended that it will continue under the Implementation Plan.

Most proposals included within the Plan have been already included within plans that have already been subject to SEA including the Transportation Strategy for the Greater Dublin Area 2016-2035, Project Ireland 2040 (including the National Planning Framework 2018) and the Greater Dublin Area Cycle Network Plan 2016.

In addition to aligning with the Transportation Strategy, the Implementation Plan aligns with other existing provisions including those included within the Project Ireland 2040 (including the National Planning Framework 2018) and the Greater Dublin Area Cycle Network Plan 2016. These existing provisions have been subject to SEA.

4.3 Description of Alternative Scenarios

The various elements of the Plan are at different stages in the planning/environmental process. Furthermore, different elements of the Plan will be developed by different agencies, at different times, according to different funding allocations. For these reasons the alternatives are expressed as alternative scenarios about the sequence and degree of implementation of key elements that make up the Plan.

Transportation is highly integrated with both land-use planning and the provision of other public infrastructure, such as water services. Different alternative scenarios will give rise to different land-use patterns, resulting in different environmental effects.

The following three alternative scenarios are examined:

- Scenario A: Balanced Bus and Rail;
- Scenario B: MetroLink Prioritisation of Funding; and
- Scenario C: MetroLink Reduced Funding.

Each scenario has been developed in line with government priorities in investment and taking into account the overarching provisions of the Transport Strategy for the Greater Dublin Area 2016-2035.

4.3.1 Scenario A: Balanced Bus and Rail

This scenario will advance the implementation of the National Transport Authority's Transport Strategy in a manner which balances investment into rail and bus projects (including both the Core Bus Network and the new MetroLink urban light rail metro service project), along with the complimentary implementation of cycling and walking infrastructure across the Greater Dublin Area.

This scenario will give rise to orderly development with balanced patterns of land use allocation – resulting in a greater likelihood of financially viable supporting utilities and amenities – as well as earlier attainment of income generation goals (through fares from orderly provision of new housing concentrations at scale). Growth will be balanced as a result of this scenario.

4.3.2 Scenario B: MetroLink Prioritisation of Funding

This scenario will advance the implementation of the National Transport Authority's Transport Strategy in a manner which prioritises investment into rail projects (specifically the new MetroLink) along with the complimentary implementation of cycling and walking infrastructure across the Greater Dublin Area.

In established urban nodes served by the MetroLink project and its associated feeder routes, this scenario will give rise to orderly development with very concentrated patterns of land use allocation within the immediate catchment of new stations. This will result in a in a greater likelihood of financially viable supporting utilities and amenities – as well as earlier attainment of income generation goals (through fares from orderly provision of new housing concentrations at scale). However, elsewhere in the Greater Dublin Area, growth will be uneven as a result of this scenario.

4.3.3 Scenario C: MetroLink Reduced Funding

This scenario will advance the implementation of the National Transport Authority's Transport Strategy in a manner which prioritises investment into bus projects (including the Core Bus network), along with the complimentary implementation of cycling and walking infrastructure across the Greater Dublin Area.

This scenario will give rise to orderly development with very dispersed patterns of land use allocation within the Greater Dublin Area. This will result in a significantly reduced and/or deferred likelihood of financially viable supporting utilities and amenities – as well as much later attainment of income

generation goals (through loss of fares from orderly provision of new housing concentrations at scale). Growth will be very uneven as a result of this scenario.

4.4 Summary of Evaluation of Alternatives

4.4.1 Scenario A: Balanced Bus and Rail

This scenario will advance the implementation of the Transport Strategy for the Greater Dublin Area 2016-2035 in a manner which balances investment into rail and bus projects (including both the Core Bus Network and the new MetroLink urban light rail metro service project), along with the complimentary implementation of cycling and walking infrastructure across the Greater Dublin Area.

This scenario will give rise to orderly development with balanced patterns of land use allocation – resulting in a greater likelihood of financially viable supporting utilities and amenities – as well as earlier attainment of income generation goals (through fares from orderly provision of new housing concentrations at scale). Growth will be balanced as a result of this scenario.

This scenario will give rise to the least adverse environmental effects as it would facilitate the concentration of development around planned nodes – which will have appropriate social, environmental and mobility resources – because development will occur on lands that have been zoned and subject to SEA, AA and SFRA. Orderly development of this kind will give rise to the least adverse effects on populations, biodiversity and environmental components including air and water. The orderly and timely provision of services will help to anticipate and avoid effects on water and associated interactions with ecology and human health.

This scenario will:

- Facilitate the greatest improvement in sustainable mobility of all alternatives (reducing and limiting increases in the number of journeys by car taken as a percentage of all journeys taken), thereby facilitating the greatest reduction and limit of increases in greenhouse gas emissions, noise emissions and other emissions to air (with associated effects on human health). Such emissions would occur otherwise with higher levels of motorised transport and associated traffic. By significantly increasing the potential for plan-led, integrated development, greater usage of public transportation and less movement within denser settlements, this alternative would also be likely to result in a higher efficiency of energy resource utilisation.
- Provide for the development of transport infrastructure and services in locations which will facilitate use by those living and working in urban/suburban areas.
- Facilitate lower overall effects on ecology (including designated sites, ecological connectivity, habitats) – due to increased utilisation of lands within existing development boundaries and use of existing utilities and brownfield sites.
- Facilitate the reuse and regeneration of brownfield lands thereby contributing towards a higher efficiency of land utilisation, sustainable mobility and a reduction in the need to develop greenfield lands. By facilitating increased utilisation of lands within existing development boundaries and use of existing utilities and brownfield sites there will be lower adverse effects upon ecology, landscape designations, architectural and archaeological heritage and land take/ soil.
- Facilitate lower effects on ground and surface waters due to higher levels of development within established and serviced settlement centres that have installed/upgraded water services capable of delivering Water Framework Directive targets (and associated effects on the protection of ecology and human health).
- Facilitate the enhancement of cultural heritage and its context in urban areas and their surrounds as a result of replacing motorised transport modes with more sustainable and non-motorised modes such as walking, cycling and the new MetroLink.
- The higher levels of certainty under this alternative is likely to increase spatial concentrations of market-led development – residential, commercial and industrial – in areas that are consistent with regional and local land-use planning objectives. These planning objectives are required to be subject to SEA, AA and SFRA that facilitate the integration of environmental

considerations. Also, the timely availability of transportation infrastructure will significantly increase the likelihood of co-location of other services – especially water services – in areas that are consistent with the principles of proper planning and sustainable development.

4.4.2 Scenario B: MetroLink Prioritisation of Funding

This scenario will advance the implementation of the Transport Strategy for the Greater Dublin Area 2016-2035 in a manner which prioritises investment into rail projects (specifically the new MetroLink) along with the complimentary implementation of cycling and walking infrastructure across the Greater Dublin Area.

In established urban nodes served by the MetroLink project and its associated feeder routes, this scenario will give rise to orderly development with very concentrated patterns of land use allocation within the immediate catchment of new stations. This will result in a greater likelihood of financially viable supporting utilities and amenities – as well as earlier attainment of income generation goals (through fares from orderly provision of new housing concentrations at scale). However, elsewhere in the Greater Dublin Area, growth will be uneven as a result of this scenario.

In established urban nodes served by the MetroLink project and its associated feeder routes, this scenario will give rise to a low amount and extent of adverse environmental effects as it would facilitate the concentration of development around planned nodes – which will have appropriate social, environmental and mobility resources, because development will occur on lands that have been zoned and subject to SEA, AA and SFRA. Orderly development of this kind will give rise to least adverse effects on – and therefore would contribute towards the protection of – populations, biodiversity and environmental components including air and water. The orderly and timely provision of services will help to anticipate and avoid effects on water and associated interactions with ecology and human health.

In established urban nodes served by the MetroLink project and its associated feeder routes, Scenario B will give rise to the effects described under Section 4.4.1.

However, elsewhere in the Greater Dublin Area, under this scenario:

- There will be uneven growth which would mean that unsustainable patterns of mobility and land-use will persist – with unchanged trend levels of effects on populations, biodiversity and environmental components including air and water.
- There would be an increased likelihood of congestion and delay issues at critical locations including major junctions, especially along the M50 in the near term; and over-crowding on key public transport routes, especially within the M50. Congestion will mean that there will be significant delays in reaching targets for lower emissions to air – including noise and pollutants – and this will be compounded by lower utilisation of public transportation. There would be a failure to maximise contributions towards improving sustainable mobility (there would be increases in the number of journeys by car taken as a percentage of all journeys taken) and a failure to contribute towards managing traffic flows. Uneven growth would also be likely to result in a reduced efficiency of energy resource utilisation.
- There would not be enough transport infrastructure and services to maximise use by those living and working in urban/suburban areas.

4.4.3 Scenario C: MetroLink Reduced Funding

This scenario will advance the implementation of the Transport Strategy for the Greater Dublin Area 2016-2035 in a manner which prioritises investment into bus projects (including the Core Bus network), along with the complimentary implementation of cycling and walking infrastructure across the Greater Dublin Area.

This scenario will give rise to orderly development with very dispersed patterns of land use allocation within the Greater Dublin Area. This will result in a significantly reduced and/or deferred likelihood of financially viable supporting utilities and amenities, as well as much later attainment of income

generation goals (through loss of fares from orderly provision of new housing concentrations at scale). Growth will be very uneven as a result of this scenario.

This scenario would:

- Through the progression of bus projects, facilitate the improvements in sustainable mobility (reducing and limiting increases in the number of journeys by car taken as a percentage of all journeys taken), thereby facilitating the greatest reduction and limit of increases in greenhouse gas emissions, noise emissions and other emissions to air (with associated effects on human health). Such emissions would occur otherwise with higher levels of car transport and associated traffic. By increasing the potential for plan-led, integrated development in some areas and greater usage of bus transportation, this alternative would also be likely to contribute towards a higher efficiency of energy resource utilisation.
- Facilitate orderly development in some (dispersed) locations, including lands that have been zoned and subject to SEA, AA and SFRA; this would contribute towards sustainable development and environmental protection and management locally.

This scenario gives rise to the most potential adverse environmental effects as:

- Development will not concentrate solely around planned nodes – which will have appropriate social, environmental and mobility resources. Very uneven growth means that unsustainable patterns of mobility and land-use will persist throughout the Greater Dublin Area on both zoned and unzoned lands as well as in areas with poor public transport.
- There would be an increased likelihood of congestion and delay issues at critical locations including major junctions, especially along the M50 in the near term; and over-crowding on key public transport routes, especially within the M50. Congestion will mean that there will be significant delays in reaching targets for lower emissions to air – including noise and pollutants – and this will be compounded by lower utilisation of public transportation. There would be a failure to maximise contributions towards improving sustainable mobility (there would be increases in the number of journeys by car taken as a percentage of all journeys taken) and a failure to contribute towards managing traffic flows. Uneven growth would also be likely to result in a reduced efficiency of energy resource utilisation.
- There would not be enough transport infrastructure and services to maximise use by those living and working in urban/suburban areas.
- Very uneven development will give rise to adverse effects on populations, biodiversity and environmental components including air and water.
- The lack of orderly and timely provision of services will generally not avoid effects on water and associated interactions with ecology and human health.

4.5 Reasons for choosing the selected alternative in light of other alternatives considered

The most preferable outcome from the environmental assessment of alternatives is identified as being Alternative Scenario A and the approach outlined by this alternative is the one that is followed by the Plan.

This alternative will give rise to orderly development with balanced patterns of land use allocation – resulting in a greater likelihood of financially viable supporting utilities and amenities – as well as earlier attainment of income generation goals (through fares from orderly provision of new housing concentrations at scale). Growth will be balanced as a result of this alternative.

This alternative will also facilitate the greatest improvement in sustainable mobility of all alternatives (reducing and limiting increases in the number of journeys by car taken as a percentage of all journeys taken), thereby facilitating the greatest reduction and limit of increases in greenhouse gas emissions, noise emissions and other emissions to air (with associated effects on human health).

Potentially significant adverse environmental effects will be mitigated by the various provisions that have been integrated into the Plan (see Section 2.6 of this report).

Section 5 Monitoring Measures

5.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures that will be used in order to monitor the likely and potential significant effects of implementing the Plan.

Monitoring can both demonstrate the positive effects facilitated by the Plan including those relating to sustainable mobility and can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

5.2 Indicators and Targets

Monitoring is based around indicators that allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives used in the evaluation. Each indicator to be monitored is accompanied by the target(s) that were identified with regard to the relevant strategic actions.

Table 5.1 shows the indicators and targets that have been selected for monitoring the likely significant environmental effects of implementing the Plan, if unmitigated.

Monitoring is an ongoing process and the programme allows for flexibility and the further refinement of indicators and targets. The Monitoring Programme may also be updated to deal with specific environmental issues - including unforeseen effects - as they arise.

5.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by the relevant authorities including the National Transport Authority, the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

The output of lower-tier environmental assessment and decision making – including a review of project approvals granted and associated documents – will also be utilised as part of the Monitoring Programme.

Where significant effects - including positive, negative, cumulative and indirect - have the potential to occur as a result of the undertaking of individual projects or multiple individual projects such instances should be identified and recorded and should feed into the monitoring evaluation.

5.4 Reporting

A stand-alone Monitoring Report on the significant environmental effects of implementing the Plan will be prepared in advance of the review of the Plan. This report will address the indicators set out below. The National Transport Authority is responsible for the ongoing review of indicators and targets, collating existing relevant monitored data, the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of corrective action, in combination with the relevant authorities.

The hierarchy of planning and environmental assessment - including associated environmental monitoring requirements - in which the Transport Plan is situated is noted.

5.5 Thresholds

Thresholds at which corrective action will be considered include:

- Complaints received from statutory consultees regarding avoidable impacts on any environmental components resulting from development which is granted permission under the Plan;
- Court cases taken by the Department of Culture, Heritage and the Gaeltacht regarding impacts upon archaeological heritage from development which is provided for by the Plan;
- Fish kills directly attributable to development which is provided for by the Plan; and
- The occurrence of flood events that are directly attributable to development that is provided for by the Plan.

Table 5.1 Selected Indicators, Targets and Monitoring Sources

Environmental Component	Indicators	Targets	Source and Frequency
Air and Climatic Factors	AC1i: Compliance with Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive and associated legislation AC1ii: Greenhouse gas emissions from transport	AC1i: To contribute towards compliance with legislative air quality limits and target values AC1ii: To facilitate a reduction in greenhouse gas emissions from transport AC1iii: The incorporation of Integrated Implementation Plan objectives into the preparation and review of the National Mitigation Plan, National Adaptation Framework and relevant Sectoral Adaptation Plan(s) and the incorporation of the necessary targets/ actions/ provisions arising from these developing policies once they are in place	• EPA Monitoring and publications on Air Quality and Greenhouse gas emissions • Internal NTA consultations and review of documentation
	AC2: Percentage of population travelling to work, school or college by public transport or non-mechanical means	AC2: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means See also Target AC1iii	• Central Statistics Office data • Modelled output
	AC3i: Energy use by the transport sector as a percentage of Total Final Energy Consumption AC3ii: Proportion of energy from renewable sources	AC3i: To facilitate a reduction in energy use by the transport sector as a percentage of Total Final Energy Consumption AC3ii: To facilitate an increase in the proportion of energy from renewable sources by the transport sector See also Target AC1iii	• Sustainable Energy Ireland *Energy in Ireland* reports • Modelled output
Population and Human Health	PHH1: Extent of urban/suburban areas within the catchment of transport infrastructure and services	PHH1: To maximise the extent of urban/suburban areas within the catchment of transport infrastructure and services	• Modelled output • Central Statistics Office data
	PHH2: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency	PHH2: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Consultations with EPA and Health Service Executive (at monitoring review)
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	B1: Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the Plan[9]	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Department of Arts, Heritage and the Gaeltacht report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years) • Department of Arts, Heritage and the Gaeltacht's National Monitoring Report for the Birds Directive under Article 12 (every 3 years) • Consultations with the NPWS (at monitoring review)

[9] Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be: (a) No alternative solution available; (b) Imperative reasons of overriding public interest for the plan/programme/project to proceed; and (c) Adequate compensatory measures in place.

Environmental Component	Indicators	Targets	Source and Frequency
	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for by the Plan	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • CORINE mapping resurvey (every c. 5 years) • Review of EPA Ecological Network Mapping (if available)
	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: Number of significant impacts on the protection of listed species resulting from development provided for by the Plan	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: No significant impacts on the protection of listed species	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Consultations with the NPWS (at monitoring review)
Material Assets	MA1: Protection of built/amenity assets and infrastructure	MA1: Minimisation of impacts upon the use of and access to built/amenity assets and infrastructure	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents
	MA2: Extent of brownfield land reused and regenerated which has been facilitated by the Plan	MA2: To maximise the sustainable reuse and regeneration of brownfield sites	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents
	MA3: Preparation and implementation of construction and environmental management plans	MA3: For construction and environmental management plans to be prepared and implemented for relevant projects	• Internal examination of compliance with SEA and lower tier assessment mitigation measures
Water	W1i: Interactions with classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009) resulting from development provided for by the Plan W1ii: Mandatory and Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)	W1i: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status', subject to exemptions provided for by Article 4 of the WFD[10] W1ii: To contribute towards the achievement of - as a minimum - Mandatory values and, where possible, to achieve Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual) • EPA *The Quality of Bathing Water in Ireland* reports
	W2: Interactions with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC, subject to exemptions provided for by Article 4 of the WFD	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual)

[10] Article 4 of the WFD sets out various exemptions for deterioration in status caused as a result of certain physical modifications to water bodies. This is provided: all practicable mitigation measures are taken; there are reasons of overriding public interest or the benefits to human health, safety or sustainable development outweigh the benefits in achieving the WFD objective; there are no better alternatives; and the reasons for the physical modification are explained in the relevant River Basin Management Plan.

Environmental Component	Indicators	Targets	Source and Frequency
	W3: Compliance of relevant lower tier assessments and decision making with the Flood Risk Management Guidelines	W3: For lower tier assessments and decision making to comply with the Flood Risk Management Guidelines	• Lower tier environmental assessment and decision making – including review of project approvals granted
Landscape	L1: Number of unmitigated conflicts with the appropriate protection of statutory designations relating to the landscape, including those included in the land use plans of planning authorities, resulting from development provided for by the Plan	L1: No unmitigated conflicts with the appropriate protection of statutory designations relating to the landscape	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents
Cultural Heritage	CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and the context of the above within the surrounding landscape where relevant) - protected from significant adverse effects resulting from development provided for by the Plan	CH1: Contribution towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring review)
	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects resulting from development provided for by the Plan	CH2: Contribution towards the protection of architectural heritage (including entries to the Record of Protected Structures, entries to the National Inventory of Architectural Heritage and Architectural Conservation Areas) and its context	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring review)
Soil	S1: Artificial surfaces land cover extent	S1: Contribute towards the target of the National Planning Framework's SEA (2018) to "Maintain built surface cover nationally to below the EU average of 4%."	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents